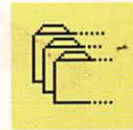
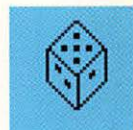


MacUser

EXCLUSIVE
...FOR MACUSER
SUBSCRIBERS
ONLY



1992 EDITION



HINTS & TIPS FOR THE MACINTOSH

Compiled and Edited by Erica Kerwien
Additional Editing by John Rizzo

MacUser

1992 EDITION

HINTS & TIPS FOR THE MACINTOSH

Compiled and Edited by
Erica Kerwien
Additional Editing by
John Rizzo

MacUser Hints & Tips for the Macintosh

©1992 Ziff-Davis Publishing Company, a division of Ziff Communications Company. All Rights Reserved: reproduction in whole or part without permission is prohibited. MacUser is a registered trademark of Ziff Communications Company. All other brand and product names are trademarks or registered trademarks of their respective companies.

Ziff Communications Company specifically disclaims all warranties, expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose with respect to defects in the software, hardware and/or techniques described in this book, and in no event shall Ziff Communications Company be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential or other damages.

Compiled and Edited by Erica Kerwien. Additional Editing by John Rizzo

CONTENTS

COMMUNICATIONS

Appletalk.....	1
Appleshare.....	1
Appletalk Phase 2.....	2
Compuserve.....	2
E-Mail.....	2
Inbox.....	4
Internet Router.....	4
Inter•Poll.....	4
Macterminal.....	4
MCI.....	5
Modem.....	5
Navigator 3.0.4.....	6
Network Management.....	6
Network Printing.....	8
NSCA Telnet.....	8
Quickmail.....	8
The Responder.....	9
Server Volume.....	9
Smartcom II.....	10

DATABASES

4th Dimension.....	10
Filemaker.....	11
Filemaker II.....	12
Filemaker Pro.....	12
Double Helix.....	17
Panorama.....	18
Reflex Plus.....	18

DESKTOP PUBLISHING

Adobe TypeAlign.....	18
Adobe Type Manager.....	19
DesignStudio.....	20
Fax Modems.....	21
Fonts.....	22
Grids.....	24
Laserwriter.....	25
More.....	26
More 1.1.....	27
OmniPage.....	27

Omnipage 2.0.....	27
Pagemaker.....	27
Pagemaker 2.0.....	30
Pagemaker 3.0.....	31
Pagemaker 3.02.....	35
Pagemaker 4.0.....	36
Persuasion.....	38
PostScript Files.....	43
Prepress.....	45
QuarkXpress.....	45
QuarkXpress 2.0.....	46
QuarkXpress 2.1.....	47
QuarkXpress 3.0.....	48
Ready, Set, Go! 3.0.....	50
Ready, Set, Go! 4.0.....	51
Ready, Set, Go! 4.5.....	52
Slides.....	53
SmartForm Designer/Assistant.....	53
TrueType.....	54
Type 1 Fonts.....	54
Zapf Dingbats.....	54

ENTERTAINMENT

Dark Castle.....	56
MacGolf.....	56
ShadowGate.....	56
Shanghai.....	57
SimCity.....	57
SimCity 1.0.....	57
Strategic Conquest Plus.....	58
Tetris.....	58

GRAPHICS & DESIGN

Adobe Illustrator.....	58
Adobe Illustrator 88.....	60
Adobe Illustrator 3.0.....	63
Broderbund Typestyler.....	64
Canvas.....	64
Canvas 2.0.....	64
Canvas 2.1.....	65
Claris CAD 2.0.....	66
Clip Art.....	67
Cricket Draw.....	67
Cricket Draw 1.1.....	67

Freehand	67
Freehand 2.0	69
Freehand 2.02	73
MacDraft	74
MacDraw	74
MacDraw II	77
MacPaint	78
MacPaint 2.0	81
Pixelpaint	81
Photoshop	82
Smart Art 1.01	83
Superpaint	84

HARDWARE

Audio Output	86
CD-ROM	87
Daisywheel Printers	87
Disks	87
Error Tones	88
Fax Modems	88
Floppy Disks	88
Hard Drives	89
High-Density Drive	92
HP Deskwriter	92
Imagewriter	92
Imagewriter II	93
Imagewriter IQ	93
Keyboard	94
Laser Printers	96
Mac Classic, LC and IISi	99
Mac Plus	99
Mac Portable	100
Mac II	102
Monitor	103
Mouse	103
Network Bridges	105
Power Switch	105
Ram	105
SCSI	106
SIMMS	106
Stylewriter	107
Surge Protectors	108
Thunderscan	108
Video	109
Video Cards	109

HYPERMEDIA

Hypercard	110
Hypercard 1and 2	117
Supercard 1.5	120

MULTIMEDIA

Macromind Director	120
--------------------------	-----

MUSIC

Concertware	120
Deluxe Music Construction Set	121
Professional Composer	122
Studio Session	122

SPREADSHEETS

Excel	122
Excel 1.5	130
Excel2.2	130
Excel 3.0	131
Full Impact 2.0	131
Multiplan	132
Wingz	134
Works	136
Works 2.0A	139

SYSTEM SOFTWARE

Alarm Clock DA	140
Apple Desktop Bus (ADB)	140
Apple File Exchange	140
Apple Installer	141
Clipboard	141
Color	142
Control Panel	143
DA Handler	143
Desktop Manager	143
Dialog Box Shortcuts	143
Directory Dialog Box	144
DOS Emulation	144
Easy Access	144
Find Feature	146
Finder	146
Finder 6	153
Finder 7	158

FKKeys.....	158
General.....	158
HD Backup.....	159
INITS.....	159
Interrupt and Reset Switch.....	160
Interrupt Switch.....	160
Keyboard.....	161
Large Files.....	161
Laserwriter Driver.....	161
Laserwriter Driver 6.01.....	162
Macromaker.....	162
MAP CDEV.....	164
Multifinder (System 6).....	164
Parameter Ram.....	165
Print Monitor.....	166
Publish/Subscribe.....	166
Quickdraw.....	166
Startup Screens.....	166
System.....	167
System 7.....	169
System Errors.....	171
System 7 Utilities.....	171
Viruses.....	171

UTILITIES

Add/Strip.....	172
After Dark 2.0.....	172
AltWDEF.....	173
Capture.....	173
Diskfit 2.0.....	173
Just Click.....	174
KiwiEnvelopes! 3.....	174
Launchinir 2.0.....	174
Layout.....	174
Lifeguard.....	175
Mapping Utilities.....	176
Partitioning Software.....	176
Norton Utilities.....	176
On Location.....	177
Power Menus.....	177
Public Folder.....	177
Quickeys.....	177
Quickeys 2.....	178
Read Macwrite.....	178
ResEdit.....	178
ResEdit 2.0Bx.....	180
Scroll Limit.....	180
Sound Converter.....	180
Stepping Out II.....	181
Stuffit.....	181

Stuffit 1.5.1.....	182
Suitcase.....	182
Suitcase II.....	182
Swich-A-Roo 1.6.....	183
System Error Table DA.....	183
System Picker.....	184
Tattletale 1.3.....	184
Tempo.....	185
Tempo 1.2.....	185
User Groups.....	185

WORD PROCESSING

Macwrite.....	186
Macwrite 4.5.....	186
Macwrite 4.6.....	186
Macwrite 5.0.....	188
Macwrite II.....	188
Teachtext.....	190
Nisus 3.05.....	190
Text Files.....	191
Word.....	191
Word 3.0.....	196
Word 3.0x.....	197
Word 3.01.....	202
Word 3.02.....	203
Word 4.0.....	204
WriteNow.....	221
WriteNow 2.0.....	221
WriteNow 2.2.....	222

COMMUNICATIONS

APPLETALK

Close The Chooser

To improve AppleTalk network performance, don't leave the Chooser open. Active Choosers create packet traffic on AppleTalk networks. On large networks, this chews up 5 to 10 percent of the available bandwidth.

APPLESHARE

Prevent Server Virus Infection

To protect your server's Desktop file against WDEF infections, simply lock the top level against changes. This has the side effect of keeping users tidy.

Keeping Users From Trashing Database Files

How can you keep users from trashing a database file on an AppleShare server, even though they need access to it?

AppleShare controls user access by folder, so the first thing you have to do is to put the file in its own folder, to which you can assign specific privileges.

If users need only Read Access to the file, you can simply select the folder, choose Privileges from the Finder's File menu, and select the See Folders and See Files check boxes for your group (or everyone). Don't check the Make Changes box, though.

There's no easy way to keep people from trashing the file if they need write access. One kludgy solution is to use ResEdit or a

similar file utility to make the database file invisible. This will keep the file's icon from being displayed in the Finder, which means the file can't simply be dragged to the trash. Note, however, that utility software still will be able to see and delete the file.

Passwords Are Case-Sensitive

If your AppleShare server doesn't accept your password but you know you are typing it correctly, check the Caps Lock key. AppleShare passwords are case-sensitive.

Access Server Files With Timbuktu

Wanna grab some files fast from an AppleShare server? If you're running Farallon Computing Inc.'s Timbuktu on it, you can transfer files quickly from virtually anywhere — including unmounted volumes and the Server folder.

Finding A "Lost" Printer

Sometimes the reason for printing problems is software-based. For example, if you use a printer over AppleTalk, you might one day find that the printer doesn't show up in the Choose Printer dialog box. If this happens to you, first Quit the application and make sure your disk contains all the files you need. If it does, try this:

If the printer you need doesn't show up as a print option in the Choose Printer dialog box, disconnect AppleTalk and close the dialog box. Then reopen the dialog box and select AppleTalk Connected. Hopefully, the missing printer icon will mysteriously reappear so you can select it and try to print again.

Another resort is to reinstall the printer drivers in your System Folder.



APPLETALK PHASE 2

Mixing Phase 1 And Phase 2

When you install System 7.x on a network, Apple recommends that you upgrade all routers and workstations to AppleTalk Phase 2 if you haven't already done so. A network that mixes AppleTalk Phase 1 and Phase 2 can have communications problems under System 7.x. For example, if you install System 7.x on an Ethernet network, workstations that use Phase 2 won't be able to talk to those running Phase 1. If you decide to keep the entire network on AppleTalk Phase 1, you must reinstall Phase 1 EtherTalk drivers on the System 7.x workstations. Upgrading to System 7.x doesn't have any adverse effects on LocalTalk or TokenTalk networks that use AppleTalk Phase 2.

COMPUSERVE

Cutting Noise On CompuServe

On CompuServe, as on any other network, line noise can ruin an upload or download. To cut out the noise, make the first character in each "typing" command in your macro the control character that says to the network, "Ignore what I've typed so far." This cuts down on problems associated with your program's reading noise input as your typing. When you're on CompuServe, type Control-U. This tells the service to ignore noise.

E-MAIL

It's All In The Title

Too busy to be bothered with opening your mail? Often, the substance of a mes-

sage can be expressed in the title, leaving intricate details for the body of the message. For example, instead of entitling a message "Meeting Reminder" and furnishing the date and time in the body of the message, you can entitle it "Meeting 10/22 1 P.M." The title then acts as an effective reminder. You get all the information you need just by looking at the mail window.

Discourage E-Mail Printing

One of the benefits of E-mail is that it can reduce the amount of paper in an office, but printing messages negates this advantage. Each time a message is printed, it has to be transmitted over the network twice if you use a network spooler. An E-mail message sent to 20 people and printed by 10 should probably have been photocopied.

There are usually two main reasons people print their E-mail. The first is that they want to keep a record of their correspondence. But some E-mail packages, such as Quick Mail, let you create electronic folders in which you can store old messages. Another feature your E-mail program may have is the ability to store mail messages on a local hard disk, rather than on the mail server. Rereading a message stored on the server adds network traffic.

Another reason for printing E-mail messages is that users are only in the office for a short time each day and want to be able to read them later. Remote access to the mail server might be a worthwhile alternative for such users. Perhaps they already have a computer and modem at home or can borrow the necessary equipment from their company. Using a remote computer lets them respond electronically to messages as they read them.



GENERAL INFORMATION

Getting Cheap Practice

If you're new to telecommunications, or are just getting to know a new telecommunications program, you don't have to pay a lot of expensive connect charges while you learn how to upload and download on networks. Contact your local Macintosh users' group or an experienced friend and get the phone number of a free local bulletin board. Practice uploading and downloading on the free network.

Once you know your way around the local network, look for shareware and public domain libraries, where you might be able to download programs for far less than you'd be charged by a national network.

When Call-Waiting Disconnects Transmissions

If you have call-waiting and a modem, you can run into a lot of interrupted telecommunications sessions. A little-known trick is to add "*70" on touch tone phones, or to dial 1170 on pulse phones, just before the number to be dialed in your modem dial command. This disables call waiting. This tip may not work in all areas of the country. Ask your phone company for more details.

Telephone Noise Can Interrupt Transmissions

If you experience continued failures midway through transmission while using a protocol transmission, your problem could be telephone noise. Try getting a cleaner connection by hanging up and redialing.

Disabling The Internal Modem Speaker

The internal modem speaker of a Hayes-compatible modem can be temporarily disabled. Just type `ATM0` from your terminal program and press Return. The command will be acknowledged by an "OK." Turn the volume back on by typing `ATM1` and pressing Return.

Getting Your Program To Wait Longer To Redial

Many terminal programs allow users to change the amount of time that the modem waits for a carrier before redialing when in auto-redial mode. The command `ATS7=x` sets the number of seconds the program waits, with `X=` the default number of seconds. Default value is usually 20 seconds, but you can change it to almost any number less than 255 by changing the default value.

Telexing With A Mac

If you need to send a telex message, you can use your Mac to do the job. At least three services let you send telex messages from any Mac equipped with a modem: MCI Mail, AT&T Mail, and CompuServe.

Using the Desktop Express software package from Dow Jones Software, which simplifies using MCI Mail, is the easiest way to send telex messages. Save frequently-used telex addresses in your Address Book and you can send messages with a few double clicks.

AT&T Mail and CompuServe are a little less user-friendly. Sending a telex with either of these systems involves addressing your communications with special codes. On CompuServe, for example, you enter the EasyPlex mail subsystem (type Go



Easy at any prompt) and address your correspondence: >TLX 12345 howdy, where 12345 is the telex-machine number of the party you are sending to and howdy is the answer-back message. You can obtain complete on-line instructions on using CompuServe's telex feature by typing Find Telex at any prompt.

INBOX

Setting The Time On The Message Serve

The Mac that runs your InBox mail system resets all of the Macs on the network to its clock. So, if you are frequently resetting your clock, check the server clock.

INTERNET ROUTER

Clear Out The Old Before Changing Zone Names

When you're using Apple's AppleTalk Internet Router software, it's easy to change the name of a network zone as long as you remember one simple step: Delete the old zone name first. If you just type over the existing zone name, click Done and save your changes, the router doesn't change anything.

INTER•POLL

Upgrading Inter•Poll To System 7

Inter•Poll version 1.0 is mostly compatible with System 7, but version 1.0.1 is fully compatible. The update to

Inter•Poll is free and you should upgrade the Inter•Poll software after installing System 7.

Inter•Poll will work with both System 7 and System 6 systems over the network.

MACTERMINAL

How To Use Cursor Keys Instead Of The Mouse

If you prefer using cursor keys to mice while connected to a remote computer, hold down Option to transform the cursor into a four-way, VT100-type arrow cursor that can be moved where you want. Then click the mouse. The cursor key sequences will be transmitted to the remote computer.

Command Key Combinations

MacTerminal's key combinations always work when you're off-line; they're less reliable while you're connected. The combinations are:

Command-H moves the cursor back one space.

Command-I moves the cursor to the right, stopping at the next tab marker.

Command-J moves the cursor down one line.

Command-K moves the cursor down two lines.

Command-M moves the cursor to the start of the current line.

Command-G tells the Mac to sound a tone.



Use Hard Backspace When Correcting Mainframe Data

When you're communicating with mainframes, pressing Backspace will not correct data stored in the mainframe, even though it corrects your screen display. To remove the character you backspaced over on the mainframe as well, use Command-Backspace.

Create Replacement Mac-To-Mac Document

The program supplies its own Mac-To-Mac document with preconfigured terminal settings. If you've accidentally trashed this document, you can make a replacement:

Start by pulling down the Settings menu and change the dialog boxes in Terminal Compatibility and File Transfer, in that order. In the Terminal Settings, click New Line, Local Echo, On Line, Auto Repeat, and Auto Wraparound to On; in the Compatibility Settings dialog, choose 8 bits per character, No parity, No handshake, and the baud rate the host computer will use; in the File Transfer Settings dialog, choose XModem, Retain Line Breaks, Word Wrap Outgoing Text, and Remote System equals MacTerminal. Leave all the other default settings, and save the document as "Mac-To-Mac."

Avoiding System Hang

Once in a while, MacTerminal will hang up after the host computer has answered the call. If you're using a Hayes-compatible modem, solve the problem by inserting a few commas after the phone number. Each comma causes the modem to wait two seconds, allowing MacTerminal to register the fact that a connection has been made.

MCI

Transfer Of Files

MCI Mail's electronic mail service doesn't accept Mac files other than text messages except from two sources: MCI's Desktop Express program and Solutions Inc.'s CommGate gateway for Microsoft Mail 2.0.

Desktop Express is pretty limited and may not fit into your setup. It doesn't use modem scripts so you can't use it through an office modem pool, it has trouble on busy networks with shared modems like Shiva Corp.'s NetModems, and MCI doesn't recommend running the program on the Mac IIci and IIx, either. Desktop Express also has not been updated in five years, and has difficulty working with System 6.07 and on. Forewarned is forearmed.

MODEM

Quiet Dialing

If you're using a Hayes-compatible modem and don't want to hear all those beeps and clicks during dialing, turn off the speaker using the ATM0 command. To turn it back on, type in ATM1.

Dedicated Phone Line?

If you plan on having a fax machine and a modem you may want an extra phone line for each, but it is not necessary.

A phone line is a phone line, as long as you have a dial tone. A second phone line is a necessity if you intend to keep things running 24 hours a day (if you're running a BBS or want to keep the fax machine on 24-hour standby), unless you're absolute-



ly sure no one will want to engage you in analog telecom (nerdspeak for “talk to you on the phone”).

You may consider adding a second line for purely anthropological reasons, however, particularly if you have roommates. The usual way that human beings check to see if another human is using the phone is to pick up an extension and shriek, “Hey, anyone on the phone?!?” This has the effect of cutting off whatever data is coming across the phone line at the time and making your modem very angry with you.

Another problem with voice/data cohabitation is Call Waiting. When you hear a beep on the phone, you know another call is coming in. Unfortunately, this beep is to modems what garlic is to vampires. One beep, and your modem runs screaming into the night, terminating its connection.

You can temporarily switch off call waiting in most parts of the country by dialing *70 before dialing the number you want to connect to. Call waiting will be reactivated as soon as your modem hangs up.

Another solution is to buy a bunch of “privacy switches,” little boxes you plug into every phone jack in the house. Then, whenever your modem goes off-hook, all the other receivers go dead. Radio Shack sells its Teleprotector (stock #43-107) for just \$7.95 – if you put them onto two or three phones, it’s a lot cheaper than a second phone line.

If You Can’t Connect, Tell Your Modem to Wait Longer

If you have trouble connecting to an on-line service, adjust the length of time the modem waits for a carrier signal before it hangs up and redials. The command

ATS7=x sets the number of seconds the modem waits for a carrier. The default value for x is 20 seconds, but you can substitute a new number of seconds for x.

NAVIGATOR 3.0.4

Finding Names And Addresses

When creating a message in Navigator 3.0.4, type the first few letters of the recipient’s name into the MsgTo field and select Lookup.

If Navigator finds only one matching entry, it will paste the name into the field. If it finds multiple matching entries, it will open the address book and highlight the first one.

NETWORK MANAGEMENT

The Hit-or-Miss Method

Troubleshooting a network can be a methodical process, or just random attempts to get rid of the problem. Here are some random things to try for network problem solving:

If the problem appears to be somewhere on the network, try cycling the power on network devices such as routers, star hubs, and network modems. Be sure no one is using the device before you cycle the power. Turn the device off, leave it off for 30 seconds, and then turn it back on. If the problem goes away, it’s possible that the device or its software got “hung” – the device received an instruction it couldn’t process or ignore. Restarting the device clears that instruction and starts the device from scratch.



If it is an individual Mac having the networking problem, use the Chooser to turn AppleTalk off and then back on again or, more drastically, restart the computer. If you have more than one network driver, try switching to a different one. For example, if you're connected simultaneously to Ethernet and LocalTalk, you can momentarily choose the alternative network with the Network cdev and then switch back to your regular network choice. This forces your Mac to join the first network all over again and re-alert other devices of its presence.

Turn off all your INITs. INIT conflicts are tricky and unpredictable, and few people understand why they cause problems. If the problem goes away after you've turned off the INITs and rebooted, then it probably is an INIT conflict of some kind. Turning the INITs back on one by one will help you discover which one is the culprit.

Check for viruses on the file servers and on your Mac. Viruses don't usually cause network problems (although they can be transmitted over a network), but it's worth a try.

Reload the software in network devices such as hubs, routers, gateways, and servers. Reenter the configuration information, making sure it is exactly what you want and is compatible with the other devices in your internet. It's possible that a colleague changed the software or configuration tables without your knowledge and misconfigured them, or perhaps you've misconfigured them yourself.

Swap out the various devices, cables, connectors, and network cards on your

machine and across the network. Do this one component at a time, and see if anything changes. Usually if cables or connectors are bad, they will be bad right out of the box, but sometimes they go bad while in service. Maybe a forklift ran over your network wires, lightning struck the building, or something wiggled loose.

If you use Ethernet or Token Ring configuration, reinstall your network software. If you have an older Mac, you may need to patch its ROM by running a newer version of AppleTalk or you may need to put the ADSP (AppleTalk Data Stream Protocol) patch file into your System Folder (ADSP is built into System 7).

Remove your password from the server, or reconfigure your user information with the administrator software that comes with your server. Maybe you typed the password incorrectly. Also, passwords are usually case-sensitive, so be sure you're not typing in your password with the Caps Lock key down.

Try adding more RAM to your machine (or the server) or using the Finder instead of MultiFinder. Use CE Software's HeapFixer to increase the size of your system's heap space. Do the same for the server if necessary. If your central workstation is running more than one network service (such as file-server, mail-server, and print-spooler software), try placing the services on different machines or disabling one of them temporarily.

Try reading the manual, even if you've read it before. It's weird, but sometimes while you're having a problem, you open the manual and see an obscure passage



you've never noticed before or didn't understand.

NETWORK PRINTING

Printing Large Documents Off-hours

A practice that strains network resources is printing huge documents during the day on shared printers. Sometimes this can't be helped, but when possible, try to do large printing jobs during off-hours.

Sometimes investing in a large paper bin makes this more attractive, in that you don't have to contend with adding paper to the 200-page tray that comes with, for example, an Apple LaserWriter IINT. With a print spooler, you can specify when a job will get printed. The cheapest print spooler, Print Monitor, comes free as part of Mac system software, but it requires that you have enough memory to run MultiFinder.

Using The AppleShare Print Spooler With A Router

Those who use the ASPS (AppleShare Print Server), a network spooler, have probably figured out that although ASPS has a lot of benefits, one of the drawbacks is that all print traffic goes through the network twice — once to get from your Mac to the spooler and again to get from the spooler to the LaserWriter.

You might try putting your printers onto a different network, which involves running ASPS concurrently with a software router such as Apple's Internet Router or Farallon's Liaison.

NCSA TELNET

Version 2.4 For Unix Host Communication

The National Center for Super-computing Applications produces some excellent free Mac utilities. One of them, NCSA Telnet, has become popular with Mac users communicating with Unix hosts.

Version 2.4 of NCSA Telnet has a problem with System 7.0 that can mess up the display of Option-key characters in fonts. The fonts themselves aren't affected, but they don't look right on screen. The bad-font effects linger even after you quit the application.

According to Apple's engineering network services, you can get around the bug by typing Shift-Command-zero when you first start the program. Option-key characters should display correctly after that.

QUICKMAIL

Backing Up Carefully

Your electronic-mail server deserves to be included as part of your normal backup procedure. CE Software Inc., however, warns that you should never backup a QuickMail server while the QM Server Startup document (INIT) is running.

While the server INIT is operating, QuickMail is opening and closing message and index files constantly. Any files that are open when the server is being backed up will be skipped. The company recommends shutting down the E-mail server before backing it up.



An Easy Way To Force Names To The Top Of The List

Tired of scrolling through a long directory every time you want to send a message to the person at the bottom of the list? An easy way to force names to the top of the list is to use QuickMail's Group command to create a group for the person (yes, a group can have just one member). Groups always appear at the top of the directory list.

Checking To See If Your Message Has Been Read

Want to know if someone read your message but don't want to be interrupted by a return receipt? Select Preferences from the QuickMail menu and click on Log Handling. You can then enable your Mail Log. A Log entry shows who has read each message and when.

Un-Sending A Message

Tired of sending the standard retraction "Ignore that last message — I forgot to ..."? You can un-send a message that hasn't yet been read by using the Mail Log (but only if you have it enabled).

Speeding Things Up

Is QuickMail more like Snail Mail for you? Here's how you can speed things up: In the Preferences dialog box, un-check "Fill folders when opening" and disable your Mail Log (yes, we know that the last two tips told you to use the Mail Log, but there we were talking about features, and here we're talking about speed). Select and file new messages before reading them; this moves them from the server to your own hard disk, speeding up access.

Reading A Message Without Logging In

Want to read a message you've filed on your hard disk but don't want to log in to a Mail Center? Use QM Remote. It can open text files as well as QuickMail letters you've filed.

Bug Crops Up With Ethernet And An SE Server

For sites with a lot of E-mail traffic, a mail server on Ethernet is often a good solution. But CE Software's popular QuickMail has a bug that makes it crash sporadically when handling large amounts of mail on a Mac SE or SE/30 on Ethernet. Moving the server to a Mac II-class machine solves the problem, according to the company.

Sending A Timed Message To Yourself

Wish you could attach messages to Apple's Alarm Clock DA? Use QuickMail to address a message to yourself and press the Delay button to postpone sending it until a specified date and time.

THE RESPONDER

Built Into System 7

The Responder functionality is built into System 7, and installing System 7 removes the Responder extension from a System 6 system.

SERVER VOLUME

Maximum Single-volume Size Is 2 Gbytes

If you are setting up a server, you may be wondering how large a single volume can be on a Macintosh.

The Mac's file system defines a 32-bit space to represent the number of bytes in any volume. Only 31 bits are used, however. With that many bits you can specify 2,147,483,648 bytes – 2 Gbytes – which is therefore the maximum size of a volume.

SMARTCOM II

Capture Routine Saves Only Selected Text

If you capture data to disk after receiving a transmission, highlight the text you want to save. The Capture routine saves only selected text, so if you save a file with nothing selected, nothing is what you'll end up with.

Saving Text From The Capture Buffer

If you accidentally Close your document without having saved the contents of the capture buffer, don't panic – yet. Try reopening a communications document. If you didn't use the Clear command from the Edit menu to purge the buffer before you closed the transmitted document, the text is still in the capture buffer, and it will appear in the document window. This won't work if you accidentally Quit Smartcom, though.

Save And Save As... Don't Save What's In The Capture Buffer

The Save and Save As... commands only save the settings, not the data in the capture buffer.

Put Your Work Files At Root Level On Disk

Some earlier versions of Smartcom (2.1a, for example) can't recognize documents

or applications that are in folders on an HFS system.

Remember to put your work files on the root level before starting and you shouldn't have any problems. (Version 2.2b corrects the folder problems.)

Forcing Smartcom To Use Text Protocol

Instead of Sending a file, Paste it from the Clipboard. This makes Smartcom use a text protocol, even if MacBinary or Hayes Verification protocol has been indicated.

DATABASES

4TH DIMENSION

Shortcut To Call Up A Layout

When you're programming procedures in 4th Dimension, it's sometimes useful to call up a layout you've referenced in a procedure. Here's a shortcut that bypasses going through menus.

While you're in the procedure editor, drag to highlight the filename and the layout name mentioned in a procedure. Then press Command-L. 4D will automatically open the highlighted layout.

Formatting Numbers

4th Dimension offers no quick, documented way to control the format of times, dates, or numbers in the QuickReport editor. You have to resort to formulas, which is more than many users are prepared to do. It is possible to format these items automatically, however. To format a time or date, you need only type the number of the format you



desire into the detail area of the column in question. The different formats and their numbers are described on page 332 of the Language Reference and in the addendum to version 2.0.10.

Formatting a number is even more straightforward: Type the desired format in the detail section just as you would in the Design environment. For example, if you want to format an integer as a dollar amount, type \$#,###.00 into the correct column.

4th Dimension also lets you type formatting numbers into the dialog box that pops up when you click on OK in the File menu's Page Setup box.

Getting From Runtime To User Mode

To immediately go from the Runtime opening screen to User modes, hold down the Option key and press F. This works even when no Quit menu item is installed.

Getting To The Debugger Window

Normally, to get into 4th Dimension's Debugger window, you have to put the Trace command into a script or procedure, where it can be evaluated. Here's a shortcut: hold down the Option key and the mouse button while a procedure or script is running. Using this method, you don't have to put the Trace command into any code.

Outlining An Object Or Group

When you are using the Layout Editor, it's possible to create an outline around any object or group of objects. Select the object, and then hold down the Command

key and press any number from 1 through 9. Command-1 places the border one pixel out from the object; Command-9 places the border nine pixels out from the object.

Using The Arrow Keys To Move Objects

It's possible to move objects in a layout (when you're using the Layout Editor) by pressing the arrow keys. If you hold down the Command key while pressing the arrow keys, the upper left corner of the object will be anchored to the layout and the object will be resized according to the direction of the arrow key you're using. Holding down the Option key and then using the arrow causes the objects to move along the x or y axis defined on the grid (the default is ten pixels).

Bringing Up The Coordinates Box

Holding down the Control key and then double-clicking on an object while using the Layout Editor displays that object's Coordinates dialog box.

Seeing Scripts

A quick way to view scripts is to Option-click on an object that has a script. This immediately opens the script.

FILEMAKER

Entering Multi-Word Phrases As Search Identifiers

Use Option-Space instead of the space bar when you're entering multiple-word phrases to be used as search identifiers. That indexes both words as one, allowing searches by combinations or portions of all the words.

Entering Copies Of A Record

To enter a lot of copies of a record using the Command-M key combination, it helps to execute a Find on the first record entered. Thereafter, the number under Found will increase by 1 each time you press Command-M. This allows you to keep track of how many records have been entered.

Selecting Records Without A Common Field

Have you ever wanted to select a group of records in FileMaker II that have no field in common (for example, the 23 people who lost last month's report)? Create a special "select" box on your layout – a field in a box to make it easy to find.

To use the select box, issue the Find command to locate each individual record, and then enter X in the select box. Use the Find All command and then the Find command to locate the checked boxes. The whole group is selected, and you can mail-merge or sort the results. You can sort records into several groups by entering different characters into the select box and then using the Find command to select each subgroup.

To deselect the records, highlight the select field, press Delete, and then press Command-= to clear all the boxes.

FILEMAKER II

Upgrading FileMaker II Files To FileMaker Pro

Don't upgrade your FileMaker II files simply by opening them in FileMaker Pro. Apparently a bug in FileMaker II creates a structural problem in its files.

The bug was fixed in FileMaker Pro, but the problem might still be present in your old FileMaker data files and could cause serious problems if you convert them to FileMaker Pro by opening them directly from that program.

The work-around is simple, but Claris didn't include it in the FileMaker Pro documentation. Save a compressed copy of your FileMaker II files by using the Save a Copy command. Then open these compressed copies in FileMaker Pro.

If converted files exhibit any strange behavior – trouble with sorting, for example – use FileMaker Pro's Recover command to attempt to correct the problem.

If problems still exist – which should rarely happen – return to your original FileMaker II file and export all its records to a tab-delimited file. Save an empty copy of your FileMaker II database, using the Save a Copy command. Open the empty copy in FileMaker Pro, and then import the data from the tab-delimited file. When using this method, make sure that all fields are lined up correctly in FileMaker Pro's "Specify field order for import" dialog box.

If you've already converted your FileMaker II files and haven't experienced any problems using them in FileMaker Pro, there's no need to go back and reconvert. You'll know immediately if you're going to have any problems caused by the old FileMaker II bug – they don't appear gradually.

FILEMAKER PRO

Missing Fields When Exporting

Sometimes when using FileMaker Pro's Export menu, not all of the fields are avail-

able to be exported. This problem is most likely to happen in data files that have been converted from FileMaker II to Pro.

The work-around for this is simple: Hold down the Option key while clicking on the New button in the Export dialog box. The Choose Fields dialog box, which appears next, displays all the fields. Simply select the fields you want to export.

Exporting To Spreadsheets

Export tab-delimited files instead of SYLK files if you need to use your data in a spreadsheet.

FileMaker Pro exports numeric and calculation fields into SYLK files as text, not as numbers, making it impossible to perform mathematical calculations with this data after you've imported it into a spreadsheet. These fields are treated as numbers in tab-delimited files, though, and virtually all spreadsheet programs can import tab-delimited files accurately.

Adding Predefined Lists

You can use the following technique to add any sort of predefined list to your FileMaker Pro database. As an example, say you wanted to create a predefined list of state abbreviations associated with a State field:

1. Choose Define Fields from the Select menu. Select the state field (or whatever field you want to add a predefined list to) in the dialog box, click on Options, and select "Use a predefined value list:"
2. In the Display Values dialog box, type each field's name, followed by a Return, the two-letter abbreviation, and finally another Return.

3. Switch to the Layout mode (on the Select menu), and select the State field.

4. Choose Field Format from the Format menu. In the dialog box that follows, select the "Use field's value list to display fields as" check box and choose "pop-up list." Go to the Select menu, and switch to Browse mode.

Now whenever you select the State field to input information, a pop-up list with all the states' names and abbreviations will open. Just start typing the first few letters of the state name, and the pop-up box will automatically scroll to that state. Then use the mouse or down-arrow key to select the two-letter abbreviation following the state name, and press Return to insert it into the field.

Printing Commas Between Fields

If you use FileMaker Pro and PageMaker or another layout program together for database publishing, you may benefit from this tip.

To line up a comma in a label layout after the city field so that it prints correctly after the fields slide together (to eliminate spaces between the city name and comma), create a calculated field: CITYcomma = CITY & ", ". Then use the CITYcomma field in the label layout instead of CITY.

Concatenate Fields To Ensure Proper "Slide Left" and "Slide Up" Operation

The easiest way to force horizontally arranged fields to slide in layouts is to use the Arrange menu's Slide Objects command, which is available in the Layout view only. This method sometimes proves



unreliable, so you may want to force your fields to slide by using concatenation.

Concatenation requires creating a new field for each record in your database and instructing FileMaker Pro to add the information from several other fields to this new field.

To create the name line on an address label, for example, create a new field called NameLine and define it by using the following formula: Salutation & " " & FirstName & " " & LastName (substitute your own field names for Salutation, FirstName, and LastName). Then place the NameLine field instead of the Salutation, FirstName, and LastName fields in your address-label layouts

You can use this same trick to ensure that objects slide up: use a carriage return and the If statement to define multiple lines in a single field.

Perform The Find Command In One Layout And View Data In Another

Often you will want to view a subset of your records in a layout that doesn't include the fields that define the subset. You may, for example, want to print mailing labels for all clients who have purchased more than \$5,000 in goods during the past year. Because the field containing your clients' year-to-date purchases is not on the mailing-label layout, you should execute the Find command in a generic layout and then switch to your mailing-label layout before you print.

This procedure can't be automated with a single script – FileMaker Pro will fail to execute the Find command, because it requires a field not present in the final layout.

Therefore, you must create three scripts: one that selects the layout containing the necessary field and then performs the find, one that specifies your mailing-label layout and the required printing options, and a third that runs the first script and then runs the second script by using the "Perform a chain of scripts" option. Do not include the first or second scripts in the menu or assign keyboard shortcuts to them.

Take Advantage Of The Replace Command

Many people don't understand the Replace command and perform unnecessary data entry as a result. The Replace command lets you enter data into a single field in the current record and have that data copied into all other currently selected records.

Suppose, for example, that you're renewing your state licenses for all the hazardous chemicals that have been stored in your warehouse under expired permits. After identifying all such materials by using the Find command, printing the required reports, and completing the necessary licensing forms, you can reset all license-expiration dates (assuming they're all the same) by entering the correct value into the license-expiration-date field of one record and using the Replace command to apply that date to the other currently selected records. Be certain that you've selected the correct subset of records before confirming the replacement – you can't undo the Replace command.

Use Page Setup To Adjust The Layout Marker

In the Layout view, FileMaker Pro displays striped lines that represent page borders. These borders' calculations are based on



the current settings in the Page Setup dialog box, so be sure to configure your pages horizontally or vertically and to specify any printing reductions or enlargements before finalizing your layout.

Using reduction is a good way to gain some extra room to fit all required data onto a layout. If you use this technique, create a script that switches to the layout and uses the “Restore the Page Setup options” option so that your reduction is applied every time you use the layout.

Hold Down The Option Key To Customize The Position Of Part Boundaries

When you’re defining layouts, the gray lines that define part borders (such as headers and footers) cannot normally be moved past any fields, text, or graphics. If you hold down the Option key while you’re repositioning the part border, however, you can move the border freely.

Give FileMaker Pro Sufficient Memory

When FileMaker Pro runs short of memory, the “Out of memory” error message usually appears. In some cases, there’s not even enough memory left to display this dialog box, so you may notice that keyboard equivalents or menu commands suddenly seem to have no effect.

To correct this problem, increase the amount of memory allocated to FileMaker Pro. The 1,024K of RAM that FileMaker Pro normally requests is insufficient in many cases, especially if you’re working with large databases. To change the memory allocation, highlight the FileMaker application icon, open the Get Info dialog box (under File menu in the Finder) and change the “Application

Memory Size” option. Provide 1,500K as a minimum – more if you have enough memory available and work with very large databases.

Avoid Printing Duplicates

To create a layout that includes only one occurrence of any duplicate record, define a layout using the “Subsummary when sorted by” option in the Define Parts dialog box.

When scrolling through the field list to select the field that will determine duplication, be sure to select a field that will be unique for all non-duplicate records. Remove the body part in your layout, and position all required fields within the subsummary part. Sort the database by the field you’ve selected to determine duplication, and choose the “Preview” option from the Select menu. The resulting duplicate-free database is then displayed. Choose the Print command to print this data.

Use A Subsummary Part To Create Running Page Totals

To create a running page total for any report, define a “Subsummary when sorted by” and place summary field types, that have the “Running total” option, into this part. To force this subsummary to appear at the bottom of every page, determine the number of records that will fit on one page by doing a preview of your report and then select the “Page break after every X occurrences” option and enter this value.

This method works best if no “slide up” options are used in the report body. If records in your report are of variable length, you must choose the minimum number of records that naturally fit on

a single page and use that value in the "Page break after every X occurrences" option.

Replace One Field With Another In Layouts Without Deleting

If you accidentally place an incorrect field in your layout or just decide that your needs have changed, hold down the Option and Command keys and double-click on the field you want to replace. This allows you to select another field to replace the one you selected previously.

Fitting Templates For Any Monitor

If you create FileMaker Pro templates on a Mac with a large monitor, it can be hard to know whether your layout will fit on a smaller monitor, such as the Classic's 9-inch screen. You can create a page guide for small screens by choosing Help from the Apple menu. This brings up a window exactly the size of a small Mac screen. Simply size your layout window so that it's the same as the Help window, and your layout will fit fine on a small-screen Mac.

Producing Columnar Reports With Repeating Fields

Repeating fields do not slide up properly in columnar-report layouts. If you have an existing columnar-report layout containing repeating fields, copy all its elements and paste them into a new blank-format layout.

Another way to improve the sliding of repeating fields is to choose Field Borders from the Format menu, check the Between Repeating Values box, and make sure all border options are set to None.

Putting A Better Font Forward In FileMaker Pro

The default font in Claris Corp.'s FileMaker Pro is Helvetica. Here are some steps to follow if you would like to start a database out in a different face:

Create a new database. When the field-definition dialog box appears, hit the Done button. An empty database layout appears; switch to Layout mode and choose a new font, size and style (and your preferred colors, if you like). Choose Define Fields from the Select menu and go on creating your database fields. When you're done, the fields shown will be displayed in your choice of type.

Time Flies With FileMaker On Big Networks

Timeouts – when one AppleTalk node gives up trying to communicate with another – normally indicate bad connections. But sometimes big networks work slower than applications expect, and premature timeouts result. If you've got a large network, you may run into this problem when trying to use the internal database-sharing capabilities of Claris Corp.'s FileMaker Pro.

To lengthen the amount of time before the network times out when communicating with a FileMaker database, hold down the Option key when clicking the Network button in the Open dialog box or when switching between zones in the resulting dialog box. This trick is useful only on slow networks, so you should expect correspondingly sluggish response from the database.



DOUBLE HELIX

Running Two Collections Simultaneously

When using Double Helix, you may want to look at two collections (the Double Helix word for databases) simultaneously. Double Helix can open only one collection at a time.

Although Odesta has copy-protected the program so that copies with the same serial number cannot run on a network at the same time, you can run duplicate copies of Double Helix on one computer under MultiFinder with no problems.

Just copy the program by using the Duplicate command on the Finder's File Menu to make as many copies of Double Helix as you need. You can then open the copies under MultiFinder. Of course, you need generous amounts of RAM to make this work.

Advance Planning Helps

To use one of Helix's abacus icons to perform complicated calculations, it's best to plan your function before building it in on the Mac. If possible, break the calculation into modules, then combine them in the final calculation. This also means you can use the modules in other calculations without having to start over from scratch.

If you can't break a complex calculation into modules, plan it on paper first, then construct it on the Mac. A quick flowchart now can save hours of confusion later.

Viewing Entire Complex Calculations

Seeing the entirety of complex calculations can be difficult, since you have to

view portions of it by scrolling the window. View the whole calculation by printing it out on the ImageWriter by selecting Print Scaled Image from the File menu. This doesn't work on the LaserWriter.

Avoiding Icon Confusion

Complicated Relations clutter your work with a lot of icons. To keep from getting confused, name your most important and frequently-used icons in all uppercase letters to make them stand out. Then, move lesser-used icons off to the side of the window and arrange your icons in logical groups for easier tracking.

Save Time: Copy Old Calculations, Then Modify Them

To create a calculation with an abacus icon that differs slightly from another one that's already created, duplicate the original calculation's icon and then modify the copy to create the new calculation.

Save Time While Setting Up A New Relation

When setting up a Relation for the first time, several fields will probably have formats different from the default settings. Save time by creating one field with each of the formats you plan to use, then replicate them as often as you'll need (one for each format) and name them appropriately.

Moving A Single Tile

To move only one tile, click and drag anywhere on the tile except in an arrow or a blank space.

Moving Groups Of Segments Or Tiles

To move a group of arrow segments and/or tiles, use Shift-Click to select the individu-

al elements to be moved, or surround the group with the selection rectangle.

PANORAMA

Creating More Than 256 Fields

There are two ways to create a database with more than 256 fields in Panorama.

You can put cells onto a form by using Auto Cell Layout from the Arrange menu. That dialog box uses the Apple List Manager and is good for about 500 items. The scrolling window updates much faster than the pop-up menu, and you can select one or more of the cells you want.

Or you can create an auxiliary database that duplicates cells beyond the 256-field "limit." The first item in the auxiliary database is the first item beyond the main database's pop-up menu (in other words, item number 257). You can then simply copy and paste these cells from the auxiliary database to the main database.

Both of these methods will give you cells beyond the the 256-field limit before the pop-up menu with 256 items can even draw itself.

REFLEX PLUS

Sorting Concatenated Fields

One of the more annoying things about using Reflex Plus is having to take several extra steps when sorting on a field that hasn't been expressly included in a report. For instance, to make a neater label, you might concatenate a last-name and a first-name field [`First_Name & "" & Last_Name`]. As long as you're in the report,

however, you won't be able to sort by the last name.

The simplest solution is to create a last-name field and hide it. You make room for it by making it a tiny size (such as 6-point Helvetica), shortening it as much as possible, and tucking it in some uncluttered corner of the report window (keeping it in its proper repeating collection if necessary). Make the last name field invisible by adding a carriage return with the CHAR function to its formula [`CHAR(13)&Last_Name`] so the field will show a blank spot and yet still sort correctly.

This method also works well if you want to search by zip code when you've lost it in a field formula such as:

[`City & "" & State & "" & Zip`].

DESKTOP PUBLISHING

ADOBE TYPEALIGN

Highlighting Text Strings

When you're using TypeAlign, the text-distortion DA from Adobe, you can highlight an entire text string without dragging from left to right. Just insert your I-beam tool anywhere in the text, and press the Tab key. It's easier than drag-selecting, which can be difficult with curved text, and it's not mentioned in the manual.

Undocumented Type Manager Tip

Here's a tip about Adobe Type Manager (ATM) that's not mentioned in the product manual: If you have little need for



math and Greek characters, you might be tempted to save disk space by not installing the Symbol font. But when you try to print one of the 18 characters that are also included in the other three fonts, you'll find that they print with a bad case of the jaggies.

It turns out these characters are represented in the Helvetica, Times, and Courier PostScript files only by references to their locations in the Symbol font. Without Symbol available, your Macintosh has no choice but to print the bit-maps instead. If you want decent output for any of these characters, you must install the Symbol font — both the outline fonts and the bitmapped font.

ADOBE TYPE MANAGER 2.0

Installing ATM Under System 7.0

A problem with ATM is that it fails to work if its files are placed in subfolders within the System folder. You must move ATM files directly into the top level of the open System folder. If the System folder is closed when you drag files into it, the Finder will automatically place files into subfolders, and ATM will not be able to find them.

You do need some way to access the ATM control panel so the ATM file is an exception to the top-level rule; it needs to go in the Control Panels subfolder. A neater alternative is to leave it at the top level of the System folder and create an alias for it in the Control Panels subfolder.

Eliminate TrueType Fonts

If you are using ATM, you may want to

eliminate any TrueType versions of your PostScript outline fonts — typically, Helvetica, Times, Courier and Symbol.

To remove TrueType fonts, double-click on the System file while running Finder 7 and locate the icons that show three A's — these are TrueType fonts. (Bitmapped fonts show only a single A in the icon and include a point size in their names.) If you have a PostScript outline font and at least one bitmapped font, you can drag the equivalent TrueType icon out of the System file and throw it into the Trash.

It is not a good idea to keep both TrueType and PostScript fonts for the same typeface, since the relationships among bitmapped, PostScript and TrueType fonts are complicated (and confusing) in this configuration.

ATM gives non-PostScript printers such as the ImageWriter and LaserWriter IISC the ability to print Adobe's PostScript fonts. The package includes the PostScript outline fonts for the four "basic" fonts as well as the corresponding bitmapped fonts: Helvetica, Times, Courier, and Symbol.

Storing Fonts Outside The System Folder

You don't have to store the outline fonts in the System Folder.

A shareware DA called SetPaths (or other utilities which set a path) lets you access outline fonts (printer fonts) from a single drive on a network or another folder on a local drive, and open the SetPaths DA to make the necessary path for ATM to work.

Another alternative is using Suitcase II. You can place all your font suitcases and



complimentary PostScript outline versions in folders outside the System folder. All you need to do is have one suitcase among all the font outline documents open all the time, so that Suitcase can find the outline versions of the fonts. For example, you can have a folder of screen fonts and printer fonts, place the screen font suitcase of Symbol among the outline documents (in the printer fonts folder) and always have Symbol open.

The Font Cache

If ATM seems to be slowing down operations such as popping into Word's page preview or zooming in a graphics program, you probably need to give it more working space. When ATM creates screen fonts, it temporarily stores the characters in a reserved area of RAM called the Font Cache. When the cache overflows, the currently undisplayed characters are deleted and replaced by newly built ones. When you scroll to a part of your document that contains deleted cached fonts, ATM patiently rebuilds them. This purge/rebuild cycle always takes noticeable time, and you will blame ATM for slowing you down.

To give your system back its old zip, use the Control Panel DA to access the ATM cdev and then set the Font Cache to 256K or more – sometimes far more. A large enough cache will pay off in zero waiting time whenever you scroll or zoom. You should pump up the cache appropriately whenever you use large sizes or many different sizes or if you routinely zoom to several levels. Keep in mind that the first time you zoom or use a new font/size/style, ATM will need extra time to build the properly-sized screen font.

DESIGNSTUDIO

Adjusting Type Using Style Sheets

In DesignStudio you can tighten all the boldface type in a document simultaneously or make virtually any kind of adjustment to any kind of type style by using style sheets in conjunction with the program's search-and-replace function.

For example, here's how to tighten all the boldface type in a document:

1. Create a style sheet with tracking and other attributes set to whatever you want.
2. Call up the Replace dialog box, and click on Use Format in the Find section. You then get another dialog box that lets you set boldface.
3. In the Replace section, click on Stylesheet and scroll to the style sheet you've just created.
4. Click on Document in the Limit Search To box, and then click on Start Search. All the boldface type in the document instantly tightens to the degree that you've specified. If you want to further adjust the boldface, simply make the change in the style sheet.

Examining A Portion Of Text

If you need to check a small portion of text in DesignStudio but it is too small to read on the screen, select the text (up to 20 characters) with the I-beam tool and pull down the Text menu at the far right of the menu bar. The Find Selection command displays your selected text on the menu so you can read it. You save time doing it this way rather than changing the page magnification, which redraws the entire page.



Creating An Anchored Rule

Those who use DesignStudio (and Ready, Set, Go) can get anchored rules by using this tip (PageMaker has a special command for this). Although this method works best with rules wider than 2 points, you should be able to obtain nearly any point size with a little experimentation.

When you're ready to place a rule in your text block, select Zapf Dingbats from the Font menu and type a lowercase n, the filled-box character.

Highlight the character, set its track value to .25 or .5 by using the Horizontal Spacing command on the DesignStudio Format menu, and set its point size to the rule width you need. Place the cursor after this dingbat, and type as many as you need. The rule will appear on-screen as a thick gray line.

Producing a long rule in small point-sizes can be tiresome, so after you've created a portion of the rule, select it, copy it, place the cursor after the last dingbat, and paste until you've filled the column. You can delete the excess. The result now functions as an anchored rule that flows with the text. This "rule" prints as a solid image at both 300 dpi and 2,540 dpi.

One final point — you may need to experiment to get the point size of this kind of rule to match a tool-drawn rule exactly. For example, to obtain a 1-point rule, you have to set the point size of the dingbats to 1.35.

FAX MODEMS

Don't Do Photos Without Gray-Scale Ability

Unless your fax modem has gray-scale capabilities, photographs and screened artwork are lost causes. Gray tones in the original image are converted to stark black-and-white blocks for transmission, often obscuring the contents. A conventional fax machine with gray-scale and contrast controls does a much better job of handling such images.

PostScript graphics usually look better if they are printed on a laser printer and then scanned into a fax machine. None of the Mac fax modems currently include a PostScript interpreter, which would bring the language's device- and resolution-independence to faxing. Because fax-modem software isn't able to interpret PostScript code, it sends a low-resolution (PICT) screen image instead. (If an EPS file doesn't include an embedded PICT, the image will be replaced by a rectangular placeholder.)

Sending PostScript Illustrations

If you have to send PostScript illustrations from a fax modem, create the mat roughly three times the desired finished size and then export and reduce them in a layout program before faxing. This process enhances the apparent resolution of the embedded PICT image, minimizing the jaggies you normally get when faxing the PICT portion of a PostScript object.

Reverse Type To Emphasize

For special emphasis, try reversing white type out of a black background. A sans serif typeface set in 18-point bold works well.



Graphic Mistakes

If you're using a conventional fax machine, avoid layouts with long straight lines, small type sizes, and intricate artwork. Misfeeds and phone-line noise cause unsightly broken lines, and the scanning process can thicken lines and darken type, causing text to become unreadable and turning artwork into a blotchy mess.

No Letterhead

Don't use your printed letterhead for fax documents. Many things that are effective in print – embossing, foil or other metallic type, screened or pale type, very small type – can't be communicated effectively by fax. Instead, use a special fax letterhead with a related design.

Truncated Type

Keep type and images away from the margins so that they aren't truncated by the faxing process. Margins of three-quarters of an inch all around seem safe.

ATM Type For Fax Modems

The best way to image type for a fax modem is through Adobe Type Manager. ATM uses the power of PostScript to create crisp text on-screen at any size, and the fax modem transmits that scaled type directly. If you don't use ATM, the only way to avoid jagged-looking type is to install bitmapped screen fonts that are three times the size of those in your document. The fax modem software uses the oversized fonts to scale the type correctly for transmission, but this option can be limiting.

Choosing A Typeface

Faxed text has a dot pattern that's visible to the naked eye. Typefaces and styles

that work well for laser-printed correspondence may be too small and light for faxing – you may find that increasing the type size from 10 points to 12 or 13 points helps readability.

A couple of years ago, Adobe tested the faxability of several typefaces and found that Lucida Roman, Lucida Sans, and Stone Sans worked best. Some other faces that work well are Bitstream Charter, Adobe Utopia, and sans serif faces such as Frutiger, Helvetica, and Universe. These typefaces (and probably others that work well) share three characteristics:

- * The letters have relatively unvarying, moderately heavy line weights.
- * Openings within the characters (in the e and a, for example) are large.
- * The letters are relatively plain. In general, sans serif typefaces work better than serif ones.

Almost any PostScript font works well. Although conventional fax machines tend to thicken lines, obliterating small text, fax modems tend to lighten them, which means that you can often use smaller font sizes and typefaces that have smaller letter openings.

FONTS

Screen Font Alignment

Most Macintosh screen fonts supplied by Apple and all LaserWriter fonts have constant-width digits. It's been a standard in typography since the birth of financial printing. So if you're having trouble lining up columns of numbers, try the following suggestions.



In spreadsheet programs such as Excel, use a cell format that has a constant number of places after the decimal and left-align them. Using the General format in Excel with numbers that vary in precision is a sure way to have your columns wander. Similarly, in word processors, use a right-aligned tab and keep a constant number of places after the decimal or use the decimal tab that many word processors include specifically for this purpose – it aligns a tabbed column on the decimal point (or on the right if no decimal point is present). Both MacWrite and Word include decimal tabbing. Remember – use the Tab key, not spaces, before each number in the column.

The presence of non-digit characters such as commas, parentheses, and dollar signs, may alter the alignment of digits in columns, but they shouldn't be a problem if you use them consistently.

GENERAL

Avoid Spaces During Text Transfer

When transferring text from one document to another – for example, from a word processor to a page-layout program – be aware that space-bar spaces are related to the size and style of each individual font. If you line things up beautifully and then change the font or export your text to another program, the spaces can change unexpectedly. To ensure exportability of text, use tabs rather than multiple spaces.

Resolution, Dpi And Lpi

Resolution is the maximum number of dots that a device, such as an imagesetter or laser printer, can cram into a linear

inch, and it is the key determination of image sharpness. Resolution is measured in dpi (dots per inch), which could more descriptively be called dpli (dots per linear inch). A 300-dpi laser printer is capable of printing 90,000 (300x300) dots per square inch.

Lpi refers to the resolution you specify for printing a particular job on an offset press. The Lpi (lines per inch) is also called the line frequency or line screen. If your job contains screens or halftones, ask the personnel at your printer ahead of time what line frequency to use and then specify that figure when outputting the document to an imagesetter or laser printer. (There's no need to specify a frequency for work that has only solid type and line art.) The printer's recommendation for frequency will reflect pragmatic factors – the quality of paper and ink, the size and sophistication of the printing press, and your budget for the job.

Generating Special Characters

Use the Option key to generate special characters such as the tilde (~, Option-N), registered trademark (@, Option-R), and delta (ð, Option-D). Use Key Caps under the Apple menu to view other special characters.

Getting The Command-Key Symbol

Many users are surprised that the Command-key symbol (also called the Apple key) isn't included in the Dingbats font – especially since Apple thoughtfully provides its logo in the other LaserWriter fonts. In fact, the Command-key symbol is hiding in the Chicago font in another nearly untypeable location: ASCII 17. Only owners of keyboards with Control

keys – which excludes you if you own a Mac Plus – can type this symbol easily; you can access the command key symbol by pressing Control-Q.

Chicago isn't a PostScript font, so if you need high-quality output, try Chicago Symbols, a shareware PostScript font. (Send \$10 to Bradley Poulson, Northwind Enterprises, 4003 Martin Lane, Two Rivers, WI 54241.) If you own Altsys's Fontographer, you can use the accompanying DemoFont, which also contains the Command-key symbol.

GRIDS

What Is A Page Grid?

A page grid is an underlying structure of nonprinting guidelines that helps anchor elements such as text, pictures, sidebars, and folios. The grid provides a framework for the page design, and like the smooth layout of a highway system, it defines the best transportation routes for reading a page.

Using White Space Effectively

White space gives the reader's eye a rest but can be a distraction if misused. A grid must place text, graphics, and utility functions consistently.

Construct A Grid For Both Right-And Left-Hand Master Pages

You'll need to construct grids for right- and left-hand pages and perhaps for spreads (depending on your page-layout program) as well. In QuarkXPress 3.0, for example, you need create only right and left master grids to produce a spread that

can be printed to film, because QuarkXPress lets you write a PostScript file to disk for two pages side by side. (Using two single pages in QuarkXPress is preferable to using facing pages, because it avoids having a single right-hand page at the top of the Document Manager.) In PageMaker, however, you must create a spread grid as well as left and right grids if you want to print a spread to film.

A Fixed Zero Point Is An Absolute Reference Point

Construct the grid from a fixed zero point so that you always have an absolute reference point for positioning elements on the page. This is important if you're sending documents to a high-end prepress system such as a Crosfield or a Scitex, which positions all page elements based on a fixed zero point.

QuarkXPress 3.0 offers this sort of precision grid building. You can select a text or picture box and use the Modify dialog box to enter its x (origin across) and y (origin down) coordinates from the zero point. This establishes where the left and top sides of the object begin. Entering the width (second x coordinate) and height (second y coordinate) establishes the object's right and bottom sides. This method is more accurate than positioning elements by eye.

Re-Creating An Existing Grid

When you're electronically re-creating a grid for an existing publication, it's best to first create a test grid, using hairline rules, and output it to positive film. Lay it over your existing grid sheet to check for misalignment.



Keeping Grid Lines Visible In QuarkXPress

If you work in QuarkXPress, use the Preferences dialog box to default all text and graphic frames in your grid to No Fill and No Wraparound. This keeps the grid lines visible when you position text and graphics.

Matching Page-Layout And Prepress System Measurements

Prepress systems use the metric system for determining the trimmed page size, so you too should use metrics to measure page size and to create trim and bleed coordinates. Inside the page margins, however, you can safely use points and picas to measure text and image areas.

A note of caution: Many prepress systems use a measuring system of 72.27 points per inch, whereas most page-layout programs count 72 points per inch. If this level of accuracy is important to you, talk to the staff at your prepress bureau about dealing with this discrepancy. It may be possible to make adjustments at the prepress end – by adjusting the leading in an Atex system to match the Macintosh grid, for example.

Optimum Viewing Precision

View the page at 400 percent to achieve the best precision when you're placing elements.

Securing Page Elements

Group and lock all page elements to ensure that they aren't accidentally moved out of position. (PageMaker only lets you lock guides.)

Varying Columns For Easy Reading

Varying the number of columns makes it easier for a reader to select important

information on a page; uneven column widths are ideal for small art, subheads, and quotes.

LASERWRITER

Printing With Ligatures

If you're using a LaserWriter to print, don't forget the two "ligatures" that all the LaserWriter fonts provide: "fi" and "fl". These will make your text "extra tight" for best appearance. The "fi" is Option-Shift-5 and "fl" is Option-Shift-6. Don't forget the printer's quotes either: " Option-[, " Option-Shift-[, ' Option-], ' Option-Shift-].

There are several desk accessories and INITs available through on-line services and user groups that make using printer's quotes (also called smart quotes) easier. The ligatures are probably easiest if you type in "fi" and "fl" normally and use a search-and-replace in your word processor before printing.

MORE

Personalizing Your Startup Screen

Consider what you want to do with your customizable startup screen before actually creating it, since once you've customized it, you're stuck with it.

Displaying More Than One Level Of Headline

Sometimes you'll want to display more than one level of headline in a single bullet slide chart. To do it, Cut or Copy to the Clipboard each outline section that you'd like to see appear on one bullet slide chart.

Open a document window and Paste in the contents of the Clipboard. The indentations remain intact. Edit the leader characters to your satisfaction, then go to the Bullet Subheads dialog box and turn off the Subheads, then leave on Documents. Your slides will show multiple levels when you do bullet chart presentations.

Centering Bullet Charts For Printing

To center a bullet chart on a page when printing, make sure to turn on the As Shown When Printed in the Bullet Options dialog box. If you don't, the chart will print the way it looks on-screen.

Indicating Where Sum Total Should Go

The Calculate command normally positions the sum total at the start of a headline, although if there is already a number in the headline, the sum total will replace that number. To indicate exactly where the sum total should go, place a "\$0.00" in the location you want to specify.

Hiding Numbers From Calculation

You can "hide" numbers from the Calculate command. MORE considers numbers containing a slash (/) to be dates, while it thinks of numbers containing a colon to be times. That means any figures that contain these characters will be ignored when the Calculate command is executed.

Dollar Figure Takes Precedence Over Other Figures

If a headline contains both a dollar figure and a non-dollar figure in the same headline, the dollar figure takes precedence for

calculations, while the other figure is ignored. For example, if you put both an expense amount and the date of the expense in the same headline, put a dollar sign in front of the expense and, for calculations, the date will be ignored.

Hide A Headline While Reorganizing An Outline

You can reorganize an outline by dragging a headline under another headline that has collapsed sub-headlines and "hiding" it there. This lets you clean up your outline and concentrate on organizing the main details.

To move a headline under another one, select the headline you want to move. Then place the pointer to the right or left of the headline (or on the headline, if the Recognizes preference is set). Now click. The pointer changes to a right arrow. Hold down the mouse button and Option, and drag the pointer underneath and to the right of a headline with collapsed subheads. Finally, release the mouse button. The chosen headline is now "hidden" at the end of the collapsed sub-headlines.

Fast Access To Tree Size Dialog

You can quickly access the Tree Size dialog box by double-clicking on any of the orientation icons (the first four icons at the top of the Tree Chart palette). This dialog box lets you alter the exact dimensions of the boxes in your tree.

Quickly Opening Tree Options Dialog

A quick way to open the Tree Options dialog is to double-click on any of the box-shape icons in the Tree Chart palette. This dialog box lets you adjust the pat-

terns of the lines and boxes in the Tree, and also allows adjustment of grid lines, rulers, and page lines.

MORE 1.1

Toggle Between Headlines And Document Window

You can quickly toggle between a headline and its document window by pressing Option-Enter.

Key Equivalents Work In Dialogs

For all dialog boxes where there is no text input, you can use C for Cancel, O for OK, Y for Yes and N for No. If there are text entry boxes, use the Command key along with the key for choosing the button.

Quickly Canceling Dialogs

You can cancel any dialog by pressing Command-period.

Reversing Text Entry Point

While the Tab key advances through text entry boxes of a dialog, Shift-Tab moves the text entry point in reverse order.

Entering Tabs Into Headlines

Enter tabs into a headline by typing Option-Tab.

OMNIPAGE

Edit With AppleScan To Help OmniPage Differentiate Pictures And Words

OmniPage has some trouble recognizing text and pasting text blocks. The less “traditional” the page layout, the more difficult it is for OmniPage to differentiate pictures and words. AppleScan’s edit-

ing tools offer a good remedy:

First, use AppleScan to get a picture of the page. The scanner settings should be 300 dpi, Line Art. After scanning, move to the document window and use the eraser, lasso, and selection-rectangle tools to eliminate graphics that crowd into text, and to move text into groupings that are more easily handled by OmniPage. Then, Save the document as a TIFF file.

Now, open OmniPage, choose Open from the File menu, and open the document you just saved. Choose Recognize from the Text menu. OmniPage runs through your newly-designed page flawlessly – and in record time!

OMNIPAGE 2.0

Scanning Screened Or Colored Text

Scanning text from magazines into files can be a real time-saver, but you’ll frequently come across text in sidebars or on the contents page that is boxed and screened with a color ramp or shading, which can play havoc with OCR.

When faced with this problem, you can lessen your scan time while increasing the accuracy of the scan by selecting Lighten in the Text Settings dialog box. More often than not, this strips out background screens and lets OmniPage do its stuff.

PAGEMAKER

Repeating Items

In FreeHand, if you want to repeat an item (such as grid lines that you want to be a





specific distance apart), you can clone the item, move it, and then duplicate the action. PageMaker offers the same capability but requires a different set of steps:

1. Draw the item (a line, for example) you want to repeat.
2. Copy it, and paste it on top of itself by using the Option-Paste command (Command-Option-V). Move the duplicated item to where you want it to be on the page.
3. Use the Option-Paste command again. PageMaker will paste another line at the same distance as specified in the last move. You can keep using Option-Paste until you have all the lines you need.

Improving Gray Shade Printing

The quality and texture, or fineness, of PageMaker's gray shades leaves something to be desired. The default 53-lpi (lines per inch) screen is much too coarse for most 300-dpi printers. Since you cannot change this 53-lpi setting for graphics created within PageMaker, most users have simply settled for second-rate output.

You can create custom gray boxes in Aldus FreeHand by using the Special command to specify a higher lpi in the halftone screen. You can also accomplish a similar effect by using the ubiquitous MacPaint and special controls available in PageMaker:

1. In MacPaint, create a black box the size you want.
2. Place the box into a PageMaker document, and while the box is still selected, use PageMaker's Image Control command to alter the lightness or contrast with the sliding scale. Change the

halftone screen from 53 lpi to 66 or 75 lpi. The result is a much tighter and finer dot pattern when you print the document on a 300-dpi printer.

Resetting The Page Numbering For Forms

When using PageMaker to set up a double-sided form, you don't have to set the starting page number to 1 and then flip between pages 1 and 2. Just set the starting page number in the Page Setup dialog box to 2 and create two facing pages.

This lets you work with both sides of the form on the screen at the same time (and the master pages correspond to the on-screen form). Later, you can reset the Page Setup dialog box. Remember also that most DTP programs offer automatic page-numbering tricks, which become useful when your documents start to grow.

Setting Consistent Spacing Between Elements

Getting the spacing consistent between several repetitive elements, such as photos and their captions, throughout a multi-page publication can be a real chore — but not if you use this PageMaker trick:

1. When setting the style for a caption or other repeating text element, go to the Rules dialog box, which you access by selecting Paragraph on the Type menu. Check Rule Above Paragraph, and set Line Style to None on the pull-down menu (this gives you an invisible rule above the text).
2. Next go to Options, and type the desired number in the Top box for the amount of spacing you want between the text and the invisible rule. For example, if



you're working in 12-point type, an 18-point space gives you 6 points between the text block and the rule which translates to the bottom of the graphic element.

3. When you drag the text block to position it, the invisible rule above the text will enlarge the text box (shown as a dotted line), according to the amount of space you entered. Line up the top edge of the text box with the bottom edge of the graphic (see Figure 1). This will give you consistent spacing between all captions and related graphics.

This trick also works if the invisible rule is set below the text block (which lets you place the text above the graphic) or if the text block is rotated (for example, for a photo credit on the side of a photo).

Correcting Underscoring Problems

When making a "fill-in" sheet, the underscore characters you type at the end of each line will occasionally line up with the end of other lines. To correct this, after you've completed a page, draw a box over the edges of the ends of the lines which encompasses all of the associated lines. Give this box a white shade and "None" lines, so it can't be viewed. The objects behind it will be invisibly covered.

Getting PageMaker To Remember Page Setup Alterations

PageMaker will permanently remember page setup alterations if you choose Page Setup from the File menu with no document open and only the gray desktop showing. Every new publication you create will default to the altered settings.

Getting The Most Accurate Size Display

Although the 200% size has the most fractional markings on the rulers, it is not the most accurate size display. Since the printed version exactly matches the Actual Size display, always check it before doing your final printing.

Toggling To A MacPaint-Style Hand Tool

Hold down Option while clicking on your document in any other place but in a column guide. Use the hand to drag an image around the window and reposition your page.

Disabling "Snap To Guides"

You have the option of turning off Snap To Guides in the Options menu if you don't use them often. When making a move that isn't affected by these guides, be careful where you place the pointer. Position the pointer away from the guides when you start the move so that the item you're moving won't be affected by the guides.

Keeping The LaserWriter Up To Speed

If you've been using your LaserWriter to print documents from other applications, turn it off and then back on again before printing PageMaker documents. This is because PageMaker initializes the LaserWriter with Aldus Prep, but it doesn't replace the old Laser Prep file. Since both Prep programs are memory hogs, when the LaserWriter stores both files it slows down in printing speed. For the same reason, reinitialize the printer after finishing your PageMaker printing.



You might try reinitializing the printer whenever your network-connected printer seems to be printing too slowly.

Save Time When Switching Printer Drivers

Switching from the Aldus printer driver to the Apple driver for background printing under MultiFinder is a hassle if you rely on the usual, slow method of invoking the Aldus Print dialog box and selecting Change. You can make the change much more quickly by holding down the Option key while selecting Print from the File menu; then click on OK in the two resulting dialog boxes. You'll find yourself at the familiar LaserWriter dialog box, where you can specify the number of copies and pages to print. You've automatically switched printer drivers!

Printing a Publication From Page One, With A Title Page

You may want your publication to have a title page and then start the document with Page 1, but PageMaker doesn't let you treat the title page differently from your document (it also won't automatically number the pages starting with the second document as Page 1).

If you put the title page at the end of the document and turn off the Display Master option on the Page Menu for that page, you can use automatic page numbering for the document and still have a title page without a folio.

Creating Evenly-Spaced Lines In Difficult Places

There will be times when you want evenly-spaced lines in a place not easily divided by the ruler. You can create these lines easily:

First, draw and save your own simple ruler (with some division lines) in a PICT file (you can make these with MacPaint or MacDraw, for example). Enter PageMaker and use the Place command to put your ruler on the page. Select the ruler and resize it to fit the space you need to divide. You can now draw lines using the ruler as a guide. When you're finished, remove the ruler.

Solution For Imported Graphics "Clipping"

When you open PICT files within PageMaker, you'll occasionally find a bug that clips off the top part of a graphic, especially if it consists of text placed above graphics. By placing a shape above the text and giving it no fill or pattern you can fool the program into including the full imported PICT file.

Toggling Between "Full Page" And "Fit To Window" Views

You can toggle between the Full Page and Fit in Window views by holding down the Command key while clicking in the page window.

PAGEMAKER 2.0

Selecting Closely-Packed Objects

Selecting closely-packed objects confined to a small space is easiest if you Command-click near the object you wish to choose.

"Guide Lock" Aids In Object Selection

It can be difficult to select items located on or underneath a guide without grabbing the guide by mistake. To lock the guides temporarily, use Guide Lock from



the Options menu. This makes it impossible to select and move them accidentally. When you're done moving the objects, toggle the Guide Lock off by choosing it a second time.

PAGEMAKER 3.0

Printing Two Pages On A Single 8.5 x 11 Sheet

To print two pages on a single 8.5 x 11-inch sheet, just create two columns on a letter-sized page turned on its side by entering 11 x 8.5 in the Page Setup dialog box. Remember, you can't use PageMaker's automatic page-numbering feature, since auto-numbering considers this setup to be one page.

Keyboard Command Shortcuts For Extended Keyboard Users

If you have Apple's Extended Keyboard, you can choose tools from the PageMaker Toolbox window by using the following undocumented key combinations:

Control-Shift-F1 selects the Pointer.

Control-Shift-F2 selects the Line tool.

Control-Shift-F3 selects the Horizontal/Vertical tool.

Control-Shift-F4 selects the Text tool.

Control-Shift-F5 selects the Square Rectangle tool.

Control-Shift-F6 selects the Rounded Rectangle tool.

Control-Shift-F7 selects the Ellipse tool.

Control-Shift-F8 selects the Cropping tool.

Printing Through The Manual-Feed Tray Of The Varityper-600

PageMaker has difficulty printing

through the manual-feed tray of the Varityper VT-600. The problem isn't with the VT-600 but with the VT-600.apd (Aldus Printer Description) file that PageMaker uses to print. You can alter the APD with Word or another word processor so that the file will work with the manual-feed function. Open the VT-600.apd in Word, find this line:

@ManualFeed: "none"
and replace it with these lines:

@ManualFeed true: "statusdict begin / manualfeed true def end"

@ManualFeed false: "statusdict begin / manualfeed false def end"

Flowing Text Around Irregularly Shaped Objects

PageMaker 3.0 lets you flow text around irregular graphics using an invisible outline that text won't cross. This feature also lets text flow into an irregular shape.

Start by drawing or placing a graphic in a shape that you wish to replace with your text.

Using the rectangle tool, create two side-by-side rectangles to cover the graphic, with the two rectangles touching in the center of the graphic and extending across the width of the column and above and below the graphic.

Select the center text-wrap feature, (found in Text Wrap under the Options menu) for each of these rectangles. The invisible wrap control lines will appear, overlapping in the center.

Working first with the left rectangle, click along the right control line enough times to create the number of points necessary to outline the left side of your graphic. Use these points to stretch the

control lines around the left side of your graphic.

Repeat the process for the right rectangle, using the left side of the rectangle. Make sure the top and bottom control lines still overlap at the center.

When you have the graphic outlined completely, delete it. Now, choose the two rectangles and specify None under the Lines menu. Flow your text into the column, and it will fill the area you created. Set the text to be justified to flow it properly across the area. This tip works best when you're working with small font sizes, tight leading, no paragraph breaks, no tabs, and a column width no larger than the size of your graphic.

Wrapping Text Around A Graphic, Then Captioning The Graphic

If you want to wrap text automatically around a graphic and then put a caption below or next to the graphic, you must increase the stand-off value of the text wrap around the graphic on the side where you want the caption. If you're not careful, the text wrap area of the graphic will push the caption away, leaving it stranded right in the middle of the wrapped text again. Be sure that all the handles of the text block defining the caption are inside the text wrap area.

Place the text or begin the text block by dragging the text cursor, rather than just clicking it. Clicking forms a text block the width of the column or page, which usually makes it larger than the text wrap area. The result is that PageMaker will push the caption away. When you drag instead, you can make sure that the text block of the caption begins and ends

inside the wrap area, so it will stay where you want it.

Changing The Default Settings When Laser Printing

The Default settings of the Aldus Printer Description (APD) files control the laser-printer screen quality, producing output at 60 lines per inch and placing half-tone screens at a 45-degree angle. You can change these default settings using a text editor.

With a text editor, open the APD file corresponding to the printer that you are going to use, and find the two lines:

@ScreenFreq:" and @ScreenAngle:"

Enter your desired screen frequency and the desired screen angle between the respective quotes.

Save as a text-only file. The laser printer will now produce the new screen definition when you print. For best results, don't use a screen frequency higher than 135 lines per inch, and set your half-tone screen angle to a multiple of 45 degrees.

Saving Money When Going To Print Or Film

Most service bureaus charge less for printing one 11 x 17-inch sheet of paper or film than they do for two 8.5 x 11-inch print-outs. You can take advantage of the price break by using PageMaker's wide tabloid page setup to lay out two pages on a single page. This also lets you produce bleeds (graphics that extend across two pages).

Here's an example of how to set up two three-column pages on one tabloid-sized page:

Set the left and right margins to be the



outside margin measurements (since neither one is an inside, or bound margin, they should be equal). Next, choose the distance between columns and the number of columns, but choose seven columns instead of the more common six. The columns will be evenly spread across the two-page spread. To rearrange them, you need to know the width of the column you want. For a three-column page, the formula is $(8.5 - (2 \times \text{the distance between columns}) - (\text{outside margin} + \text{inside margin}))$ divided by 3.

Starting from the left margin, measure the width of your column and then drag the left side of the first column guide to that point. Zero the ruler to the right edge of the column guide, and repeat the procedure for the second and third columns. Then move to the right margin and repeat the measurements for columns six, five and four. The remaining "seventh" column (the one left in the middle) and adjacent column divisions will be equal to the two inner margins.

When printing proofs on a LaserWriter, make sure that you change the options at the bottom of the print dialog box so that the paper is set at Tall. At this setting, with the tile feature set at automatic and the overlap set at 0, the LaserWriter will print your proofs as neatly as if your layout were in an 8.5 x 11 format.

Laying Out 2 Pages On An 8.5x11-Inch Sheet Of Paper

To print two pages on a single 8.5 x 11-inch sheet, just create two columns on a letter-sized page turned on its side by entering 11 x 8.5 in the Page Setup dialog box. Remember, you can't use PageMaker's automatic page-numbering feature, since autonumbering considers this setup to be one page.

Working With Word's Style Sheets

When you first place a Word document into PageMaker 3.0 or 3.01, you place Word's style sheet into the PageMaker document's style sheet, even if you previously hadn't been using a style. In other words, the style is not actually created by PageMaker; rather, it's borrowed from Word.

Once you've placed Word text into the program (and so, placed it in its style sheet), PageMaker will read whatever Normal text you place from Word, whether it's been formatted differently or not, as the same Normal style.

If you have several stories with different formats to place in your document, make sure to delete the Normal entry from the PageMaker style sheet before adding additional text. You can either add the styles you want in Define Styles under the Format menu while still in Word, or else save your formatting until you've imported all your text into PageMaker.

How To Save Revised Print Parameters

PageMaker saves updates to your print parameters (like Paper Source, Driver, Scaling, etc.) only if it perceives that you have changed the file. Even though you may only be opening the file to print it, your changed parameters will be lost when you close the file.

One solution is to do something and then promptly Undo it. For example draw a box and then delete it. Now PageMaker will perceive a saveable change, and your new print parameters will be saved within your file.



Using Pyro! To Force PageMaker To Update The Screen Automatically

One annoying flaw in PageMaker 3.0 is its occasional failure to update the screen (as when the print dialog box disappears, leaving a gaping "hole" in the screen text). Most users just scroll off the page and then back again to recover the portion that was blanked out.

If you have Pyro! or another screen saver, there's a much faster way to force PageMaker to redraw the entire screen.

Move the cursor to the sleep corner. When Pyro!'s startup screen shows, move the cursor back to the document. The fully updated page appears. It's a lot easier than dealing with the scroll bar.

Use Easy Access To Nudge Graphics Or Text A Short Distance

If you need to nudge an object just a tiny distance, you probably know that using the mouse to drag it is extremely inexact. Easy Access, an INIT that comes with the new System, can help.

Just press Command-Shift-Clear to turn on the Mouse Keys. Press the 0 key to lock the mouse button down, then use the numeric keypad to move the pointer (press 8 to move up, 6 to move right, etc.).

To move the pointer one pixel on the screen, tap the key once. For a longer movement, hold down the key a little longer. Press the decimal point to unlock the mouse button, and press the Clear key to turn off the Mouse Keys.

Hide The Guides And Rulers To Gain Some Screen Space On Plus And SE Screens

You can gain some space on the small Mac Plus and SE screens by hiding the guides and rulers. To navigate through your documents, use:

Command-Tab to move forward

Command-Shift-Tab to move backward

Command-G to go to a specific page

Select the Hand tool and Option-Click with it to move around the page.

Keeping Colors In Order For Strippers And Pressmen

When printing a document with spot colors, PageMaker doesn't print color names on each separate plate if the image area occupies the entire printed page. This can prove especially confusing if you're printing multiple pages at a time.

To keep your colors in order, insert a small text block in the top left corner of the document's master pages. Type in the name of a spot color you're using, and then make the text that color with the color palette. Repeat this for every color you use in the document.

You can stack all the text blocks on top of each other, so when you print out, the names will only print out in the pages that have those colors on them.

When you use this method, don't forget to tell the pressmen to cover the color designators when the page is exposed for printing.



Switching Between Drivers

Switching from the Aldus printer driver to the Apple driver for background printing under MultiFinder is a hassle if you rely on the usual, slow method of invoking the Aldus Print dialog box and selecting Change. You can make the change much more quickly by holding down the Option key while selecting Print from the File menu; then click on OK in the two resulting dialog boxes. You'll find yourself at the familiar LaserWriter dialog box, where you can specify the number of copies and pages to print. You've automatically switched printer drivers!

An Easy Way To Track Hours Spent Working

If you need to track how many hours you spend on a particular PageMaker job, you can create a small chart on the Pasteboard, just off to the side of a page. Create columns for Date, Time Started, Time Ended, and Hours Worked in the chart, using tabs. Each time you open the document, add a new row for the day and enter the pertinent information. When you close the document, fill in the Time Ended column. Now you'll always have accurate data handy for invoicing that project, and it's a lot cheaper than buying a time-tracking program.

Opening More Than One Publication

Ever wish you could open more than one publication in PageMaker? If you have at least 3 megabytes of memory, a hard disk, and MultiFinder, you can.

Use the Finder to make duplicate copies of PageMaker and rename each copy (ie, PMK.1, PMK.2, etc.). For safety's sake, place each copy in its own folder with

accompanying files. Then launch each copy under MultiFinder. You can now copy and paste whole pages between publications easily.

Vertically Justifying Columns

PageMaker has no menu-based command for vertical justification, but you can vertically justify columns in a primitive fashion. Assuming the tops of all the columns are even, this procedure gets the columns to line up perfectly along the bottom of a page:

1. Measure the distance between the bottoms of two columns and the bottom of the page, and divide that number by the number of paragraph endings in the shorter column (if the shorter column ends with a whole paragraph, subtract one from the total).
2. Highlight all the paragraphs in the shorter column except for the last one, press Command-M, and type the number you found in step 1 in the Spacing After box. The shorter column will expand to fill the extra space.

PAGEMAKER 3.02

Getting The Proper Spacing When Dividing Horizontal Or Vertical Space

A common operation in PageMaker is dividing an amount of space (horizontal or vertical) evenly among a number of increments. But when this amount of space is not a round whole number, the division and spacing can be problematic. Here's an easy way to get the proper space allocations:

1. Draw a rectangle that is, for example, five inches in length, and divide it into



five increments. The rectangle should be divided into five 1-inch segments.

2. Copy this segmented rectangle to the Scrapbook and use the Place command on the File menu to place the most recent Scrapbook file as a grouped PICT graphic.

3. To resize this rectangle to fit into a longer area, grab one of the handles of the rectangle and stretch it. Now you'll have five equally divided spaces without the tedium of trial-and-error measurement.

Typing Numbers Using The Keypad

Many people prefer to enter numbers from the numeric keypad, but with PageMaker the keypad numbers are used for moving around within a document (and the Num Lock key has been disabled). You can use the numeric keypad by making sure the Caps Lock key is down.

Another effective solution is to use a macro program such as MacroMaker or AutoMac III to program each key on the keypad to produce its corresponding number.

PAGEMAKER 3.0 AND 4.0

Tabbing With Dot Leaders

When using tabs with dot leaders in PageMaker (3.0 and 4.0), the dot leaders take on the text format of the character to the left of the tab. Therefore, if you use a Zapf Dingbats character just before the leader, the dots become little pencil icons.

It isn't possible to select the dots and change their typeface format separately.

To avoid this problem, press Option-spacebar just before the tab. Then select this special nonbreaking space character and format it so that the dots appear as desired.

PAGEMAKER 4.0

PageMaker 4.0 Tries To Forget Its Past

If you've been using PageMaker for years and have upgraded to Version 4.0, you might not want to throw away your previous versions just yet. PageMaker 4.0 can open and use documents created with version 3.0 or 4.0, but it can't open documents created with PageMaker 2.0 or earlier. To get your older PageMaker documents into Version 4.0, you need to open them in PageMaker 3.0 first and save them in that version's format. Then you can open the files in Version 4.0. Aldus recommends that you have free space on disk equal to three times the size of the file being converted.

You can upgrade all of your PageMaker documents each time a new version is released, but the safest solution is to keep all the old master disks so that you can reinstall older PageMaker versions when necessary.

Saving Documents Created With Older Versions Of PageMaker

PageMaker 4.0 has enhanced exporting features for text, which can be a boon if you need to compress and save documents created in older versions of PageMaker. These documents are most likely large, and the formatted text sections are probably the most important part. If this is true, then translate the document created



with PageMaker 3.0 or 3.02 up to PageMaker 4.0.

Now you can export the documents (you can combine them by cutting and pasting) into a document that's formatted in your favorite word processor-style (or text only). This technique might save you 100K on small documents and as much as mega-bytes on large one.

If you ever need your older document again, you'll find that reassembly is easy. Other exporting programs can perform this trick as well, but PageMaker documents save you the largest amount of space when you remove the formatting.

PageMaker Graphic Dropouts

Are you experiencing problems when importing graphics? There may be an explanation, depending on what's happening. Here are some common causes of the "Hey, the graphics didn't print!" problem.

You may have placed a scanned image and then moved the image file to another disk or folder, where PageMaker couldn't find it. Fortunately, if the program can't find a file it needs, a dialog box will appear telling you, so you'll know what happened. PageMaker 4.0 automatically incorporates all EPS graphics into the data file itself, so the location of the original EPS file doesn't matter.

Another possibility is that you may have checked the Proof Print option in the Print Setup dialog box. This is a time-saving measure in which PageMaker prints dummy-style boxes in the place of any placed graphics. If you don't see a box containing a jumbo X where you placed your graphics, you can rule this one out.

If the dropouts are irregular (page ele-

ments of all types either print or won't print, without reason or mercy), you're probably looking at a bona fide computer problem. If you've installed a screen saver, try turning it off. Some screen savers can cause trouble if they kick in while a document's being printed; the computer becomes engrossed in the challenge of drawing those fireworks, or fish, or exploding penguins, or whatever and quite literally "forgets" to send some data to the printer.

It's also possible that the page was complex and your printer ran out of memory. Usually when that happens, your Mac is polite enough to report a "Not enough memory, bonehead!"-type error message. If you suspect this kind of trouble, you can clear any and all errors from your printer by switching it off and back on again.

If you've already turned your printer off and then back on again and you still can't get the page to print, turn the printer off and then on one more time. Then manually download all the fonts used on the troublesome page — all the fonts you used in PageMaker and all the fonts in your EPS graphic. Now print the troublesome page (but not the entire document). To download stuff to your printer, you need a program such as Font Downloader, which is included with Adobe fonts, or CE Software's Widgets or LaserStatus.

Professional-Looking Fractions

In order to set professional-looking fractions in PageMaker 4.0, change the option for subscript position (on the Type menu) from 33.33 percent to 0 percent. To set a fraction, all you need do is type in the numbers and change the numerator to superscript and the denominator to sub-



script. No more calculating and changing the size of your denominator – it will be perfect every time.

Conversion Of MacWrite II To PageMaker 4.0

In converting documents from MacWrite II to PageMaker 4.0, the import and creation of en dashes is inconsistent. In the story editor of PageMaker, you can't import en dashes, nor can you create them. The mode's global-change options doesn't recognize them. They import as hyphens.

When you use the Place command on imported text in the page-layout view, the en dashes change to hyphens. You can create en dashes in the page-layout view with the standard Option-hyphen keystroke combination, however.

There is a way around this shortcoming: Cut and paste between applications. Copy the text you want to import from your word processing file, and then close the document. Open the PageMaker 4.0 file, and paste the text.

Although more steps are involved in this technique, if you have many en dashes in an existing document and want to copy directly to the PageMaker document, this is the only way the en dashes will survive the transition.

PERSUASION

Change The Master For Some But Not All Of Its Associated Slides

You can't do this, but Persuasion's multiple masters can produce the same result. Simply create a new slide master based on the old one by choosing Go to Master on the View menu and New from the

submenu. Then select any subset of slides by Shift-clicking in the Outline or Slide Sorter view, and apply the new master. Reformat the new master to suit your needs.

Changing The Arrowheads

If you find the arrowheads in Aldus Persuasion too large for your taste, you can change their size by changing the length of the line to which they're attached. On longer lines, Persuasion consistently makes the arrows the same size, but by adjusting shorter lines, you can obtain a variety of sizes.

Draw the line in the position you want, and make it the length you want. Instead of choosing the arrow style from the Effect menu and applying it to your line, draw a shorter line off to one side, make it the arrow line, and then adjust the length until you get the arrowhead size you want. Copy and paste this arrowhead on top of the first line. You can also create a selection of arrowheads and copy them to the Scrapbook so you can use them later. Be sure to create them pointing in different directions.

Switch AutoTemplates To Give Your Slides A New Look

Use the AutoTemplates command to quickly change the formatting for an entire presentation. This is a convenient way to alternate between black-and-white overheads and 35mm color slides. Persuasion automatically replaces masters with the same names, reformats all slides, and replots charts to match the new design. The new AutoTemplate format also overrides any previously applied color schemes and defined text and chart formats.



Restore Master Formatting To An Individual Slide Element

You've made several changes to the body text of a slide – italicized some words and moved and resized the text block – but you don't like the results and want to restore the master's formatting.

The solution is, in Slide view, use the pointer tool to select and delete the entire text block. Leave Slide view, and then return to it. Voila – your body text has been reformatted and repositioned based on the master.

This shortcut works for any text that's linked to the outline, including titles, subtitles, and body text. For an organization chart, just select and delete the whole chart. (Note: A quick way to leave and return to Slide view is to click on the slide icon at the upper right corner of the window.)

Restore Master Formatting To An Entire Slide

The fastest way to remove all local overrides – such as format and position changes to the title, subtitle, or body text – is to select None for the master and then reassign the original master.

Use Chart Placeholders

You don't have to use chart placeholders, because you can plot a chart directly to any slide regardless of which master you're using, but you can easily use a chart placeholder by assigning a master containing one to the slide before you plot. A chart placeholder offers two benefits: One, you can adjust the size, positioning, and formatting of charts on several slides at

once simply by changing the master. Two, if you switch AutoTemplates, all the charts will automatically be replotted, resized, and repositioned to reflect the new template design.

Use “Selective” Select All To Choose All Objects Of A Given Type

In Slide view, you can select all the objects created with a specific tool by choosing that tool and then using the Select All command (Command-A). If you choose the Rectangle tool and choose Select All, for example, all rectangles are selected. Choose Select All again, and all objects on the slide are selected.

In Outline view, the Select All command has three levels of operation: Issuing the command once selects all the text in a single heading, twice selects all the headings of the same level that share the same superior heading, and three times selects all the visible headings in the outline.

Take Advantage Of The Temporary And Permanent Defaults For Drawing Tools

Permanent defaults are saved with your document. You can change them by selecting the pointer tool and choosing line styles, colors, or patterns from the Effect menu. (Make sure no objects are selected, or they will be affected by the changes.)

You can set temporary defaults by clicking on a drawing tool and then making selections from the Effect menu. The temporary defaults affect all the objects you draw until you choose another tool.



Edit Text In Grouped Objects Such As Charts And Tables Without Ungrouping

Choose the text tool, click on the text in any group or chart – no matter how deeply nested it is – and proceed with your editing. You can also change the type style and apply superscripts or subscripts. (Note: text changes you make to chart labels are automatically reflected in the data sheet.)

Create One Or More Preview Slides Automatically

A preview slide gives an overview of a set of slides by listing their titles (see Figure 2). You create preview slides in the Outline view by using the Set Heading As command from the Outline menu to turn subordinate headings into slide titles. The subordinate slide title then appears twice, once as body text in the preview slide and again as the title of its own slide.

Let Persuasion Keep Text Blocks And Charts Centered On The Slide

You might want to keep a text block centered on the slide even if the text within the block is aligned on the left. Use the Anchor Placeholder command to do this. Few of Persuasion's Auto Templates use center anchoring, so this feature is largely unknown.

Go to the slide master, select the placeholder for body text or organization chart, and choose Anchor Placeholder from the Master menu. Select both Center options and you've finished. Now all the text that's contained in the placeholder, regardless of its size and alignment, is vertically and horizontally centered relative to the placeholder.

Create Slide Builds (or Layers) Automatically

A build reveals a slide's text and graphics one layer at a time, in a manner similar to using a flip chart with acetate overlays. You can create builds manually by selecting objects in Slide view and sending them to different layers (using the Layer pop-up menu in the lower menu bar). But many users don't realize they can create builds for text and charts automatically for an entire presentation.

The process is simple: Go to a slide master, select the appropriate place-holder, pick Build Layers from the Master menu, and choose a build option in the dialog box. All the slides based on that master are now layered. To see the builds, you can run the slide Show or output them by checking Builds in the Print or Export dialog box. (Note: builds print cumulatively – layer 1 on the first page, layers 1 and 2 on the second page, and so forth.)

Use AutoTemplates As More Than Just A Collection Of Coordinated Masters

You can save any presentation as an AutoTemplate, and all the data, document attributes and defaults are saved along with it. Similarly, you can open the original of any AutoTemplate (instead of a copy), modify it to fit your needs, and resave it.

Here are some possibilities for enhancing AutoTemplates. Setup level-specific text styles for the Outline view (you can always override the styles for individual characters and topics). Define drawing-tool defaults for patterns, colors and line styles. Create your own color schemes. Save a collection of drawing objects or clip art on an unused slide, a notes page, a handout master, or the



gray area of any slide (in other words, any place they won't print).

Creating An Entire Presentation Without The Outliner, But With AutoTemplate

The key here is to choose New from the Slide pop-up menu. This gives you a brand new slide with a dummy title and body text based on the slide master. Use the Text tool to select the dummy text, and type in new text. You can use the Move Right and Move Left commands (on the Text menu) to alter the heading level of a paragraph, and the font and style automatically change to reflect the new level if it is different on the master.

Assigning Different Type, Style And Color To Body Text Levels On A Master

Use the text tool to select one or more paragraphs of body text, and then choose the desired styles and color from the Text menu.

Changing Body Text On The Slide Master

Make changes to body text, organization charts, and so forth on the slide master rather than on individual slides. All slides that use the master will be updated instantly.

Mixing Tall And Wide Overheads In The Same Presentation

Slide or overhead orientation is always based on the orientation of the master and is usually horizontal (wide). If you prefer an overhead with a vertical orientation, make a new master, don't give it a background (select None from the Background pop-up menu), and choose Tall Orientation from the Master menu.

Any slide using this master is now tall instead of wide. This technique always works for overheads, but it's less reliable for slides, because some film recorders can't handle a tall orientation.

Replacing The Default AutoTemplate Without Reinstalling The Program

When you install Persuasion, you have the option of installing one AutoTemplate as the default presentation; this file is called Persuasion Prefs and resides in the Aldus Folder, (inside the System Folder). If you later want to make another AutoTemplate the default, you don't have to reinstall the program. Instead, just create a presentation and adjust the various settings to meet your needs. Save the file as a presentation called Persuasion Prefs and store it in the Aldus Folder, where it replaces the original file.

Reformat All Slides Simultaneously By Making Changes To The Slide Master

Most people change the formatting for existing slides one at a time right on the slide, but one of Persuasion's unique features is that you can reformat all your slides simultaneously by making changes to the slide master. All slides based on the master immediately reflect the changes. This works for any placeholder change, including font, style, size, position, and fills. (Placeholders are markers that define the size, format, and location of objects on a master.)

Persuasion Does Animation

You can use Persuasion's layers to achieve animation effects. Say, for example, that

you want to have a ball bouncing across the screen. First, copy and paste the ball at different positions on successive layers of the slide. On each layer, hide the ball from the previous layer by using a solid rectangle whose fill is the same color as the background. Similarly, you can build text word by word (or letter by letter) by sending the appropriate characters of the text block to different layers.

Note: when you paste or draw new objects they always go to the current drawing layer. You can change the drawing layer by choosing it from the Layer pop-up menu when no objects are selected.

Use “Warm” Links To Quickly Replot Charts Linked To External Spreadsheets

You can open a spreadsheet from another program (if it's saved in text or WKS format) and use it to plot selected information. Persuasion maintains a link to this external tie enabling you to update a presentation quickly if data in the original spreadsheet changes. Simply use the Data Sheet command to open the external spreadsheet, select the data to be replotted, and click on the Replot button on the menu bar.

Spice Up Your Charts With Some Variety

You can flip charts vertically or horizontally and reposition legends and pie slices by double-clicking and dragging. You can add round corners to bars via the Round Corners command on the Draw menu as well as ungroup any chart and alter the individual elements.

Improve A Resized Chart Using The Redraw Chart Command

When you stretch or resize a chart in a drawing program such as Persuasion, the screen image may become distorted. If you select Redraw Chart from the Chart menu, the chart will be recalculated based on its new size and replotted, giving you a clean image.

Highlight Key Data Points By Enhancing Individual Chart Elements

You can change patterns, colors, and line styles for a single data element as well as for an entire series.

When you double-click on a bar, all the bars in the series are selected. If you double-click again, the individual bar is selected and you can alter its appearance without affecting other chart elements. Similarly, you can alter the tops and sides of bars, pie slices and so on; make independent changes to major grids, minor grids and tick marks; and enhance text for individual category and legend labels. (Note: you can use one triple-click instead of two double-clicks to select an individual chart element.)

7 Keyboard Shortcuts

1. Move between slides by holding down the command key and pressing either the up arrow key (to go backward) or the down arrow key (to go forward).
2. Move between the Outline, Slide, and Notes views by holding down the Command key and choosing the right or left arrow key.
3. You don't have to use the selection handles to resize selected objects. Just hold down the Command key and drag the mouse anywhere on the slide. You can



reduce the effect of mouse movement by beginning the drag outside the selection and magnify it by starting the drag inside it.

4. Resize text blocks without leaving text editing mode. Just hold down the Command key and drag the left or right edge of the text block. This applies to all text blocks, including those in groups and charts.

5. Select objects behind other objects by using the Option key. If you hold down the Option key and click, you can select an object behind the front-most object. You can use this keyboard shortcut to select several unreachable objects in succession.

6. Change the default text style for one or more levels of the outline without using the Outline Styles dialog box. Hold down the Option key while you choose any font, size, style or color from the Text menu, and all the headings on the same level as the selected one change simultaneously. All the new headings have the new formatting, but local style overrides are preserved.

7. In the Outline view, you can show only first-level subordinates of a heading and hide all deeper levels by holding down the Command key and double-clicking on the heading icon. To re-expand the subordinates of the heading, hold down the Option key and double-click on the heading icon.

Let Your Chart Data Go Through The Roof

You can emphasize expanding sales figures by changing a chart's plot range so that the largest numbers literally go off the chart. Select the chart, and then choose Axes from the Chart menu and

Value Axis Format from the submenu.

When the dialog box appears, reduce the value for Plot Range Maximum. Now the longest bars (or highest points) will extend beyond the chart axes.

POSTSCRIPT FILES

Using ResEdit To Add A PostScript File Option To The Print Dialog

Pressing Command-F after clicking on OK in the LaserWriter dialog box writes the PostScript output, minus the LaserPrep file, to a file. But some applications intercept this Command-F event, preventing the file from reaching the LaserWriter driver. Using ResEdit, you can place the PostScript File Option in the Print Dialog Box of the LaserWriter Driver.

1. In ResEdit, open the copy of the LaserWriter driver, version 5.2 or 6.0, and select DITL from the list of resources.

2. Using the Open as Template option (labeled Open As in earlier version of ResEdit), select DITL ID = -8191 to open it as a DITL resource.

3. Find the Item for Disk File with a Display rect (display rectangle) of 0 0 0 0. Change the Display rect to 49 320 65 400. Save your changes, and exit from ResEdit.

4. When the LaserWriter Print dialog box appears, you should see a new option called Disk File. Clicking on it results in the creation of a PostScript file of the output called PostScript0 (or 1, 2, 3, and so on). This file will appear in your System Folder or in the Spool Folder within the System Folder.

5. To avoid confusion with other LaserWriter driver files on your hard disk, rename this altered driver. You'll have to select this driver from the Chooser to access it after you've changed its name.

Postscript File From Laserwriter 7.0

In LaserWriter 7.0, the old trick of pressing Command-K or Command-F at just the right instant to get a PostScript file no longer works. Instead, a new button in the print dialog offers "PostScript file" as an alternative destination to "Printer."

Printing PostScript To Disk Under Multifinder

Prior to System 7, one way of sending a PostScript file to disk is to hold down the Command and K keys immediately after clicking on the OK button in the Print dialog box. This approach works, unless you're using MultiFinder and have Background Printing enabled. If this is the case, your PostScript file will never be printed to disk.

If you normally use both MultiFinder and Background Printing, don't despair — you can still print a PostScript file to disk. Here's what you need to do:

1. Open the Chooser DA.
2. Select your laser printer.
3. Turn Background Printing off.
4. Close the Chooser.

Now, if you hold down the Command and K keys immediately after you click on OK in the Print dialog box, you'll see a box that says, "Now printing PostScript file." Don't forget to turn Background Printing back on when you've finished.

Sending A PostScript File To The Printer

Once you have created a PostScript file on the Mac, you need an application or DA capable of sending the file to the printer. Adobe's Font Downloader can, in addition to manually downloading fonts, download PostScript files one at a time. CE Software's Widgets application or LaserStatus DA can download files one at a time or in batches.

Font Downloader is included with Adobe fonts, and you can download it from the Adobe Forum on CompuServe. Widgets and LaserStatus DA are bonus programs included with CE Software's excellent Finder-replacement DA, DiskTop.

Printer Dialog Boxes - Selecting Specific Printers

In some applications, such as QuarkXPress, PageMaker, FreeHand and Illustrator, the Print or Page Setup dialog boxes let you select a specific printer, such as a LaserWriter II, QMS PS-810 or Linotronic 300. Your printer choice affects the PostScript code that is sent to the printer and can occasionally limit the output quality.

This is because when you choose a printer, the application uses a printer-description file to determine what information to send to the printer. Some descriptions are built into the application; others use separate printer-description files. These files are usually identified by a special filename extension, such as APD for Aldus applications, PDF for Quark programs and PPD for Adobe applications. The printer descriptions affect gray levels, page margins, and other factors — some permit more versatility than others.



It would be great if these descriptions were perfect, but that's not always the case. If you suspect that the printer description is limiting the quality of your output, try telling your application that you are printing to Linotronic 300, which is a high-end imagesetter. In many cases, this printer description gives the printer the ability to print the best-looking page instead of sending a restricted copy of the page's code.

PREPRESS

Printing Spot-Color Components

The advent of color electronic page make-up has highlighted a problem that most software manufacturers have overlooked. The problem occurs when you print a spot-color composite to a low-resolution (300 dpi) black-and-white printer for proofing. If you compose a document using spot-color components from a page layout program such as PageMaker or QuarkXPress and place color graphics from Illustrator or FreeHand, the printer driver assigns a percentage of black to represent the differences between colors. This is fine for proofing a color break, but it makes copy on the page (and within graphics) very difficult to read.

QuarkXPress offers the option of printing colors as grays or in black-and-white, but this option has no effect on color EPS files placed on the page.

Solution: Tell the printer to use a screen ruling too high for it to reproduce (150 lines per inch, for example, for a LaserWriter or other 300-dpi device). When the page comes out of the printer, the tinted areas fill in to black.

To achieve this effect in QuarkXPress,

simply set the screen ruling in the Page Setup dialog box to the desired value.

The process is more involved for PageMaker. You must open the APD (Adobe printer description) file for the appropriate printer and edit it with a word processor. Remember to save the APD file as a text file under a different name (LW II NTX composite.apd, for example) so the original remains unchanged. You need to locate the lines listed below and change the screen-frequency values indicated in bold to the appropriate values:

```
@DefaultScreenFreq: "150"
@DefaultScreenAngle: "45"
@DefaultScreenProc: "{dup mul
exch dup mul add sqrt 1 exch sub}"
@ScreenFreq: "150"
@ScreenAngle: ""
@ScreenProc: ""
```

Remember, this procedure turns almost every percentage tint in a document to solid black, so it doesn't work in situations involving background tints, process color photos, or tint builds.

QUARKXPRESS

Booting With MacQwerty

Version 3.0 of QuarkXPress won't boot if you have your keyboard configured with MacQwerty, from Paragon Concepts, in the Dvorak layout.

To get QuarkXPress 3.0 to work with MacQwerty's Dvorak keyboard, go to the Control Panel, choose keyboard, and select U.S. (this works only if you have installed MacQwerty). Close the Control Panel, and launch QuarkXPress. Go back



to the Control Panel, choose Keyboard, and select Dvorak. You can now type away in QuarkXPress without sacrificing the sanity provided by the Dvorak keyboard layout.

Applying Two Style Sheets To A Paragraph

QuarkXPress, like most other word processing and page layout programs, doesn't let you mix two style sheets in the same paragraph. But let's take an example where your layout needs a hanging indent with New Century Schoolbook and numbers in Helvetica Bold.

In this case, you might set up a format for the hanging indent in New Century Schoolbook and then painstakingly select and change the numbers to Helvetica Bold.

A quicker way is to set up a style sheet for the hanging indent and a separate style sheet for the part number. Then instead of running the part number and the description together, as they will eventually appear, insert some unique combination of paragraph returns (and other characters if necessary) between the part number and the description so you can search for and replace it later.

Select the entire text, and format it as a description (with hanging indents) by using your first style sheet. Now click on each of the part numbers and – with the function-key equivalents that QuarkXPress lets you assign to style sheets – format all the part numbers with their own style sheet.

Now use QuarkXPress' Edit Find/Change menu option to replace your separator (in this case, two carriage returns) with spaces or whatever else you want to have between

the part number and the description.

When you've finished, you'll see that the description and the part number each have their own style. QuarkXPress, unlike PageMaker and Word, doesn't store styles in the paragraph marker, so when you eliminate the paragraph marker between dissimilar styles, QuarkXPress simply juxtaposes the styles rather than replacing one with the other.

Because all formatting options in the style sheet remain with the text itself, you can have different fonts, styles, formats, and you-name-it, and QuarkXPress will preserve them.

QUARKXPRESS 2.0

Improving The Printed Look Of AppleScanned Art

There's a problem with the way QuarkXPress handles line art saved as PICT files in AppleScan. An AppleScan PICT file placed into QuarkXPress looks fine on-screen, but prints out terribly with the LaserWriter. If you import the same file in the TIFF format, QuarkXPress automatically assigns a halftone screen value to the line art, which ruins its clarity.

A solution not documented in the manual is to save the line art in the TIFF format in AppleScan, then to hold down the Command key when selecting the file in QuarkXPress, using the Get Picture command. Doing this imports the file as non-halftoned line art. Now you can take advantage of nearly all the options on the Style menu, such as Negative, Contrast, and others which are not available for any graphics imported as PICT files.



Wrapping Text Around AppleScanned Images

When irregularly shaped pictures are scanned with AppleScan and then imported into QuarkXPress, it is usually impossible to use the automatic text-wrap features. When text is wrapped around the imported graphic, it wraps only around the shape of the graphic box.

Here's a solution that allows you to wrap text around an irregularly shaped image imported from AppleScan:

While in AppleScan, select the irregularly shaped object using the Lasso tool. After the object is selected, AppleScan gives you the option to Save Selection As in the File menu. Save your image as a TIFF file so that it can be imported into QuarkXPress.

After you've imported the TIFF file, you can go through the normal steps to create a wraparound. The text will wrap perfectly around the shape of your object, and if you put the object into a rectangle picture box you can set the Text Outset to anything you want.

QUARKXPRESS 2.1

Circumventing Quark's 500-Point Font-Size Limit

Here is a quick and dirty way to circumvent QuarkXPress' 500-point font-size limit and create some beautiful text effects:

1. Using QuarkXPress 2.1, with its new font-rendering extension, set the Render Limit command (on the Utilities menu) to a relatively low number, such as 48 points.

2. Select an unencrypted (Type 3) downloadable PostScript font or one of the Bitstream fonts that are distributed with QuarkXPress.

3. Choose the largest point size that fits in your window. A 500-point character, which is the maximum size that QuarkXPress allows, usually fits on a 13-inch Apple color monitor.

4. Use the Fkey Command-Shift-3 to take a screen dump of this single letter (you may want to open the MacPaint file and erase everything except the letter). You can then use that file as a template for Illustrator 88 or FreeHand to auto-trace.

You will find that you can create an outline object that is nearly indistinguishable from the original. You can then scale it beyond QuarkXPress' 500-point limit, use Illustrator's blend tool, and manipulate it in ways that you cannot manipulate normal text.

Recovering The Text From A Corrupted Document

If you get a Bad File Format error when you're attempting to open a QuarkXPress 3.0 document, the document is history. You can, however, recover most of the text in the file by using the Open Any File command in Microsoft Word 4.0. Access this command by holding down the Shift key as you pull down the File menu (you can also add this command to the menu by using the Commands item on the Edit menu). The text may be somewhat scrambled and there will be some garbage in the file; however, if you need the text, you are in luck.



QUARKXPRESS 3.0

Importing Word's Fast Saved Documents

Here's a quick tip on importing Word 4.0 documents with style sheets into QuarkXPress. When you import text by using the Include Style Sheets option and the Word document's styles have the same names as those in the QuarkXPress document (for example, Body Text), the QuarkXPress styles should override the Word styles. However, this won't work consistently if you've saved your Word text with the default Fast Save option – only some formatting will take effect. To make sure the QuarkXPress styles do override all the Word styles, use the Save As command when saving your documents in Word. You can also use the Commands option from the Edit menu to add the Fast Save Enabled command to a menu. This lets you toggle Fast Save on or off as you need it.

Creating Crop Marks For Consolidated Jobs

If you're outputting files at a service bureau that charges per page, you can consolidate space and reduce costs by combining several small jobs such as business cards onto a larger page. However, because you are putting several separate documents onto one page, you can't use QuarkXPress' automatic-crop-marks feature. Here is the best way I've found to quickly create accurate crop marks for each document on a page:

1. Draw a text box within a letter- or tabloid-sized page, and give it a white fill with no runaround.

2. Select the box, and make it the size of the document you want (for example, a 2-x-3 business card), using the Modify command from the Item menu or the Measurements palette.

3. Draw two lines with a 0.25-point line weight. One should be horizontal, butting the top of the box, and the other should be vertical, butting the left side of the box. Both lines should extend about 1/4 to 1/2 inch beyond the box at both ends.

4. Duplicate each line, and drag it to the opposite side.

5. Now drag the zero ruler guide to the top left corner of the text box, and drag the corner to resize the box so that it is 1/8 inch larger than it was at the top and left. Drag the ruler guide to the bottom right corner, and extend the box likewise to the right and bottom. With the box still selected, bring it to the front, using the Item menu.

6. Create a descriptive title if necessary (for example, "My business card – shoot @ 100%"), and place it appropriately. Select all items, and group them. If you want to save this as a template for future use, drag a copy of it to a library.

7. Now drag the grouped item to an appropriate place on the page, and add any ruler guides as necessary. Continue adding other items to the page as desired.

Accessing The Environment Box

QuarkXPress 3.0 can provide you with useful information about your system configuration in its Environment dialog box. You access it by holding down the Option key when you choose About QuarkXPress from the Apple menu. But



if you use QuicKeys 2 or Suitcase II, you can run into problems, because those programs use the Option key to modify menus. Quark suggests that you change this menu-modifier key, but if you have an Apple Extended Keyboard, you don't have to. Hold down the Option and Help keys, and the QuarkXPress Environment dialog box is all yours.

Creating Real Fractions

QuarkXPress 3.0's in-line-graphics and paragraph-rule capabilities give you an easy way to create real fractions (placed top over bottom, not diagonally as in the QuarkFreebies extensions). In-line text boxes are simple to manipulate.

First create your standard text, leaving markers where you want the fractions to be. Then create a new text box on the pasteboard, making sure that the text inset for this box is set to 0. Create a fraction by typing the numerator, pressing Return, and then typing the denominator. The point size of the fraction should be 1 to 3 points smaller than the body text. Set the alignment to center.

Highlight the first line, and create a paragraph rule (using the Style menu). A hairline rule based on the indents works well with numbers greater than 9, but you can use the text setting for fractions that contain only a single digit top and bottom.

Make sure the text box is as small as possible without losing any type, and then click on the text box with the item-selector tool and copy it. Using the editing tool, paste this box into the body text where you want the fraction to be. Use the Baseline Shift command in negative increments to bring the fraction down to the level you like. Use the kerning com-

mand on the Measurements palette to adjust the word spacing.

For small body text, you may find that the in-line text box has too much white space to the right and that even kerning does not help. The only solution is to use the text box as a free-floating graphic. Just make sure that if you edit the body text, you also reposition the fractions, if necessary. Once you've created a fraction this way, you can create others by copying and pasting the original fraction into new positions and changing the numbers.

Creating A Large Letter With Nested Text

If you've ever wanted to create a word with a large initial letter and the other letters nested inside it, you can do it in QuarkXPress 3.0. The following steps will help you create this effect:

1. Type the first letter in a large font size.
2. Type the rest of the word in a smaller point size.
3. Select the smaller letters, and move the baseline up until it is in the middle of the opening of the letter (an example of this is the word *Cats*, where the C is the large letter and *ats* are the letters nested in the C).
4. Select the large and small letters, and modify the tracking until the small letters are nested inside the large letter.
5. Select the small letters, and reset the tracking to 0.

Although you can achieve the same effect by using two text boxes and placing one inside the other, this method is easier, because you don't have to worry about grouping text boxes or making boxes

transparent. It's also a lot easier to rearrange and copy.

READY, SET, GO! 3.0

Wrapping Text Around Text

It's possible to wrap text around other text. Just choose Specifications from the Special menu and pick "run around." The resulting text can wrap around the text block just the way it works for a picture.

Viewing A Page At The Text Block Insertion Point

Using Command-1 to Command-5 to view a page can be annoying, since you always see the upper left corner of a page. To work around this, while the text tool is activated, click and hold the mouse button with the cursor in the text block you want to zoom to. Still holding down the button, hit the Command key to zoom to any factor. When you release the mouse button, the view will shift to show the insertion point in your text block.

You Can Only Import 32K Documents Or Smaller

If you're importing a complex PostScript document, check the size of the file first. It has to be 32K or less to import properly, since Ready, Set, Go! 3.0 is limited to 32K text blocks. Importing longer documents may be courting trouble, so break large files down into smaller ones before entering Ready, Set, Go!

Use The Program's Drawing Tools To Save Printing Time

Although Ready, Set, Go! is usually excellent at importing 300 DPI graphics, try to make do with the drawing tools included in the program if your needs aren't too

complex. It saves considerable time when you print out the page. You'll find you can create some pretty elaborate logos with imaginative use of the fill patterns and shapes, and your page will print almost as fast as a text-only document.

Bypassing The Get Picture Routine With The Clipboard

Although most people copy graphics from files using the Get Picture routine, you can skip a step by passing the image through the Clipboard instead. If you work with a drawing or painting program and Ready, Set, Go! under Switcher, cut the image to the Clipboard, switch to RSG, use the cropping tool to prepare the target graphics block, and then Paste. You'll still have the same control over the image as if you had imported it in through Get Picture.

Link Text Blocks In Exact Order, Page By Page

When linking text blocks together, make sure to link them in the exact order, page by page. The program won't assume that you want the blocks linked in numerical page order, but instead will take your commands literally. If you try to link up the blocks from front to back, the results will be a real mess.

Using ResEdit To Recover A Lost Application Icon

Sometimes Ready, Set, Go! 3.0 loses its application icon, which can result in a "Couldn't find the application" error when you try to open a Ready, Set, Go! document. If you have a copy of ResEdit, here's a fix to try:

On a backup of Ready, Set, Go! 3.0, launch ResEdit and select the Ready, Set, Go! 3.0



application. Choose Get Info from the File menu and click on the bundle box to turn it on. Then close the window and save the changes. (Setting the bundle bit in an application specifies that the application “owns” documents and that it has its own individual icon.)

Now, double-click on the Ready, Set, Go! 3.0 application to open it and show its resources. Select NEW from the File menu and enter a new resource type of MRSN (all caps). A blank MRSN window opens immediately. Choose NEW again from the file menu and enter the following at the insertion point: 0B 56 65 72 73 69 6F 6E 20 33 2E 30.

Now close the window, and you’ll notice how the only listing in the MRSN window is highlighted. Choose Get Info from the File menu and change the ID name to zero. Finally, quit ResEdit and save the changes made to the Ready, Set, Go! backup. Now, just reboot the backup, and you’re ready to work again.

READY, SET, GO! 4.0

Stretching Text Easily

There’s a quick and easy way to stretch text as tall or as wide as you want. Start with a text block and type in the desired text. Then draw out a picture block to the size of the end product. If, for example, you want the text to come out half as wide and four times as tall, create the picture block in that size.

Select the text block to be stretched by clicking on it, then Cut or Copy it. Now, ready the picture block as if it were to receive clip art, and then Paste the text into the block. Select the Picture block,

choose Specifications (Command-M), and use the Scale Across and Scale Down functions to stretch the text accordingly. The stretched text will now appear as you want it.

Wrapping Text Within Two Graphics

It’s possible to wrap text within two graphics to create interesting paragraph shapes like circles, triangles, or just about any shape you can imagine. Here’s how:

Draw the shape that you want the text to conform to with a graphics program like MacDraw. The trick is to draw it in two halves (such as two half-moons that together would form a circle). Copy and Paste each half of the drawing separately into the Scrapbook.

Now, boot RSG! 4.0 and create two graphic blocks large enough to accommodate your drawings. Make sure they butt up against each other. Then, paste your two graphics into these graphic frames — the left half into the left block, and the right half into the right one. The two halves should now resemble the graphic shape you want. Invoke the Specifications box (Command-M) for each graphic block and click Don’t Print and Runaround Graphic (instead of Runaround Frame).

Then, create one text block as large as the two graphic blocks. Make sure the text block lies directly on top and covers these blocks. Put your insertion point in the text block and start typing or import a text file. The resulting text will take on the shape you created with the two graphics. Use justified text if you want the text to conform exactly to the shape you’ve created. And set text repel distance to zero.

If you have problems getting the text to flow correctly into the shape, try drawing nonprinting lines above and below your graphic.

READY, SET, GO! 4.5

Using Ready, Set, Go! To Produce Gray-Scale Characters

An undocumented feature of this program is its ability to produce gray-scale characters. Just make text different colors and print without the Color Separation option checked to get gray-scale characters when you print on a PostScript-compatible printer.

Getting Rid Of Unwanted Characters In Imported Text Files

You may need to import a text file into RSG 4.5 that displays unwanted or unknown characters on-screen. Files transferred from other computers or downloaded from bulletin boards often contain such characters, as do files from non-Macintosh operating systems. These unwanted characters often appear as little boxes.

You can get rid of these characters by using the Replace command. Select the offending box or symbol by highlighting it. When you select Replace, the character is automatically pasted into the Find box in the dialog box. Move the cursor to the Change To box and press Option-D and then R (this specifies that you want the replacement character to be a carriage return; or you can replace the nonprinting characters with a space or with nothing at all). When you click OK, all your unwanted characters will be deleted.

Increasing And Decreasing Text Point Size From The Keyboard

You can increase and decrease the point size of your text right from the keyboard. Select the text whose point size you want to alter. Press Command-> (greater than) to increase the text size one point at a time; press Command-< to decrease the size by one point.

Shortcut When Jumping Around View Levels

This shortcut makes it much easier to jump to a specific spot on the page when you change view levels in Ready, Set, Go! 4.5a.

If you find yourself at the Size To Fit view and you need to zero in on a text or graphic element at the Actual Size view, just hold down the Command and Option keys while clicking on a text element with the I-beam or on a graphic element with the pointer arrow. You will automatically switch to the Actual Size view.

Underlining Text Selected As Italic

Underlining text that has been selected as italic from the Style menu can be tricky in Ready, Set, Go!

If you are like most users, you double-click on words to select them and then make style changes. However, as with most word processors, double-clicking on a word in Ready, Set, Go! selects both the word and the space after it. If this word is then underlined, for example, the space following the word will also be underlined.

You can eliminate this problem by simply pressing the Command key when double-clicking on the word. This



ensures that the space after the selected word will not be selected too.

SLIDES

What Printer Driver To Use?

If you're creating files to be imaged by Autographix or Genigraphics centers, it's wise to use their proprietary printer drivers (Mac Chooser documents) when you create slides. These printer drivers are included in some presentation packages. PowerPoint includes a copy of the Genigraphics driver, for example, and Persuasion includes the Autographix driver.

If your software doesn't include one of these drivers and you want to use an Autographix or Genigraphics center, you can probably get the correct driver from the imaging center for a fee that is usually deducted from the cost of your first slide order. These drivers work with all presentation programs, so you're not locked into using one of the name-brand services if it would be more convenient to use another. Also note that the driver you use has no effect on the quality of your slides.

Select The Printer Driver Before Creating Slides

If your software includes a special driver for writing slide files to disk, always go to the Chooser and select it before launching the program. Converting from another format is always more difficult than working in slide format from the outset.

Avoid Side-to-Side Or Diagonal Blends

Film recorders are raster devices, which write images in horizontal lines.

Although your presentation software may make it easy for you to create ramps of graduated color that change in intensity from left to right or even diagonally, the film recorder can take a long time to image such a slide. A ramp that changes from top to bottom, on the other hand, can run efficiently. (This doesn't mean you can't have a diagonal blend if you need it, just that it carries a price — literally, if your service bureau charges extra for slides that take more than a minute or two to image.)

Test Your Files Before Running An Important Job

Create a small file containing the types of slides you normally use — word slides, pie charts, diagrams, and so on — and send them to any imaging center you're thinking of using. This is also a good way to determine which format you prefer to work with.

Keep It Simple When In A Rush

When doing a rush job, use only Times or Helvetica. Film recorders are less likely to have problems with these basic fonts.

SMARTFORM DESIGNER AND ASSISTANT

Creating U.S. Government Forms

SmartForm Designer is a full-featured forms-design manager, which includes SmartForm Assistant for filling out forms when the design is complete. The U.S. government allows programs such as MacInTax and TurboTax to use IRS tax forms, so if you are interested in creating the Standard Employment Forms, you can use Claris' SmartForm Assistant, and

Claris' customer support (408 727-8227) can provide you with a copy of the U.S. Government Standard Employment Form 171 to use with it.

TRUETYPE

Between True And Timbuktu

Apple's TrueType Startup document (INIT) doesn't get along with Farallon Computing Inc.'s Timbuktu INIT. To resolve the conflict, just rename Timbuktu so it loads after TrueType. (You probably would have done that anyway.)

A far more obscure incompatibility exists between IBM's Model 8209 token-ring to Ethernet bridge and AppleTalk itself. According to Apple, Macs on either side of this media-access control bridge cannot communicate, because IBM's blind bit-pusher doesn't get the difference between TokenTalk and EtherTalk and trashes AppleTalk packets in transit.

TYPE 1 FONTS

What's The Difference Between Type 1 And Type 3 PostScript Fonts?

Type 3 fonts used to be Adobe Systems Inc.'s public font format; the specification was published and available to anyone. Type 1 fonts were proprietary; Adobe kept the format secret. These font files were encrypted also. The main difference between the two formats is that the algorithm used to fill in the letter outlines in Type 3 fonts is inferior to the algorithm in Type 1 fonts. So Type 3 fonts tend to look darker than Type 1 fonts, especially at small point sizes on low-resolution print-

ers. While seemingly trivial, this type of thing drives graphic artists bonkers.

The situation changed when Apple and Microsoft Corp. announced TrueType outline fonts. This formidable alliance prompted Adobe to make the Type 1 specification public, so now everyone can create Type 1 fonts. Furthermore, Adobe Type Manager uses only Type 1 fonts so that's the only format customers want these days.

For those interested in such trivia, Type 4 fonts are those built into the ROMs on PostScript printers, and there is no Type 2.

ZAPF DINGBATS

Creating A Simple Square With Zapf Dingbats

Zapf Dingbats, a PostScript font, has some startling omissions. One is the simple square. There are shaded boxes and an all-black one, but no simple square exists. The solution is to use the black box in the Outline style.

Breaking Away From Bullets

To get rid of those boring Option-8 bullets, use Zapf Dingbat characters such as a tiny triangle, V (press T), or a diamond, V (press U). To make these bullets subtler, raise their placement above the baseline by superscripting them.

Left Out

In Dingbats, virtually everything points to the right. If you would like to point to the left, you are stuck with the pedestrian arrows from the Symbol font. Here is a solution.





Convert the dingbat of your choice, say the pointing hand, to a graphic and then flip it. Using a graphics program such as Canvas or Cricket Draw, you can do this quite easily. Since PostScript doesn't care which way a font character points, the graphic still prints at the maximum resolution of the printer.

Untypeables

There are three font characters that cannot be typed from the Macintosh keyboard. They correspond to ASCII numbers 252, 253 and 254. In the Dingbats font the missing characters are three types of arrows. The font has more than enough arrows already, but if you're determined to access the three missing arrows, use Word's Character Code command, Command-Option-Q. You can then type in the ASCII number of the character you want. When you press Return, the desired character will appear. Using this technique, you can copy the untypeable arrows into the Scrapbook for later use in any application (and in any font).

Missing In Action

Eventually you will need a dingbat that is not in the Zapf collection. What to do then? You can buy Adobe Collector's Edition I, which contains 280 PostScript shapes: circles, squares, crosses, arrows, stars, and so on. They can be used as is or enhanced in FreeHand or Illustrator. You can get this \$125 collection from Adobe Systems, Box 7900, Mountain View, CA 94039; (800) 344-8335.

Another possibility is a shareware PostScript font called Bill's Dingbats. It has 138 dingbats, including arrows that point in eight directions. This \$8 font is

available from U-Design, 201 Ann St., Hartford, CT 06103; (203) 278-3648.

If that doesn't help, start looking through the numerous available picture fonts, such as Cairo and Mobile. Many are freeware or shareware and are available through most on-line services.

Drawing A Dingbat Yourself

If you really cannot find the appropriate dingbat, draw the dingbat yourself. A utility called Art Importer (a.k.a. KeyMaster) lets you create an installable PostScript font containing EPSF and PICT graphics. The resulting graphic characters can be typed like letters in any other font. This \$99.95 program is available from Altsys, 720 Avenue F, Suite 109, Plano, TX 75074; (214) 424-4888.

Creating A Plain, Empty Box

You can get a plain empty box – to indicate the Macintosh's no-character symbol or for such uses as a check box – with a word processor or desktop publishing program such as Word, QuarkXPress, or PageMaker. The Zapf Dingbat font has shadowed and filled boxes, but not empty ones.

To create an empty box, type a lowercase n. Select the character and then choose Zapf Dingbats from the Font menu and Outline from the Format menu. Voila! An empty box. If you want a box with a heavier border, make the character bold as well as outlined.

You can make the box any point size, but if you want it to appear the same size as the text you're working with, make the box a point size or two smaller. For example, if your text is 11 points, the box should be 9 points; if you have 9-

point text, you should make the box 8 points. Otherwise, the box appears to be slightly larger than the surrounding text.

ENTERTAINMENT

DARK CASTLE

Tracking How Many Times You've Won In A Session

If you're expert enough, you can track how many times you've toppled the throne. While typing your name into the Hall of Fame, type Option with any other key. This creates a Dark Castle symbol. Use the number of castle symbols to represent how many times you've finished the mission.

Keeping Your Shield Activated

The shield usually lasts only about 3 seconds. You can keep wearing it indefinitely, though. When you activate your shield, hold down the key for about 2 1/2 seconds. Then, at the last moment, release the key and press it again quickly. Experiment with this to pick up the rhythm.

How To Walk On Air

It's possible to make your on-screen hero literally walk on air. Press the duck key with either the up or down key as you go up or down a staircase or ladder. When you reach the top or bottom, your character will seem to be walking on air. Once there, experiment with different commands to get some entertaining results.

Express Route To The Trouble Room

The easiest way to get to the Trouble Room is to push Door # 3. You'll go to the

Black Knight's first chamber. If you wait, the platform will slip out from underneath you, dropping your character down to Trouble #3, saving you the trip through the first two rooms, and possibly saving a few game lives as well.

MACGOLF

Putt Like A Pro

When you're on the putting green, make sure the wind is at zero. Then face away from the hold, and place the swing indicator at zero. Click once on the Up arrow and putt, recording how far the putt goes. Now, do the same thing again, except this time, click twice in the swing indicator's Up arrow. Keep doing this, adding one click each time, until you reach a full-strength putt. This helps you figure out how many clicks you need to do to get the ball to move different distances.

SHADOWGATE

Use The Note Pad To Keep Track Of Clues

The Note Pad DA is useful for keeping notes handy. Just jot them on the Note Pad and you can refer to them whenever you need to.

Don't Ignite Torches Without Examining Them

There's a special torch you need to get through a certain section of the game. Examine all torches you find before lighting them, and save the one that looks different for a special situation.





Surviving The Dragon's Lair

You need several items located in the dragon's lair. To retrieve them with your hide intact, grab the shield first. You then have three more times to take more things (like weapons) before the shield melts under the dragon fire.

Let Randomization Work In Your Favor

The Sphinx asks you for a certain item, couched in the form of a riddle, when you enter the room it inhabits. However, the exact item it asks for is randomly-generated. To increase your chances of having the item the Sphinx wants in your possession (or at least, know where to find it), save the game just before entering the room. If the Sphinx asks for an item you haven't located, just Quit and start again for a chance at better luck.

SHANGHAI

Remove Tiles When You Can See All Four Of Them

While you can't really cheat at Shanghai, you can vastly improve your chances for winning by trying not to remove any sets of tiles unless all four matches are showing. This guarantees that you aren't inadvertently trapping a tile under its only match.

SIMCITY

Bringing A Village To Metropolis Status

Here's a slick way to bring a SimCity village to metropolis status within five years – a maneuver that should delight even the most jaded politico.

Set the tax rate down to 0 percent, starting with the January Budget Report that automatically flashes on the screen each year. Sims will flock to your apparently tax-free village.

Leave the tax rate at this setting until December rolls around. When it does, select Budget from the Windows menu (or press Command-B) and set the tax rate to the highest allowable level, which is 20 percent.

When the January Budget Report appears, you'll see a sudden influx of cash for your coffers. Now set the tax rate to 0 and wait until December – when you again set it back to 20 percent.

If you keep your eyes on the calendar, you will generate enough tax revenues this way so that you'll never have to embezzle funds again! And the Sims, who never seem to catch on to the devious ways of the mayor, just keep on moving in.

If you think taxes aren't enough, try SimCity's giant reptile!

SIMCITY 1.0

Collecting All The Taxes You're Owed

SimCity has an annoying habit of resetting the tax rate to zero when you load a saved city. If you save and quit from the loaded city mid-year, you'll find that when January rolls around, several months have gone by with no taxes being collected. This can devastate a city already on the brink of financial disaster!

To avoid any loss of funds when you restart a game, immediately call up the Budget window and enter the tax rate.



Printing Cities With The LaserWriter

The game manual and Print dialog box warn that LaserWriter printing isn't supported, but that's not entirely true. The LaserWriter can indeed produce (limited) printouts from the game.

When you choose Print City from the File menu, you're offered two choices: print all on one page (this produces a reduced city map without fine detail) or print a tiled map (2-by-3 pages in size which displays buildings, roads and other fine details).

If you print to a LaserWriter, the 1-page map prints out just fine. Choosing the tiled map produces the first section or page of the map, but the remaining 5 pages must be printed with an ImageWriter.

STRATEGIC CONQUEST PLUS

Attack On Each Move

Don't limit fighters to two attacks per round. Use the Move Later command after each attack to attack on each move. This works for all water pieces as well.

Regaining Full Naval Strength

Carriers and battleships can safely regain their full strength if you put them into port for repairs and then use Move Later until they're fixed.

Keeping Fighters Out Of Combat

You can protect fighters from attack by leaving them in an empty enemy city.

When To Build Bombers

Start building bombers on day 30 to get a blast radius of 1. For a blast radius of 2, start on day 65.

Stealth Bombers On The Cheap

You can hide bombers by placing them on the same square as any other piece.

TETRIS

When It Gets Tight, Shift To The Right

When pieces are falling rapidly and you can't find a spot for them, shift them over to the right. Most pieces fall slightly to the left (one tile towards the left), so shifting to the right will give you some space when the next piece falls.

GRAPHICS AND DESIGN

ADOBE ILLUSTRATOR

Undoing A Move Even After Disabling "Undo Move"

There's a helpful way to Undo an accidental move, even if you've already clicked the mouse button and so lost the opportunity to Undo Move from the Edit menu. First, make sure that the same anchor points are still selected – if they're not, select the object.

Now, hold down the Option key as you click the Pointer tool. The Move dialog box will appear, showing a positive value beside "Move distance." This value represents the distance in points of the LAST MOVE YOU MADE. All you have to do is make that value negative by inserting a



minus sign in front of the positive number, and then click OK. Your anchor points will slink right back to where they were before you made the “wrong” move.

Creating A Smooth Graduated Fill With The Blend Tool

There are some tricks to getting nice, smooth graduated fills in Illustrator using the blend tool. If you are not careful, you can produce what looks like a banding effect in going from step to step in the graduation. You can specify more blending steps so the difference between one step and the other becomes more difficult to notice, but there are a couple of drawbacks to this ploy. It makes for a huge file that takes insanely long to print and it may also cause your printer to freeze for lack of memory. Also, PostScript imposes a limit of 256 steps on a fill, so at some point in a certain job, it may become clear that simply increasing the number of steps may not be the best solution.

A better solution is to tweak the screen frequency (lines per inch) that the printer uses in printing the image. Lines per inch has a direct effect on the appearance of graduated fills. The higher the screen frequency, the fewer shades of gray the printer can generate. Therefore, a high lpi can lead to savage banding no matter how many steps you've used in the fill! Lowering the screen frequency generally yields smoother-looking blends, but it can give the image a coarse appearance.

Layering Graphics Higher—But Not At The Top

You probably already know how to take an object low in the painting order and bring it to the front of everything else. However, there will probably be times

when you wish you could bring the graphic forward, but not all the way to the top, as if removing a playing card from a deck and inserting it several cards away from the top. If you cut the object and paste it in front, then you'll have to select all the other objects that are supposed to be in front of it, and then move them in front to achieve the proper layering.

Sounds complicated, and it is. However, there is a simpler way:

Select the object that you want to bring forward, together with the forward object you want to move the first object directly behind. Group them while they're both selected by pressing Command-G. That's it! You don't have to cut and paste, and even if you Ungroup them, the layering change is preserved. The front-most objects can be left alone, with no editing at all.

Moving Or Copying Objects In The Review Mode

Although the Adobe Illustrator manual states that the current art file can't be edited in the Preview mode, there are some ways around that. You can move and copy objects in the Preview mode by using the Move dialog box.

Select the object you want to move or copy, and enter the Preview mode. While there, hold down Option while clicking in the toolbox to call up the Move dialog box. Now, just enter the distance and/or angle data you want and click OK (or Copy). The object will move or duplicate immediately and you'll be able to see exactly how this adjustment will affect your printed copy. You'll find this very useful in making changes to aspects of the illustration that you can only see during Preview.

ADOBE ILLUSTRATOR 88

Quickly Canceling Preview Illustration Saves Time

You can cancel Preview Illustration by typing Command-period. This is useful if you're using patterns or color and the part you wanted to check has already been previewed, since it can take several minutes for the entire illustration to preview fully.

Working Around Text Elements

Illustrator 88 has problems creating text elements such as tabs or leaders. You can type in a row of periods, but trying to create leaders for a simple list of products and prices, for instance, is time-consuming. Stretching or shrinking the row to fit a specific width distorts it. One solution is to create a dashed line.

1. Draw a line with the pen tool.
2. Press Command-I to bring up the Paint dialog box.
3. Choose None for the Fill, and Black 100 percent for the Stroke. Enter a line weight (the default is 1 point), select the second choice for Caps, click on the Dashed button, and enter 0 in the first Dash Pattern box (constraining your dashes to be perfect circles or dots) and a number to specify the space (in points) between your dots.
4. To see your changes on screen, go to the Preview Illustration view. (Clicking on OK takes you back to the Artwork Only view, but you won't see the dashed line you just created.)

5. To modify the line, go back to the Artwork Only view. You can resize this line with the Scale tool so that it fits in any width without distortion.

Extracting Illustrator 88 Graphics From PageMaker Files

Extracting Illustrator 88 graphics from PageMaker files can be done as follows:

1. Open the PageMaker document, choose Print from the File menu, hold down the Option key, and click on the OK button in the Print dialog box to bring up the PostScript Options dialog box.
2. Turn off the Download bitmap fonts, Download PostScript fonts, and Include Aldus Prep options. Name the file to make finding the PostScript file easier; otherwise it will be called PostScript0 (1, 2, 3 and so on). Save the file either as EPSF or as Normal. Click on the Print button, and close PageMaker.
3. Open the resulting PostScript file with Illustrator 88. Illustrator recognizes only the PostScript code that corresponds to its file, and when the PostScript file is explicitly saved from within Illustrator, only that code is saved.

Avoiding Cycling Through Layers

When using Adobe Illustrator 88, you can easily become frustrated with having to cycle repeatedly through layers of graphics objects to get to an object at the back of an illustration. This is especially true when you use the masking feature. You can avoid this frustration by creating identifiers, or "handles", for the objects in your multi-layered illustration.

Start by creating a short, straight line with the pen tool. Set its fill and stroke to None on the Style menu, and group it.



This is one of your handles. Make several copies, and set them aside. As your work progresses, group the object(s) in a layer and move one of the handles you've created toward the perimeter of the illustration. Group the handle to the object. Now, no matter where the object occurs in the layering of the illustration, you can select it quickly and easily. If you move an object away from the illustration, using its handle to make adjustments to any of its attributes (size, shape, fill, or stroke), you can return it to its position in the illustration, after regrouping, without losing its layered position.

For further clarity, you may wish to describe the attributes of an object in a layer, especially if objects in different layers are identical. When you create your first handle, create some dummy text and place it underneath the handle. Do not group the text to the handle at this point, but remember to set the fill and stroke of both handle and text to None. Select the handle and text, and make copies. When you're prepared to group a handle to an object, move a text/handle combination toward the illustration and change the dummy text to a description of the object. Then group the text to the handle and the handle to the object.

These descriptive handles come in handy when you're trying to keep track of objects, especially when you need to make adjustments to a complex illustration you created weeks or months ago.

Create Distortion-Free Leaders With A Dashed Line

Using rows of periods to create leaders doesn't work well in Illustrator 88 because stretching or shrinking rows dis-

torts the spacing between periods too much. You can work around this by creating a leader with a dashed line:

First, draw a line with the pen tool. Then, press Command-1 to invoke the Paint dialog box. Choose None as a fill, and Black 100 percent for the Stroke. Enter a line weight (the default is 1 point), select the second choice for Caps, click on the Dashed button, and enter 0 in the first Dash Pattern box and a number to specify the space (in points) between the dots.

You can see your changes on-screen by going to the Preview Illustration view. If you want to modify the line, go back to the Artwork Only view. You can resize the line with the Scale tool so it fits in any width without distortion.

Extracting Illustrator 88 Graphics From PageMaker Files

There's a relatively painless way to access PageMaker files through Illustrator 88. First, open the PageMaker document, choose Print from the File menu, hold down the Option key, and click the OK button in the Print dialog box to bring up the PostScript Options dialog box.

Then, turn off the Download bitmap fonts, Download PostScript fonts, and Include Aldus Prep options. Name the file to make finding the PostScript file easier; otherwise it will be called PostScript0 (1, 2, 3, etc.). Save the file either as EPSF or as Normal. Click on the Print button, and then close PageMaker.

Finally, open the resulting PostScript file with Illustrator 88. Illustrator recognizes only the PostScript code that corresponds to its file, and when the PostScript file is explicitly saved from within Illustrator, only that code is saved.

Importing Illustrator 88 Files Into QuarkXPress

QuarkXPress lets you place and print patterned artwork created in Illustrator 88 if you save the Illustrator document as an EPSF file. You'll face a bottleneck in Illustrator, though: saving a single art file in EPSF can take several minutes. If you do a lot of saving and revising, you'll waste valuable work time.

Part of the delay in saving stems from Illustrator's tendency to create and show a Mac Preview image in its Print dialog box. You can stop this by unchecking the Preview and Print Patterns options in Illustrator's Preferences menu.

Now, when you save in EPSF there will be no lengthy wait. The image will print out correctly through QuarkXPress, but it won't appear on-screen.

Making All Your Lines Thicker Or Thinner

You don't have to spend hours changing stroke attributes to, say, make all the lines in your document half as thick. There's an easy way to do it:

Select the necessary paths and activate the scale tool. Click on one of the selected anchor points while holding down the Option key to open the Scale dialog box.

To thin all selected paths uniformly, scale the object larger in the Scale dialog with Preserve Line Weights selected, and then immediately scale the selection back to its original size with Scale Line Weights selected. (Make sure to Option-click on the same anchor point when reducing the object back down, so the object keeps its original position on the page.)

The percentage you enter to scale the object back to its correct size must be fractionally inverse to the percentage to which you enlarged it (ie, a 200-percent enlargement is remedied by a 50-percent scaling factor; 500 is remedied by a 20-percent factor, etc.).

To make selected paths uniformly thicker, follow the same procedure, except choose Scale Line Weights while scaling up, and Preserve Line Weights while scaling down.

Incorporating Bitmapped Images

Incorporating a bitmapped image from a program such as MacPaint into an Illustrator 88 illustration is difficult because Illustrator cannot import a paint or PICT graphic into the Artwork mode by using either the Place command or the Clipboard.

The work-around is simple and takes advantage of the fact that Illustrator can import or place an EPSF image into Artwork. Use Aldus FreeHand's Place command to import your paint graphic into a new FreeHand document. Then use FreeHand's Export command to save the placed graphic as an EPSF file. Now return to Illustrator and place the FreeHand EPSF graphic. Do not forget to select "Show placed images" in the Preferences dialog box of Illustrator's Edit menu to view the placed EPSF files in both the Artwork and the Preview modes.

If you want to import this whole hodgepodge into a page-layout program, check the box in the Save dialog box to "Include copy of placed Encapsulated PostScript files for other applications."



ADOBE ILLUSTRATOR 3.0

Accessing Some Elusive Symbol Characters

Certain characters in the Adobe Symbol font, such as [π] and [ð], are accessible within other Adobe fonts such as Helvetica but are not displayed on the keys (you can see what keys to use via the Key Caps DA).

Although you can see these characters on-screen in Illustrator 3.0, some of them don't print, even if you import text containing these symbols. If you need these characters and can't — or don't want to — switch to the Adobe Symbol font (within which they will print), here's a simple work-around:

First make sure you have Adobe Type Manager 2.0 installed. Then with the new Create Outlines command on Illustrator 3.0's Type menu, select the text and choose Create Outlines. By selecting Preview Selection from the View menu, you can see how the text will look when it is printed. The only drawback is that the characters may look slightly bolder when they're printed.

Creating "Embossed" Text

Creating the look of embossed text is a little harder than creating effects such as outlines, shadows, and drop shadows, but when you do it correctly, it can add a touch of class to your layouts. Here's a way to create "embossed" text in Adobe Illustrator, but the basic technique should work in a variety of programs:

1. Create a box containing a background shade.

2. Type the text inside the box. It's best to use a heavy type style, such as Helvetica Black or Stone Sans Bold.

3. Copy the text to the Clipboard. Paint the text lighter than the background (say, 25-percent black). Using the arrow keys, move the block of text left and then up the same amount of space (in the example, I pressed the left arrow three times and the up arrow three times).

4. Use the Paste to Front command (Command-F) to place the Clipboard text in the box. Paint this text a shade that's darker than the background shade (say, 75-percent black). Using the arrow keys, move this text block down and to the right the same number of spaces as before.

5. Use the Paste to Front command to place another copy of the Clipboard text in the box, and paint in the same color as the background. Preview the image (Command-Y), and you'll see the embossed effect. You may need to go back to the image and tweak the number of spaces you've moved each copy of the text to get the best effect.

Using the same technique, you can make simple EPS clip art look embossed.

BRODERBUND TYPESTYLER

Converting Fonts To SmoothFonts

To use regular fonts that you've converted into TypeStyler SmoothFonts, you must have the original corresponding screen fonts installed in your system for TypeStyler to recognize them. But if

you've created several SmoothFonts, it can be inconvenient to remember to install all the appropriate screen fonts. It's easier to install the necessary screen fonts right into the SmoothFont suitcase:

After you've created your SmoothFont in the usual way, open the Font/DA Mover. Close both windows. While holding down the Option key, click on Open; then select your SmoothFont file. In the second window, open the original screen font's suitcase. Now copy the original's 18-point screen font(s) into the SmoothFont file, and then quit Font/DA Mover. As long as the SmoothFont is available, TypeStyler will make use of this embedded screen font without your having to install it in your system.

CANVAS

Creating Filled Text

The way to produce filled or patterned text in Canvas is not readily obvious, because the fill tool fills the background instead of the actual letters. Here's an easy method for creating filled text:

1. Type the text. Thick letters work best.
2. Draw a rectangle (or other shape) so that it covers the text, and fill the rectangle with a shade or pattern.
3. Select the Ink Manager tool (indicated by the word Copy near the bottom of the toolbox) and drag over to Bic (black is clear). This eliminates the black in the text and fills it with the pattern or shade.

LaserWriters can be finicky about printing documents that use the Ink Manager, but you should have no problems using non-PostScript printers such as the DeskWriter.

Creating An Accurate Display Of Proportional Rectangle Resizing

To accurately see the proportional resizing of rectangular objects, draw a diagonal line from one corner of the object to the other, and extend it, keeping it lined up against the two handles.

Now, grab a corner handle at the end of the diagonal line and resize the object while keeping the handle on that line.

Finally, delete the line. As long as the handle is on the diagonal line, the object is in proportion.

CANVAS 2.0

Accessing An Undocumented Search-And-Replace Feature

You can perform an easy search-and-replace: hold down Option while choosing Select All from the Edit menu. Then make a selection from the Pen Pattern, Fill Pattern, Foreground Color, Background Color, Pen Shape, Line, or Transfer Modes pop-up menu. Canvas will select all the objects with that attribute. You can now choose any attribute (such as fill patterns) to globally replace the selected attribute.

Displaying Small-Scale Fractions On-Screen

When using Canvas 2.0 for architectural or engineering drawings, choosing Show Dimensions in Fractions under Preferences will not give you fractions for small scales such as $1'' = 1'$ or $1/2'' = 1''$. You can't get fractions in your dimensions by typing in $1'' = 1'$ in the Ruler Manager.

If you want to display fractions on-screen for such scales, the right-hand side of the



scale in the Ruler Manager box must always remain at 1". Then divide the left-hand side of the scale for whatever fraction of the inch you want. For example, if you need 1"=1', use $1/12"=1'$, which you enter as .0833=1". Fractions now appear in your auto-dimension lines.

Getting Rid Of The Frame Around Each Bitmap

Although Canvas' multiple layers and overlay modes let you superimpose bitmapped objects over other graphics, the rectangular frame around each bitmap whites out everything below it, ruining the effect. If you try to make the bitmapped object transparent by using the Not Or option in the Ink Manager, the background shows through the white border – but it also shows through any white inside your object! Here's a work-around for the problem:

First, duplicate the bitmapped object, and use the paint bucket to fill in the frame area of the duplicate with black. Make sure the outline of the picture is a continuous line so the paint won't overflow the image itself. If the background is solid black with no patterns, skip the next three steps.

Second, use the Ink Manager controls near the bottom of the tool palette to change the object with the filled frame from Copy to the Not BIC overlay mode. The object will be invisible unless it is in front of another graphic, so don't lose track of its position.

Now, select the original bitmap with the unfilled frame and change its overlay mode to Or with the Ink Manager.

Then select Bring to Front from the Object menu to bring the object to the front of the display.

Finally, select both objects, place them exactly together with the Align command from the Object menu, and group them before clicking the mouse anywhere else.

When laid over another object, the frame is transparent, but now nothing shows through the interior of the picture. Note that PostScript doesn't work with many QuickDraw overlay modes, so test print-outs are mandatory when using PostScript-compatible printers.

More Realistic Tracing

You can make your traces more realistic and closer to the original image by selecting the bitmapped object and choosing the Object command from the Object menu. Change the resolution in the dialog box from 72 to 300 dpi. Click OK and close the box. Now auto-trace the object. This increased resolution creates more handles as well as drastically improving your traced image's appearance.

Switching Windows Without Using The Windows Menu

If you're working with Canvas on a large-screen monitor and have several windows open, using the Windows menu to switch between all your windows is a bother. An alternative is to Option-click anywhere in the title bar of a window (except the zoom or close boxes) to get a list of all open windows.

CANVAS 2.1

Using Separator To Keep Graphics Straight

Macintosh users know about the problems with quality that can occur when MacDraw or similar graphics are pasted



into other applications. Many things such as alignment and line weights go haywire when you print. If you own Canvas Separator, you may have a solution right under your nose:

1. Open the original graphic in Canvas.
2. Save the graphic in Canvas format.
3. Use Canvas Separator's Convert command to convert the file into a suitable format, such as EPS, PICT or EPS Illustrator.
4. Finally, import the file into your page-layout or word-processing package. More often than not, the problems will vanish.

Organizing And Storing Object-Oriented Clip Art

You may have learned the hard way that object-type artwork that is stored in a HyperCard clip-art file loses its high resolution and becomes 72 dpi. So how can you store large amounts of object-oriented clip art in an organized manner? Canvas 2.1 provides a simple but elegant solution:

1. Create a new document, and give it a descriptive name, such as Business Images. Then begin Pasting in the graphic objects, arranging them on the page.
2. Use the scroll bars or magnification tool to center one of the objects on your screen.
3. Choose the New View command from the Layout menu, and give the view of the centered graphic a descriptive name such as Bottle Message. Click on OK. Repeat this step for every graphic on the page.

Now whenever you drag your cursor down to the Views command on the Layout menu, the hierarchical pop-up menu includes the names you have given to these views, allowing you to jump quickly to

any graphic on the page, modify it if desired, and copy it to the Clipboard.

CLARIS CAD 2.0

Little-Known And Free Upgrade

Claris Corp. has a free update to Claris CAD 2.0 that's available to all owners of the package. Version 2.0v2 solves some screen-refresh problems with the dynamic guidelines and Graphics Guide, and makes the program run more reliably under System 6.0.7. According to the company, users with Macs that require System 6.0.7 (the Classic, LC and IIsi) should definitely switch to Version 2.0v2.

Claris Customer Support can be reached at (408) 727-8227; just ask for the latest version of of Claris CAD.

CLIP ART

Recycled Clip Art

One of the best resources for locating clip art, *Canned Art – Clip Art for the Macintosh*, by Erfert Fenton and Christine Morrisett (Peachpit Press, 1085 Keith Avenue, Berkeley, CA 94708; (800) 283-9444). It's a meticulously indexed and organized book with representations of artwork from dozens of clip-art manufacturers. It's huge and worth every penny of its \$29.95 cover price.

You can create your own recycling clip art after seeing the art in *Canned Art*, or there are BBSs and public-domain libraries full of pictographs and the like, drawn by thoughtful, caring Mac users and available for pennies. Also, check for recycling logos available on-line from Zmac or from your local user group.



If you can't find the symbol you need, though, just hop on down to your local art-supply store. It'll have books of public-domain symbols (artwork you can reproduce with impunity) for just a few dollars apiece. Take the book down to your local DTP service bureau, and the staff'll scan the pictograph into a TIFF file for about ten bucks or so.

CRICKET DRAW

Creating A Partly Dotted, Partly Solid Element

If you want to draw an oval or circle that's partly solid and partly dotted lines, you can do a quick cheat to get it done. First, draw a number of evenly-spaced lines over the portion you want to make dotted (Cricket Draw's Grate tool is excellent at this) and then just make those lines white.

Use Align Objects To Control Object Placement Permanently

Cricket Draw contains a little-known trick that allows users to gain total control of object placement by using the Align Objects command. The ordering of objects drawn doesn't depend on their creation order or positioning, but rather on their layering. That means selecting an object and choosing Bring To Front from the Arrange menu will later make that object the point of reference for future Align commands.

For example, when you have an object you'd like to align with other objects, select the item and choose Bring To Front from the Arrange menu. Then, Shift-Click on the other objects you want aligned

(press Shift while clicking on each one), and choose Align Objects from the Arrange menu. Regardless of the alignment done, the object on the top layer will remain in its original position.

Printing Is Faster When You Ungroup Objects

When printing documents that contain a large number of grouped objects, you'll save printing time on LaserWriters by ungrouping your objects just before you print your document.

CRICKET DRAW 1.1

A Bug

This version has a bug that wasn't present in Cricket Draw 1.0. If you construct a two-sided open polygon and then add an arrowhead to the end, the arrowhead will appear correctly on-screen, but will print out at the intersection between the two lines instead.

The work-around is this: add an extra clickpoint to the polygon. For some reason, this results in a printout with the arrowhead positioned at the end of the polygon, where it should be. This will work every time.

FREEHAND

Placing Text Around The Outside Of A Circle

Although FreeHand has a feature to allow users to create text on a curved path, you'll probably find it a real challenge to accurately place text around the outside of a circle. The text normally starts to wrap clockwise around the out-



side of the circle beginning at the 9 o'clock position.

To center a word or phrase around the top of the circle, first draw your circle. Then select the Text tool and click your insertion point above the circle. In the Text dialog box that appears, choose the typeface, font and style you want and type in the text. OK your selections. Now, select the text block and the circle and press Command-J to join your text to the circle.

When you've done this, you'll notice that your text has moved to the center of the curved path at the 3 o'clock position. Move it to 12 o'clock by using the Rotate tool to rotate the joined circle and text 90 degrees counterclockwise by dragging the bottom right-size box to the position of the top right-size box.

Wrapping Text Inside A Circle

Getting text to wrap counterclockwise along the inside of a circle is accomplished with a method very similar to the one described above. Center the text within a circle at the 6 o'clock position by following the instructions above, with a minor change:

Press Command-J to join the text and circle, then use the Mirror Reflection tool to flip the circle vertically. Now the text will be wrapped along the inside of the circle at the bottom.

Wrapping Text Above And Below A Circle

You can combine both of the effects described above by selecting both effects and choosing Align Elements from the Elements menu. Then hit the Center radio button for both Vertical and

Horizontal alignment. The result is a circle with text around both top and bottom.

Opening Adobe Illustrator 88 Files With FreeHand

While FreeHand can easily open Adobe Illustrator 1.1 files for editing, it usually can't open Adobe Illustrator 88 files. Here's how to bring your Adobe Illustrator 88 files into FreeHand:

Open the Illustrator 88 file with Illustrator 88, and Save As an Illustrator 1.1-compatible file to convert custom colors to process colors, and also to defeat masking and remove all patterns and placed or imported images. Don't worry, all your objects will be retained.

Next, open the file using Illustrator 1.1 and then save it. Now you'll be able to open it with FreeHand. If you don't have Illustrator 1.1, you'll have to open the file using a text editor capable of saving text-only files.

Change the second line from:
%%Creator: Adobe Illustrator 88 (TM)
1.6 to: %%Creator: Adobe Illustrator (TM) 1.1. It's important to remember that you'll have to delete the space before "Adobe" Now, save as TEXT ONLY, and open the file with a resource editor and change the Creator from ARTZ to ARTY. The resulting file can now be opened and edited with FreeHand.

Adding Variety To Lines With Zapf Dingbats

Unless you can program in PostScript, you'll probably find the fill and line options dull after awhile. You can expand your options by combining two FreeHand techniques with some ready-made PostScript images — Zapf Dingbats.



To convert any drawn line to a line made up of dingbats, use the “text on a path” feature. First, draw the line. Then choose the Text tool and create a single line of text in a small point font (6 point works very well) that’s longer than your drawn line. Select both your text block and the line you wish to convert, and use the Join Elements command from the Element menu. That’s all there is to it.

Using Zapf Dingbats As A Fill Pattern

You can also use dingbats as an unusual fill pattern in your objects by using the “clipping path” feature. First, create the area you want to fill. Then select the Text tool and create a block of text large enough to cover your fill area. Now, select the text block and use the Cut command to send it to the Clipboard. Finally, select the area to be “filled” and choose Paste Inside from the Edit menu.

The same techniques work with other fonts, but if they aren’t PostScript fonts you’ll find them printed out as bitmapped characters.

Cropping Imported Graphics

To crop imported graphics in FreeHand, paste them inside a path. Pan by selecting the path as points by dragging a selection rectangle over the path and then moving the path. If you select the whole path, the image will move as you move the path. But if you select points in the path, you can move the path without moving the image.

Simulating Filled, Outlined Text

FreeHand doesn’t allow outlined text to be filled with shading, but there is a way to

simulate the same appearance without too much trouble.

First, make sure you’ve created the shading color you want to use. Then select the Text tool and create a text block specifying outlined format. Once you click OK, go immediately to the Edit menu and choose the Clone command. This creates a duplicate of the first text block, right on top of the first one.

Now, double-click to edit the cloned block, making sure the text is selected in the resulting dialog box. Change the text effect box to read “solid” and change the color box to be your color choice. Click OK, then immediately send that text block to the back.

This trick works because outlined text in FreeHand is transparent and lets the shaded text block show through.

FREEHAND 2.0

Quickly Deselect All Items In An Illustration

You can deselect all the items in an illustration by pressing the Tab key. This is particularly useful when you’re in a close-up view and want to deselect an object without selecting a larger one behind it.

Drag A Small Object Without Grabbing Its Resize Handle

If you can’t drag a small object without grabbing one of its resize handles, try drawing a large object next to it, selecting both, and then putting the pointer on the big object to move them as a unit. When the small object is in the correct spot, deselect both objects and delete the larger one.



Express Route To The Edit Dialog

You can get to the Edit dialog fast to alter a line, fill or color style. Just press Option and select the style from its menu.

Archiving Lines, Fills and Color Styles

To save a reusable library of lines, fills, and/or color styles for use in other FreeHand illustrations, define the styles in a blank illustration file. You can also select a target printer and print settings, and add objects (like logos) that you want in every new document. Then choose Save As, name the file, click on the Template option, and save.

The next time you need these styles, use the template to create your illustration. You can even make these styles your FreeHand default setting by deleting the Aldus FreeHand Defaults file that came with the program and assigning that name to your template file.

Getting More Control Over FreeHand Tracing

Double-click on the trace tool to display the Curve and Corner dialog box, which lets you get more control over the number and kind of points FreeHand applies while it traces.

Getting The Most Out Of Tracing Gray-Scale TIFF Images

When tracing a gray-scale TIFF image, you'll get the best results if you make it into a black-and-white image first. Select the image, choose Element Info, and click on the Black and White option. Adjust the contrast and lightness to obtain the highest contrast, and then trace the image.

Opening MacPaint Files Without Loading FreeHand

You can open any graphics file MacPaint can open just by double-clicking on it, the same way you would if you were using MacPaint.

Using a resource editor like ResEdit or FEdit, you can alter your FreeHand program so that it opens files like MacPaint. Within the resource editor, select the paint program you like to use (in this case, FreeHand). Check the field Creator and change what it says to MPNT. Then quit the resource editor and return to the Finder. You'll notice that your FreeHand icon now looks like the MacPaint icon. If the real MacPaint is on your disk, get rid of it, or this tip won't work.

As with any resource editing work, make changes only on a backup of FreeHand.

Faster Screen Redraws

For faster screen redraws, work in Keyline mode rather than Preview mode. In the Document Setup dialog box, select Faster for display quality. In complex illustrations, use Layer Control to view only the layers you need to see while you work. Move TIFF images, transformed text, and elements with complex fills to layers that are kept invisible until you need to see them.

If you have a color or gray-scale monitor, use the optimum settings (2 grays or 256 colors); also use 2 grays (black and white) when you're working on black-and-white illustrations.

If you don't want to wait for the screen to finish updating, press Command-period to stop the redraw.



Faster Printing Of PostScript Fills

When printing PostScript fills to a LaserWriter, make the color parameter gray (either 0 or 1) instead of color to speed up printing.

Faster Printing Of TIFF Files

Make TIFF files print faster by using black-and-white images whenever possible. If you've applied color to a TIFF image, the color processing slows down printing tremendously.

Having Trouble Printing Custom PostScript Line And Fill Effects?

You can avoid problems when printing custom PostScript Line and Fill effects by making sure your UserPrep file is in the correct folder and is properly named. If UserPrep isn't in the FreeHand folder or the System Folder, you'll get an "undefined" PostScript error.

Compatibility Problems With Older Systems And LaserWriter Drivers

If your printer won't print a FreeHand file unless there is text on the page, it's because you have old or incompatible System and LaserWriter-driver files. When you update your System file, make sure to update your printer files as well.

If You Print A Lot Of Fonts With FreeHand

Using more than two or three downloadable fonts usually overtaxes a printer's memory and generates a PostScript error. Avoid this by going into the Page Setup dialog box, clicking the Options button, and checking the box marked Unlimited Downloadable Fonts in a Document.

If you routinely print a lot of different fonts, set the above option as your default.

Make Sure All The Pieces Of Your File Fit On A Printed Area

When you print a file, FreeHand adds up the size of the illustration, any bleed that was added, and the space required for any print options you selected (such as crop marks and separation names). If all these pieces won't fit on the specified paper size – for example, adding crop marks to a letter-sized page and then printing to letter-sized paper with a LaserWriter – you'll receive an error message.

When printing to a LaserWriter, turn off the options that print information beyond your illustration area, or select the Fit on Paper option in the Print dialog box.

If you use a Linotronic imagesetter, change the paper size to LetterExtr, which accommodates the crop marks.

Creating An Outlined Pattern Effect

When using one of the PostScript lines from FreeHand's UserPrep file, you can create an outline of the PostScript line instead of a solid line:

First, choose PostScript from the Line menu, and type DOT (or any other file name) in the dialog box. Then tab to the PostScript entry box and enter "[DOT] 10 10 1 0 newrope" in the box. (The word in braces should be the name of the predefined pattern you want to use from UserPrep.) The four numbers refer (in points) to width ; height; the spacing between dots; and the color (0=black, 1=white). The last term, "newrope," is a routine from UserPrep.



Now, choose Lines from the Line menu and select the line name, DOT, you just created. Then click on the Copy button. The PostScript dialog box will appear with the attributes of the first line. Change the name to something like DOT2 and change the numbers in the PostScript entry box to “[DOT] 9 9 2 1 newrope”. Then, draw a line with the line tool. Choose DOT from the Line menu and clone (Command-=) the line.

Finally, return to the Line menu without moving the lines and select DOT2. When printed, the cloned line will print as white over the black dotted line underneath, giving the effect of an outlined pattern.

Centering Text Along The Outside Of A Circle

You can center text along the outside top and bottom of a circle by first making the two text blocks and setting the text to be center-aligned.

Draw a circle and ungroup it. With the knife tool, split the circle at the side points and delete the bottom half. Clone the top half and use the reflecting tool to make the clone the new bottom half of the circle. Then join each text block with its respective half of the circle.

To make the text run along the outside of the arcs, use the Element Info dialog box to align the text to the path, with the baseline (top half) and the ascent (bottom half) options.

Creating A Three-Dimensional Box

To create a 3-D box, first skew a rectangle upward to create one side. Then, clone it and use the reflecting tool to click on a vertical edge and move the clone to the

opposite side of the original. Now, clone the second side of the box and ungroup the clone. Shift-select the lower left and lower right points of the cloned element. Release the Shift key, then click on one of these points and drag to create the top of the box. Finally, give each side an appropriately shaded fill or color.

Fixing Improperly Printed Strokes

When you specify a point size for the stroke of text in the Fill & Stroke dialog box, the stroke will be too large to print properly if the text isn't joined to a path. For painless printing, place a period before the point setting in the dialog box. For example, a stroke set at .20 points prints out as 20 points high.

Getting The Smoothest Graduated And Radial Fills

You get the smoothest graduated and radial fills by making sure that the print quality is set to Better. Lower screen rulings generally create smoother fills because they produce more shades of gray. However, screen rulings are closely related to printer resolution: a high-resolution image-setter gives you smoother grays, and sharper images, at higher screen rulings. (For a table of recommended screen rulings based on printer resolution, see pages 9-12 of the manual.)

For best results, print to the highest-resolution printer available. Also, smaller filled areas stand a better chance of being smooth than do larger filled areas.

When You See “PostScript Error: Undefined, Offending Command”

The above error message means your



file has too many grouped subgroups. Ungroup some of them to solve the problem.

Starting With Your Own Defaults

When you select New from the File menu in FreeHand, your new page appears with a sometimes-annoying set of its own defaults. They include Snap to Grid, many different shades of gray, line weights, and other items that most people usually end up changing.

If you want to avoid this problem, start by creating a template that has whatever line weights, fills, and colors you use regularly, turn on features you consistently use, and turn off those you do not.

Once you have set everything to your liking, save the document as a template, and name it Aldus FreeHand Defaults in your FreeHand Folder. (You might want to rename the old defaults first, in case you want to use them again.)

You cannot change some things, such as the default font and font size, but you can add guides, select your printer type, and set the measuring system to the standard you prefer, just as with a regular template.

Cheap, Editable Outline Fonts

Here's a simple and economical tip for creating editable font outlines with Aldus FreeHand 2.0.

Choose the Text tool, and click anywhere. Set the text size to the largest size that you have bitmaps for (if you have Adobe Type Manager, then the sky's the limit), and type the character(s) that you want.

Once the text is on-screen, simply choose the tracing tool and auto-trace the text. FreeHand's auto-trace tool treats the text

as an ordinary bitmapped object. As with any tracing, you have to play with the auto-trace controls, but with large screen fonts, you can get very good outlines that require only minimal touch-up.

FREEHAND 2.02

A Quick Way To Create Repeating Elements

The most common technique for repeating elements in a closed path is to duplicate them as many times as required to fill the space, cut these elements to the Clipboard, and finally use the Paste Inside function to create the effect. However, the Tiled Fill option is faster and makes it easier to adjust the spacing of the masked elements.

In the dialog box you get when you select Tiled from the Fill menu, you can modify only scaling, angle and offset properties. The problem is that you cannot control spacing between the repeated elements of a tile. Here is a way to bypass this limitation:

1. Create your tile (text, path and so on). Make sure your elements are ungrouped.
2. Draw a square or rectangle around your tile, and align all elements to the square horizontally and vertically centered (you may have to group your elements to do this easily).
3. Select your square, and set the line to None on the Line menu.
4. Ungroup everything, and cut to the Clipboard.
5. Select the path to fill, choose Tiled on the File menu, and click on the Paste In button in the Tiled dialog box. As with the Edit menu's Paste inside function, you

will not be able to see your results unless you are in Preview mode.

If the tiled graphic you have created does not tile correctly to form a pleasing pattern, you can easily change the spacing now. To edit the distance between objects, select the path, choose the Tiled command, and click on Copy Out. Paste the ungrouped elements back onto the document. You can now modify the height or width of your square to change the way the element or elements will be tiled into a pattern. Once you are satisfied, paste the elements back into your fill.

MACDRAFT

Producing Laser-Printable Diagonal Dotted Lines

To produce high-quality diagonal dotted lines, start by editing a pattern so that most of the pattern is black, with a one- or two-pixel column or row being white. Now confirm that you're drawing with a non-dotted line, and choose that special pattern you've drawn as the ink for the line by holding down Option while selecting the pattern.

Try drawing a few diagonal or dotted lines. Later, you can choose the special pattern for better control.

The Same Name Can Spell Trouble

Take care when naming your files. If you save with the same name as a MacPaint document in the same folder, the new MacDraft document will not be accessible from the application. The only way to open it will be to use a file editing tool like MacTools or FEdit. Open the file and

change the creator to MDFT and type to DRWG. This will allow MacDraft to access the file again.

Create Original Patterns Easily

Want interesting, original patterns in MacPaint? Use MacDraft to create them.

First, create a patterned object in MacPaint, then copy an area of the pattern and paste it into MacDraft. With the object selected, experiment with choosing different patterns from the Fill menu. The MacDraft pattern will overlap the MacPaint pattern, with almost limitless new patterns resulting.

MACDRAW

Editing MacDraw's Cursors For Greater Precision

To obtain greater precision with MacDraw's cursors, use ResEdit to open the CURS resource. Then select CURSOR IDs = 256 and 259, and redesign the cursor tools. You can make them smaller and simpler. Be sure to do this to a backup copy of MacDraw.

Creating An Accurate Display Of Proportional Rectangle Resizing

To accurately see the proportional resizing of rectangular objects, draw a diagonal line from one corner of the object to the other, and extend it, keeping it lined up against the two handles.

Now, grab a corner handle at the end of the diagonal line and resize the object while keeping the handle on that line.

Finally, delete the line. As long as the handle is on the diagonal line, the object is in proportion.



Creating Proportionally Spaced Text Lines

You can make lines of text with proportional spacing by creating each individual text object and then lining all objects up vertically. Now, select all the objects with the selection marquee and group them. By stretching the grouped text with the corner and upper/lower resizing handles, the vertical spacing between the lines changes proportionally.

Using Smoothing To Create Complex Arcs

MacDraw's arc tool is quite limited in the complexity and variety of arcs it can generate. But you can create complex arcs by using MacDraw's smoothing functions. Use the polygon tool to draw a two-vector shape, then select Smooth from the Edit menu. After experimenting with this technique for awhile, you'll be able to create some highly complex arcs.

Quickly Selecting The Last Tool You Used

To automatically select the last tool you used, hold down Command while pressing the mouse button.

Centering Items Perfectly In The Middle Of A Page

There's an easy way to center an item exactly in the middle of your page. Once the page has been created, type in the text you want to center, approximately where you want it placed. Then choose Reduce To Fit to create a rectangle wide enough to cover the entire width of the page. Choose None from the Fill menu, so you can see the objects behind the rectangle. Then, select the rectangle and Shift-Click the text item you want to center. Now, choose

Align Objects from the Arrange menu and click on L-R Center, then click OK. Your text is now centered on the midpoint of the box.

Use this technique to center objects horizontally by clicking Top-Bottom instead of L-R.

Grabbing Tiny Resizing Handles

If you're working with very small objects, it can be hard to grab their resizing handles, and you might end up moving the object when you didn't mean to.

To avoid this, create a second, larger object, and then Shift-Click on both, group them and use the resizing handles on the larger element to shrink or stretch them both. When you've finished resizing, ungroup the two objects and delete the larger element.

Proportional Enlarging And Reducing

To reduce or enlarge an object proportionally, draw a one-inch by one-inch square (with Show Size active). Shift-Select this square with the object to be reduced or enlarged. Place the arrow cursor on the corner of the square and drag it to the size desired, pressing Shift while you do so to guarantee proportional enlargement or reduction.

Maintaining Fill Patterns When Exporting To Bitmap Programs

When you're transferring an object graphic to a bitmapped program such as MacPaint or FullPaint, you can maintain the original fill patterns ratio. Select the area that the object graphic will be pasted into by using the selection marquee, and then paste the graphic into the document. It will scale itself to the size specified by



the marquee without distorting. If you resize the graphic after it's been deselected, though, you'll get a distorted stretch.

Selecting Multiple Objects At Once

Hold down Shift while selecting more than one object to have all chosen objects selected at once.

Duplicating Objects Easily

You can duplicate any single object or group of objects by selecting them and then choosing Duplicate from the Edit menu. If you move the first copy duplicated, and then duplicate that copy, your new duplicate will be placed in the same position the first copy originally occupied in relation to the original. To make a row of objects, put the first copy right next to the original image, then duplicate copies until the row is completed.

Toggling To The Grid Option

When the Grid option is turned off, you can temporarily use it by holding down Shift while you move an object. Press Shift after you've pressed the mouse button to pick up the object you want to move.

Redrawing The Most Recently Created Object

If you want to redraw the same type of object that you most recently created, you don't have to reselect the action from the icon panel. Just hold down the Command key and click at the place you want the new object to be drawn. The previous action is automatically selected with the Command key, so your image appears instantly.

Automatically Selecting Objects

All the objects drawn while the Command key is pressed are automatically selected when you release the Command key and the mouse button.

Creating New Font Sizes

You can create a different sized font by typing your text into MacDraw and then copying it into Microsoft Word, where it can be stretched or shrunk to any size you want. The new font will print out perfectly well on laser printers.

Selecting All Text Within A Block

You can select all the text within a block by triple-clicking on the Text tool in the text block.

Always Use The Same System To Create, Display, And Print

A MacDraw document created with one System and called up with another might not show up at all, or might show up distorted. For example, if you create a MacDraw figure using a 14 point font and then open the document using a System that doesn't contain that font in 14 point size, the character spacing will be computed incorrectly. The obvious solution is to make sure that any MacDraw System you use contains the same point sizes and fonts installed on any System you'll use to open or print the document.

Avoiding Text Default To The Geneva Font

If you want to use a specific text in MacDraw, change the font before you select the writing tool. If you don't change it, the font will automatically default to Geneva, and you'll have to choose a new font every time you switch into text mode.



Computerizing Your Autograph

You can keep your own signature on file in MacDraw, ready to affix to any document. First, write your name as large as you can, using the free-hand tool.

Read that as Large. Use the Smooth, Unsmooth, and Reshape commands until you're satisfied with the results, and then Group all the letters and grab the lower right handle to reduce the signature to the desired size. Finally, paste it in the Scrapbook. You might never need a pen again!

Previewing Horizontal Layouts

Preview how your horizontal layouts will look when printed by selecting Wide from the Page Setup option in the Print menu. This will show you the horizontal orientation of your page.

If You Can't Complete The Print Command...

Sometimes when you print a multi-page document, you might get a message that says the print command cannot be completed. The easiest way to work around this is to print only a few pages at a time.

Laser Printing Small White Type

If you have trouble printing small white type with your laser printer, try typing the text in Outline style, then fill in the background and then stretch the object to double its size, both vertically and horizontally. Now, specify 50% reduction in the Page Setup dialog box. Your white type will probably print out much better.

Enlarging Or Reducing Can Clip Text

When you laser print a document containing text, you might experience

clipped text printouts if you use more than a 150% enlargement or more than a 75% reduction.

See The Graphics, Not The Rectangle

To see a graphic image instead of a rectangle while moving images around your page, press Option.

An Easy Way To Create Perfect Hollow Lines

If you need to produce hollow lines, use the following procedure to raise the quality of your work:

First, draw your graphic, making all lines with the third line thickness on the menu. When you're finished, Group all lines, duplicate the group, and set the line thickness of the duplicate lines to the second line thickness on the menu. Then, under the Pen menu, set the pattern of the duplicate lines to white. Now, select both groups and align both centers. The white group will "carve" out the centers of the thicker lines.

MACDRAW II

Creating A Pixel Ruler

One of the oversights in Claris' MacDraw II is the lack of a standard ruler for measuring in pixels. You can create your own just by setting the scale ratio to 1:72 inches, setting Divisions/inch to 1, and unchecking the Show Unit Name check box.

Trimming File Space

The grouping information stored in MacDraw II files for complex grouped graphics can cause the files to increase in



size – sometimes dramatically. If you need to trim some fat off a file, ungroup the grouped objects and then save the file.

This works for all the major object-oriented graphics programs, including Cricket Draw, Illustrator 88, and FreeHand.

MACPAINT

Leave Enough Disk Room To Work

MacPaint requires a lot of free space – at least 100K or so – on the disk in order to work properly. If you're not using a hard disk, and are creating several documents, save them to a different disk for the time being. You can copy them back to your MacPaint disk for editing later, if you want.

Hints For Saving Disk Space

Another way to free up space is to remove the ImageWriter driver from your MacPaint system file. MacPaint doesn't use the driver to print documents.

You can also save several small MacPaint illustrations in a single file, instead of in individual files. MacPaint files take a minimum of 2K on-disk, per file.

Getting Where You Want In FatBits, Fast

You can take the express route into FatBits, and work on the exact area you want to, by selecting the Marquee tool and using it to frame the part of your picture you want to work on in-depth. Then, just double-click on the Pencil tool, and you'll immediately go to a close-up of the area highlighted by the marquee.

Another way to access FatBits quickly is to choose the Pencil tool, hold down the Command key, and then point to the spot you want to work on and click the mouse button. Just click once; double-clicking will bring you right back into the "regular" bits mode. When you release the Command key, the Pencil tool will behave normally.

Moving The Page While In FatBits

When the Pencil tool is selected in FatBits, you can change the Pencil into a Hand tool by pressing the Shift button. This allows you to move the page without going back to the regular mode. When Shift is released, the Hand changes back into a Pencil.

The Easy Way To Make Straight Lines

To make sure that the straight lines you draw are completely straight, with no jagged lines, hold down the Shift key while positioning and using the straight line tool. This constrains the line's movement to vertical/horizontal only.

Restraining Works Throughout The Program

The same restraint can be applied to the paint brush, pencil, spray can, or eraser tool. Just hold down Shift while using the tool.

You can even restrain the active window or the graphics elements in the Show Page mode by holding down Shift while repositioning your page. You'll be able to drag up, down, or to a 45-degree angle.

Multiple Copies Of An Image

Make multiple copies of a graphic by highlighting the image with the Lasso or



Marquee tool and pressing Command-Option as you click and drag the picture around the page.

Creating Multiple Copies In A Straight Line

Multiple copies of an image can be created and placed in a straight line by pressing Shift-Command-Option while dragging the image being copied.

Controlling Spacing With Multiple Copies

You can control the spacing between multiple copies by choosing a line width that corresponds to the amount of space you want between each copy. Choose a narrow line width for closely-spaced copies, and a wider one for more distance between each illustration.

Avoiding Pattern Distortion In Multiple Copies

Sometimes when you make multiple copies of your document, the patterns start to look distorted. This can be remedied by choosing the Grid option before making copies, since it creates an automatic grid that's 8 pixels apart, "gluing" your pattern down before it's copied.

Stretching Images

To select an image, use the Marquee tool to select the entire picture, then press Command while dragging the edges of the highlighted image. Drag from the edges, and one dimension of the image will be stretched. Drag from the corners and both horizontal and vertical dimensions of the image will be altered.

Keeping Patterns Intact While Stretching

You can keep patterns from distorting

during stretching by holding the Shift key down while dragging the edges.

Stretching And Shrinking Rectangles Proportionately

When working with a rectangular graphic, you can control proportional stretching or shrinking by pressing Shift-Command while stretching from the edges. If you drag from the corner while holding down these keys, the proportions of the picture will remain intact. Drag from the sides, and the horizontal resizing is limited in proportion to the vertical position of the cursor.

Keeping Rectangle Patterns Intact When Resizing

Keep the pattern of your rectangle intact by holding down Shift while stretching.

Changing Fonts Without Creating A New Entry Point

Changing fonts mid-text can be a problem, especially if you don't want to create a new text entry insertion point. But it can be done without changing the font already entered by pressing Enter and choosing the new font or style. Once this has been done, though, you can't backspace past the point where the Enter key was pressed.

Changing The Font Size Of Entered Text

You can change the font size of text that's already been entered by pressing Command and both arrow keys (< and >).

Changing The Font Of Entered Text

Change the font of text already typed in by pressing Command-Shift and the arrow keys.

Command-period changes the text to the next larger size.

Command-comma brings the text to the next smaller font size.

Command-Shift-period changes the entire entered text block to the next font shown on the font menu.

Command-Shift-comma changes entered text to the previous font shown on the Font menu.

Creating Ultrabold Letters

You can create extra-bold letters by entering your text in Bold and Outline from the Style menu. Then, use FatBits, or the paint bucket's Fill option, to fill in space inside each of the letters. The Fill selection gives letters a shaded look.

Creating Special Effects With Fonts

You can create interesting special effects with any font and MacPaint. Just type your letters on the screen the way you want them to appear. Then select all the text with the Marquee tool. Now, either trace the edges with a shadow (Command-Shift-E) or trace the edges normally (Command-E). Then, do a Command-Shift-E. Do it several times to create progressively wilder effects. You can fool around with other options, like inverting the image, to get the best results.

Grid Option Assists Text Entry

Use the Grid option while working on documents requiring a lot of text entry, since it makes it easier to align new text inserts.

The Fast Way To Edit Brush Shapes

Take the express route to the Brush Shapes

window by double-clicking on the Paint Brush tool.

Edit Brush Shapes With A Font Or Resource Editor

Brush shapes can be edited with a font editor. Use one that has the ability to access fonts stored as resources with applications. The font stored in MacPaint is "12." It contains characters with ASCII values 120-151 that make up MacPaint's brush shapes. Just use the font editor's edit mode to alter these characters to the new brush shapes and save the changes you've made.

Customizing Your Eraser

The standard eraser in MacPaint is a 16 x 16 pixel square. You can make it as thick, thin, or round as you like by selecting the paintbrush tool and choosing white as your brush color.

Erasing Large Portions Of The Screen

To erase large parts of your graphic quickly, select one of the shape boxes (choose the colored one, not the transparent version). Then pick white as your fill color and select the dotted-line (invisible) outline. Finally, draw the shape directly over the part of the screen you want to erase. You'll still probably have to clean up the edges with the eraser.

Another way to eliminate large illustrations is to choose Show Page from the Goodies menu. Move the page until your

graphic has disappeared from the screen, then hit OK. When you reposition the page again, the section you moved off the screen will be gone for good.



The Lasso is useful for eliminating oddly shaped illustrations. Outline the shape, then press backspace to erase it.

For large, uniformly-shaped areas, use the Marquee to highlight, then use backspace to erase.

Shadowing Images

Shadows can be added to MacPaint images. Just select the drawing with the marquee. Now, hold down Shift and select Trace Edges from the Edit menu.

Lasso Tool Doesn't Have To Close Its Loop

The lasso tool doesn't require you to completely encircle the object you're lassoing. When you release the button, the lasso automatically completes the loop in a straight line back to the point where it started.

Merging Patterns In Shapes

It's possible to place one patterned shape over another without obscuring the original shape. Press Command while selecting the paint brush, spray can, paint bucket or shape drawing tools. When you select this mode, both shapes' patterns will merge at the points where they overlap each other.

Adding New Patterns To Your Palette

If you create or find a pattern that you'd like to add to the patterns palette, choose a pattern you think you can live without. Then choose Edit Pattern from the Goodies menu and click the mouse on the part of the screen that you want to copy the pattern from. The new pattern replaces the old one.

Using The Flip Horizontal Option To Create Gantt Charts

You can produce large drawings or Gantt charts easily by printing out large drawings in 8.5 x 11-inch sections on a LaserWriter, using the Flip Horizontal option to create a mirror image. Then, trim the pages and assemble with transparent tap on the back of the drawing. The resulting 300-dpi flipped-image montage can be used as a master in a blueprint machine.

MACPAINT 2.0

Using ResEdit To Change Default To Pixel Measurement

You can change MacPaint's default measurement from inches to pixels, which is particularly useful to programmers and to desktop publishers. Make a copy of MacPaint, and use ResEdit for a little surgery on the copy.

First, use ResEdit to open your copy of MacPaint. Open the PREF resource. Open PREF ID=128. On the line:

```
00000008 0008 017B 0009 00D1
```

...change "017B" to 007B".

In this position, 00 is for pixels, 01 is for inches, and 02 is for centimeters.

When you've made the change, Quit ResEdit and type Y to save the changes.

PIXELPAINT

"Animating" Drawings With Color Cycles

Here's a way to make PixelPaint cycle through colors on the color palette to

“animate” drawings. It’s a great way to bring a picture of a waterfall to life, or to make a daytime sky seem to pulse with clouds.

First, select the colors you want to cycle between by clicking the mouse on the color box and then dragging the cursor to the color you want. Then choose the second color.

After selecting colors, pick the selection tool, turn Caps Lock on, press the shift key, and click the mouse button. To stop the cycling, click again.

This is quite spectacular if you copy a color Mandelbrot picture to the Clipboard, go into PixelPaint, and paste in the picture while in the Special Effects mode.

PHOTOSHOP

Comparing Original And Adjusted Images

When you are using one of the functions under the Image Adjust menu, you can toggle between the current adjusted image (while you are working on it) and the original by clicking on the title bar of the dialog box. By clicking on the title bar, you are temporarily turning off the Video LUT animation and the original image (without adjustment) is being displayed. This can make minor adjustments easier to assess on-screen.

Fine-tuning Palette Tools

To use the tools in the Adobe Photoshop palette with greater accuracy and precision, turn on the Caps Lock key. This converts the standard tools into cross-hair tools.

Ghosting With The Alpha Channel

Photoshop’s alpha channels are 8-bit gray-scale images, so you can use them to do complex 8-bit masking. 8-bit masking lets you create soft-edged (or feathered) selections that blend in with the rest of the image – vital if you’re creating subtle photo-realistic effects.

To obtain the “ghosting effect”, paste a gray-scale image into an alpha channel, and then make it the active selection mask. By using the Levels control to change the contrast, you can make the letters ghost through the image.

Creating A Textured Mask Using The Alpha Channel

To create a textured mask, select a pattern or picture and choose the Define Pattern command from the Edit menu to make it a Photoshop pattern. Fill an alpha channel with this pattern (using the Fill command from the Edit menu), and make it a selection mask with the Alpha->Selection command. (Because of the complexity of the selection at this point, you may want to suppress its flickering edges with the Hide Edges command.)

You now get a textured effect when you paint on the image, because the paint flows only into the areas of the pattern that were white within the alpha channel.

You can vary this effect by using the Hue/Saturation controls to dramatically colorize the image (the changes are applied only to the white areas of the alpha-channel pattern). Or you can take another image and, using the Paste Into command (on the Edit menu), paste it into the selection. The image will flow



only into the areas of the pattern that were white within the alpha channel.

Creating A Montage With The Alpha Channel

To create a montage with one image gradually blending into another, you must modify one of the images so that it behaves like a gradient fill – that is, the pixels are opaque at one side of the image and transparent at the other, with a transition area in the middle.

To do this, create a linear-gradient fill in a new alpha channel and make this channel the active selection mask. The mask will be applied to the entire image, giving it the same properties as the gradient fill. This means that the image's pixels will now follow a gradient from opaque to transparent, matching that of the alpha channel.

Copy the selection to the Clipboard, and then paste it on top of a second image. The pasted image will merge with the background artwork to create the effect of one image blending into the other. The background art will be hidden where the first image's pixels are opaque and will show through where its pixels are transparent.

Creating A Vignette With The Alpha Channel

The same principle lets you create a vignette (a picture that shades gradually into the background). Use the New Channel command to create an alpha channel, and create a radial blend going from black (in the middle) to white.

Make the alpha channel the active selection mask, and apply the Gaussian Blur filter to the image. The selection mask

controls the strength of the filter's effect – the image is intensely blurred toward the edge (where the alpha selection is white) and unchanged in the center (where it is black), following the gradient created in the alpha channel.

SMART ART 1.0.1

Using Smart Art To Preview EPSF Files

It can be a real pain to browse EPSF files. You can use Smart Art to browse because of the program's ability to preview unopened documents.

Just open the folder of EPSF files from Smart Art's Open dialog box and select the file you want to view. The preview window lets you zip through numerous files that are still displayed in a reduced, but recognizable, size.

Remember, though, you're only previewing files. Don't try to open these files in Smart Art.

Smart Art Can View Old LaserFX Files Through Desktop Publishing Program

Smart Art can create screen images for the EPSF files produced by some of the earlier text special-effects programs such as LaserFX. These first-generation programs have some wonderful effects, but when you place them into a page-layout desktop publishing program, all you see on-screen is a gray box. Smart Art can fix that, provided that the creator program can save files in EPSF and that you're working with a 300-dpi PostScript printer.

First, save the effect as an EPSF document and open the document with Smart Art.

Then, click on Smart Art's Reimage button. After a few moments, Smart Art creates a screen image of the text special effect.

Save the file from within Smart Art. When you place the new file in a DTP program, you'll see what the graphic will look like when it prints out.

Viewing AutoCAD (PC) Drawings

Although it's possible to place AutoCAD drawings (from an IBM PC) into PageMaker documents on the Mac, there's no screen preview—only a cryptic gray bounding box. Here's a procedure, using SmartArt from Adobe, that provides on-screen viewing of the CAD drawing in PageMaker. The process may seem rather involved, but it really only takes a few moments and the results are well worth the effort.

1. After you complete the drawing in AutoCAD (version 1.0), go to your AutoCAD setup menu and change the plotter driver from whatever you normally use to PostScript Plotter Driver. Be sure to set the resolution to 2,500 dpi if you plan to output the final PageMaker document to a Linotronic.
2. Plot the drawing to disk (you have the choice in AutoCAD of plotting to a printer or to a disk).
3. Using a Macintosh-to-PC file-transfer utility (like MacLink Plus by DataViz), transfer the plot file to the Mac.
4. Create a new Illustrator document. Place the AutoCAD plot file into the Illustrator document with the Place command from the File menu. An empty box with an X through it will appear onscreen. The box will be about the same size as the original AutoCAD drawing. At this point,

you can rotate the box if you need to.

5. Save this Illustrator document, using the Save As command. Click on the option for including, a preview for Macintosh, and be sure to click on the "Include copy of placed Encapsulated PostScript file" check box.
6. Using the SmartArt DA, open the Illustrator file. A gray box will appear in the SmartArt window. Click on the Reimage button. SmartArt will send the Illustrator file to your PostScript-compatible laser printer for translation and reimagining. When it has finished this process, a good screen representation of the original AutoCAD drawing will then appear in the SmartArt window.
7. Save the document (SmartArt won't ask you to rename it unless you choose Save As). The document is now ready to place in a PageMaker document with PageMaker's Place command. The drawing will be completely visible and ready to Output to your laser printer or a Linotronic. The drawing will be embedded in the PageMaker document, which means you don't have to provide your Linotronic service bureau with associated graphics files along with your PageMaker document.

SUPERPAINT

Making Shadowed Text

You can create interesting shadowed effects on your text by selecting the font and style while in the draw mode, and then typing your text. (Hint: bold text looks best with this effect.) Switch to the Paint layer and choose a brush pattern, such as a simple dithered gray. Then,



choose Text Pattern from the Style menu, and on another part of the page, type the text exactly the same as the text in the Draw layer. Now, switch back to the Draw layer and move the original text to create a shadowed effect. When you get the effect you like, copy the shadowed text on to the Draw layer.

Enlarging Any Selection

You can enlarge any selection in SuperPaint to page size, or to any size you want. First, use the Lasso or Marquee tool to select the picture you want enlarged. Then, use Command-C to copy the graphic and press Command-A to select the screen. Next, press Command-V to paste and, after a few seconds, the selection will fill the entire screen.

If you want a smaller enlargement, instead of pressing Command-A to select the entire screen, use the Marquee to select the size, then press Command-V to copy the graphic.

You'll find this helpful when you enlarge graphics, since you can choose the size right away, instead of having to enlarge it step by step.

Moving Tiny Items Easily

If you seem to be going blind trying to move tiny objects around, try drawing a line near the object to be moved, then grouping the two objects together and using the line as a "handle" to move the tiny item to its new destination.

This also helps keep the Pointer tool from blocking your view. This also works in other graphics programs that allow object grouping.

Using The Lasso While The Marquee Is Selected

While in the Paint layer, you can have the Marquee tool selected and still be able to use the Lasso tool. Just hold down the Option key to turn the cursor into a Lasso, making it easy to select odd-shaped bit-maps on the screen.

"Nudging" Selected Graphics By A Single Pixel

While any item is selected with either the lasso or the marquee, you can "nudge" it in any direction by using the arrow keys. If your keyboard has no directional arrow keys, use **Command-Y** to nudge upwards; **Command-J** to nudge left; **Command-K** to nudge right; and **Command-D** to shift downwards.

Closing All Open Windows At Once

Hold down Option while selecting Close from the File menu and all windows that are currently open will close.

Crosshairs Can Help You Paint From A Centered Point

Instead of choosing Draw (Paint) From Center before drawing one of the QuickDraw primitives to paint the shape from a centered point, you can double-click on the palette tool you select instead of just clicking. The icons in the palette will then show crosshairs to identify the difference.

Reversing The Pattern

When editing paint patterns or paint brush shapes, hold down Command while clicking the mouse anywhere in the pixel editing box to reverse the pattern, making black white, and white black.

Creating A Spattered Effect

You can create an interesting "spattering" effect by choosing the paint brush pattern that you'd like to spatter and then painting with the spray can while holding down Option. The faster you move the mouse, the further apart the spatters will paint.

Creating a "Screening" Effect

A great "screening" effect can be created by using Paint On Black and the selection rectangle, especially in conjunction with the Laser Grey patterns. If you don't like the effect, try moving the marquee one pixel up or down to change most of the screen effects.

Smoothing Bitmapped Images For Laser Printing

If you have an extensive library of bit-mapped clip-art, there's a way to smooth images for printing on the LaserWriter. Open your image in SuperPaint and Save it. Then Open the new document, hit the Place Laserbits command, and tell it to use the file you just created. The result will be a 1/16 original size document at 300 dpi, and it prints perfectly. Realize that the larger your original image, the longer it takes to print.

Turn Smoothing Off To Speed Up Printing

When printing a Laserbits document, turn the smoothing effect off to speed up printing.

Lower Detail Level Speeds Smoothing

When using FatBits, don't immediately jump to the finest detail level. Instead, use the left side of the screen, which displays

the actual appearance of the work, as your guide. If you can see all of the object you'll be working on, stay on that magnification level unless you really need a finer one. You'll save time smoothing work if you work in the lowest possible magnification.

Adjusting Length On Imported MacDraw Graphics

SuperPaint's print area is approximately 7 11/16 inches by 9 5/8 inches, which is slightly wider, and shorter, than MacDraw. A quick fix is to set the Page Setup to enlarge at 104%. This results in 10-inch lengths when you need them. Just remember to watch the width of your job, since it expands sideways as well, and also set the print dialog box to print only the first page. This circumvents SuperPaint's need to send a blank page through when enlargements are requested.

HARDWARE

AUDIO OUTPUT

Connecting A Stereo To The Mac

The proper cable to connect the Mac's audio output to a stereo system is often hard to find. Fortunately all it takes is a trip to your local Radio Shack. Look for Part Number 42-2153. It's a Y adapter with a mini mono phone plug at one end and a pair of RCA phono plugs at the other end. You may need more than 42-2153's 9-inch length. To extend this cable, use Radio Shack's 42-2472. You can use several of these if necessary.



CD-ROM

Software For Apple CD SC Under System 7

Versions of the Apple CD-ROM system extension prior to 3.0 are incompatible with System 7. Version 3.0 is mostly compatible with System 7 (which means it will work OK), but version 3.1 is recommended. You should install the Apple CD-ROM software BEFORE installing System 7. The upgrade to version 3.1 is free and can be found on the System 7 Group Upgrade Kit CD.

DAISYWHEEL PRINTERS

Connecting Daisywheel Printers To The Mac

Would you like to hook up your old daisy-wheel printer to a Mac to get the letter-quality output?

First thing to know is that only a printer with a serial interface can be connected to the Mac. If your printer is serial, then you need a Mac-to-ImageWriter printer cable. If it's parallel, you'll have to find a way to convert the signal. There are a bunch of parallel-to-serial converters on the market, selling for anything from \$50 to \$150. Depending on how you set it up, the converter will either translate serial to parallel or (if you're using a dot matrix printer) it'll translate the ImageWriter-type printer codes into your printer's codes.

Another problem you may encounter is persuading the Mac that it's not hooked up to an ImageWriter or LaserWriter.

One of the Mac's high-scoring concepts is that each Mac program doesn't have to know how to deal with several different printers. As long as the program plays by the rules, it can print on any printer whatsoever, assuming there's a driver for that printer in the System Folder (the driver describes the printer, its features, and how it operates). That's the good news. The bad news is that the only drivers Apple gives away (or even officially supports) are the drivers for its own printers, which are ImageWriters and LaserWriters.

Fortunately, drivers for non-Apple printers are available from lots of non-Apple companies, notably GDT Softworks. Its MacDaisy Link (about \$80) is a set of drivers designed for use with more or less generic daisywheel printers.

DISKS

Magnets Are Lethal To Disks

Never expose your disks to any magnetic force, since it can wipe your data clean off the disk. If possible, store disks away from metals such as file cabinets.

Also, avoid placing hard disks and floppy drives to the left of a Macintosh, since the power source has magnetic qualities. (Most, but not all, Macs have the power source on the left.)

X Rays and Your Disks

You may be wondering whether it is safe for diskettes to be scanned by an airport X-ray machine. Experience has shown that you shouldn't trust your floppies to airport-security machines, and the same caution should apply to hard-disk drives as well.

But fear not for the safety of your data whilst traipsing through airports. Simply put your hard-disk drive and your floppies into a separate bag, and allow 20 minutes for a hand search procedure. In general, you may be expected to fieldstrip your bag and prove that your drive works by plugging it in and starting it up.

While we're on the subject of data predators, the anti-theft systems in public libraries and bookstores are unlikely to blitz your data. But beware of the desensitizing machines at checkout stands. These machines (decorated with festive "DO NOT PLACE CREDIT CARDS ON THIS MACHINE!" stickers) contain powerful electromagnets.

ERROR TONES

Diagnosing The Tones

The Mac has a cryptic system of error ID codes, which is supplemented by a system of cryptic error tones. If there's a hardware problem, on startup you'll hear the specific tone indicating the relative hardware problem. For example, one tone indicates that your RAM has a problem.

To learn more about the Mac's error tones, there is a program called Diagnostic Sound Sampler, that plays all the tones and explains what they mean. You should be able to get a copy of this program from a user group or on-line service.

FAX MODEMS

ATM Type For Fax Modems

The best way to image type for a fax modem is through Adobe Type

Manager. ATM uses the power of PostScript to create crisp text on-screen at any size, and the fax modem transmits that scaled type directly. If you don't use ATM, the only way to avoid jagged-looking type is to install bitmapped screen fonts that are three times the size of those in your document. The fax modem software uses the oversized fonts to scale the type correctly for transmission, but this option can be limiting.

Only a few fax modem vendors supply the necessary triple-sized fonts, and those that do usually provide only a limited selection of sizes and faces (often just Times, Helvetica, and Courier). If you want to use 11- or 13-point type for legibility (easy to do with ATM), you'll first have to find or make 33- or 39-point bit maps. With ATM, you avoid all these problems. (Keep in mind, however, that ATM works only with Type 1 PostScript fonts. Chicago, New York, and other bit-mapped faces will still suffer from the jaggies if you don't have triple-sized fonts installed.)

FLOPPY DISKS

Noisy Disks Signal Trouble

If your disk makes more noise than usual upon being inserted into the disk drive, it might not have been aligned properly by the Mac. Eject it and try to boot it again. If a certain disk consistently makes unusual noise, back it up as soon as possible and don't save new data to it – the data may be corrupted.

Troubleshooting Problems

Below are some techniques and questions to ask when troubleshooting a floppy disk



drive problem. If your Mac is still under warranty, leave repairs to your dealer, don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with the greatest care.

1. Good 800K floppy disks suddenly become unreadable, and you can't initialize blank floppy disks. If you have a modular Mac (Mac II series), you can easily take the cover off and check to see that the ribbon cable connecting the floppy-disk drive to the motherboard is firmly seated. There's also a chance that the drive has dirty heads. You can buy cleaning diskettes from your local computer store; they look like regular diskettes except that they have a felt disk instead of a plastic one. Insert the premoistened cleaning diskette into the drive, and wait the prescribed time.

2. You have the problem described in No. 1, cleaning hasn't solved the problem, and other floppy disk drives connected to the same computer work fine. You (or someone else) may have damaged the heads by forcibly removing a stuck disk. You can't fix this yourself, but you can remove the drive to have it repaired.

The floppy-disk drives on the II, IIx, and IIcx are fastened to a horizontal mounting plate by a single Phillips-head screw. Unplug the data cable, remove the screw, and take out the drive. On the IIcx and IIci, this operation is not as straightforward: unscrew the Phillips-head screw on the corner of the floppy-disk/hard-drive assembly, remove the power supply and cables, and the two drives will pop out. Rebuilding an 800K drive (with new heads) costs about \$100.

HARD DRIVES

Data Errors Caused By RFI

Some external hard disk data errors are caused by the RFI (radio-frequency interference) of fluorescent lights.

To eliminate RFI problems, use double-shielded, twisted-pair SCSI cables. Make sure that all the cables have a separate drain line running the entire length of the cable and that the shielding connects directly to the metal shell of the connectors at both ends of the cable.

Does Defragmenting Improve Performance?

A fragmented file is one whose data is scattered across the disk, rather than being in a single, contiguous section. Fragmented files take longer to read and write to because the disk head has to move to different areas of the disk to find different parts of the file — and the Mac can't do anything except wait while the disk head is in motion.

According to Karl B. Young, unsung author of Apple's Disk First Aid, disk defragmenting is rarely necessary unless your disk is so full you must often resort to deleting files just to make room.

If you do want to defragment your disk, there are several utilities out there, including Norton Utilities and MacTools Deluxe.

Resetting SCSI ID Clears Up Mac Boot-up Knot

If, when you turn on your Mac, it doesn't boot from the hard disk, it just displays the blinking question mark, but then upon restarting your Mac it boots fine, read on.



This is happening because the disk isn't ready by the time your Mac gets around to checking for bootable devices. It takes time for the disk to go from a dead stop to operating speed, and in some cases this time will increase as the disk ages.

One fix is to stuff your Mac full of RAM – say, 32 Mbytes. The Mac performs a memory test every time it's turned on, and the more memory you have, the longer this test takes.

A more prosaic solution is to change your disk's SCSI ID to zero. The Mac handles this ID as a special case and will wait as long as need be for a device at ID 0 to become ready.

Troubleshooting Hard Disk Problems

Below are some techniques and questions to ask when troubleshooting a hard drive problem. If your Mac is still under warranty, leave repairs to your dealer, don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with the greatest care.

1. You can't get past the Welcome to Macintosh message when you start up. This symptom can indicate that you have a corrupted Finder. Start up from a floppy containing the same versions of the System and Finder that are on your hard drive, drag a fresh copy of the Finder from the floppy to the System Folder on the drive, and choose Restart from the Special menu. If the hard drive boots normally, the problem is fixed. (You can also try installing a new System, using the System-installer disks that came with your Mac.) You may need to completely trash the System and Finder file before

copying or reinstalling the new ones.

2. You can't get past the blinking question-mark icon, and you're sure that the hard drive is spinning. Check for any SCSI problems such as an ID conflict, a termination problem, or a loose cable. To check the SCSI ID number, look on the switch on the back of each device or use a utility such as SCSI Probe (a freeware utility available from Zmac and other on-line services and use groups). Each device should have a unique number from 0 to 6, inclusive.

When checking termination, be aware that only the first and last SCSI devices on a chain should be terminated. Some products are shipped with internal termination, however, and if you have one of these devices in the middle of a chain, you'll have problems. Check with the manufacturer to find out if a device is internally terminated. If it isn't, check to see if there is a 50-pin flow-through terminator plug on the SCSI connector. Remove the plug if the device is in the middle of the chain; add a plug if it's the first or last device on the chain.

3. You can't get past the blinking question-mark icon, and you've ruled out SCSI problems. You may have corrupted boot blocks. First, try using a hard-disk-recovery utility such as Norton Utilities for the Macintosh to examine the disk.

If you still have problems, your next step is to try SCSI-formatting software, such as Silverlining from LaCie or Format/Partition from NuvoLabs. Start up from a floppy disk containing the SCSI-formatting software. If it recognizes the drive, there's a good chance you can fix it. Look for a menu item that verifies blocks and runs a drive test. If a dialog box at

the end of the test reveals that bad blocks were found and successfully reassigned, try to mount the drive (your software may let you do this from within the program). If you're successful, you'll have solved the problem and saved most of your data. If you can't mount the drive, your formatting software gives you a couple of options: reinitializing (which overwrites the directory) or reformatting (which overwrites the entire drive and tests the blocks). You'll lose all your data if you do either of these operations, so make sure you back up your files regularly.

4. You can't get past the blinking question-mark icon, and you can't hear the internal hard drive spinning. If this happens, the bearing lubricant may have thickened or the heads may have stuck to the medium. Either way, there's a good chance you can fix it. On the II, IIx, and IIcx, the hard drive is fastened to a metal mounting bracket by two Phillips-head screws. (On the IIcx and IIci, the hard drive isn't screwed in, so you can simply pop it out.) Unplug the data and power cables, remove the mounting screws if necessary, and briefly place the drive in direct sunlight. More often than not, a few hours of the sun's heat will thin the lubricant or free the heads, at which point the drive should work fine. A variant on this procedure is to carefully turn the computer upside down or on its side and leave it somewhere warm (about 70 degrees) overnight.

5. You can't get past the blinking question-mark icon; the drive makes strange scraping noises, the stepper motor ticks, or the drive isn't spinning, and you have reason to believe it's not a power-supply

or motherboard problem. Send the whole drive module to be repaired. Some repair shops will retrieve all or some of your data. Prices vary with drive size, hours of time spent in recovery and overnight service.

Interleave Factor And Hard Disk Performance

The performance of your hard disk relates to its interleave factor. If you change machines or add an accelerator card, you may need to change the interleave. As a rule, drives attached to a Mac Plus work best with a 3:1 interleave; those attached to an SE require 2:1; and Mac IIs, IIx's, SE/30s, and all accelerated Pluses and SEs work best if the disk has a 1:1 interleave.

To see what that interleave is and to change it, use the latest version of Apple's HD SC Setup (which is part of the System Tools 5.0 or 6.0 package). Hold down Command-I after you arrive at the application's window to access the interleave areas of the program. Remember to back up your entire disk before changing the interleave. Changing the interleave requires reformatting the disk – an operation that destroys all the data on the disk.

Old Apple Serial Still Works

Though we certainly wouldn't recommend it to anyone as a primary storage device, Apple's old non-SCSI Hard Disk 20 is compatible with some of the latest Mac models. According to Apple, the Mac 512KE, Plus, SE, Classic, Portable and IIci all work fine with the turtle-slow serial drive. All other Macs (aside from the original and Fat Mac) do not work.



HIGH-DENSITY DRIVE

Adding A SuperDrive (FDHD) To A Mac Plus

If you have a Mac Plus or SE and would like to add SuperDrive capability to it, the Apple external FDHD won't work.

What you can use are a pair of peripherals, Rapport and Drive 2.4 (Kennect Technology). Rapport is a plug-in microprocessor and drive controller that lets your Mac read 3.5-inch, 720K MS-DOS, OS/2 and ProDOS disks (low density), using the existing 800K internal drive. Drive 2.4 is an external drive that, in addition to supporting all existing Apple and IBM 3.5-inch disk formats, supports two high-density formats that provide 1.2 megabytes of storage on 800K disks and 2.4 megabytes on high-density disks. Rapport supports the Mac 512KE, Plus and SE. The Drive 2.4 supports the 512KE, Plus, SE/30, II, IIfx, IICx, IICI and IIfx.

Such wizardry is possible because the products are the brainchild of Wendel Sanders, a major contributor to the Apple III team and codesigner of the SWIM disk-controller chip that controls the floppy drive in Macs that have FDHDs. (Interesting Macintosh trivia: SWIM stands for Sanders/Wozniak Integrated Machine, not Super Wozniak Integrated Machine or Steve Wozniak Integrated Machine.)

HP DESKWRITER

Fooling The DeskWriter When Printing On Letter-Size Paper

You may notice when printing a docu-

ment that extends from top to bottom on a U.S. letter-size page that the HP DeskWriter leaves the bottom inch of the paper blank and prints those last lines on a second sheet. To fool the DeskWriter into printing all the data onto the letter-size paper, use the Page Setup command to indicate that you are using U.S. legal-size paper even though you are not.

IMAGEWRITER

What You See Isn't Always What You Print

When you print, the ImageWriter (I & II) uses a font twice the selected size (if it's available in the System) and then scales it down to produce high quality output. Fonts usually don't change from one size to the next. But Geneva is the exception that proves the rule: its lower case "y" in 12 point has a distinctly different descender than the 9-point "y" and both have different forms than the 24-point character. That means, when you print high quality in Geneva, you'll often get some characters that print quite differently than they display on-screen.

How To Access The Self-Test Mode

The ImageWriter II can run self-test samples of all three printing modes. To do this, turn the printer off and hold down the Form Feed button while turning it back on. This starts the draft mode self-test. While it's printing, deselect the printer by pushing the Line Feed button and then push the Print Quality button to select a new mode. Then reselect the printer by pushing Line Feed. When the print head begins a new line, it will print



in standard quality. Repeat step two to enter high quality mode.

Modifying The Default Paper Sizes

There is a freeware utility called PREC Manager, created by Bill Steinberg, coauthor of Pyro!, which makes it easy to specify custom paper sizes on an ImageWriter. (It should be available from the usual shareware outlets: CompuServe, user-group libraries, bulletin-board systems, and so on.)

PREC (which stands for PrintRECORD) Manager lets you modify any of the six ImageWriter paper sizes quickly and effortlessly.

IMAGewriter II

Producing Near-Letter Quality Printouts From The ImageWriter Without Editing Codes

There's an easy way to coax near-letter-quality printing from the ImageWriter II.

Rather than using ResEdit or MacTools (we're not all hackers!) and the Print Merge function of Word 3.0, simply select draft mode when the print dialog box comes up on the screen. Then, using the selection switches on the printer, select the typeface that you'd like to use in near-letter-quality mode (check your ImageWriter II manual for details on how to select the various choices).

How To Obtain Best Print Quality Fast

Here's a way to obtain the fastest and best print quality from your ImageWriter II. You can access the ImageWriter II's built-in proportional fonts from within

MacWrite or Microsoft Word. Certain fonts when printed with the "draft" quality access the printer's internal proportional fonts. These internal proportional fonts are: Boston II 10 and 12 point, Toronto 12 point, Chicago 12 point, Venice 14 point, London 18 point, Athens 18 point, and San Francisco 18 point. Other fonts, such as Geneva, use a monospaced font in draft mode that produces awkward spacing.

Using The ImageWriter And The HP PaintJet Film To Produce A Transparency

If you've ever needed an overhead transparency in a hurry (and in color, no less), here's an inexpensive solution:

By using HP PaintJet transparency film and an ImageWriter II printer, you can easily make a color (or black-and-white) overhead.

IMAGewriter LQ

Extending The Life Of ImageWriter LQ Ribbons

Here is one way of extending the life of an LQ ribbon:

On the left side of the LQ (where the controls are), there is a small switch. When this switch is depressed, the printer knows that a one-color (black) ribbon is loaded. The black ribbons have a tab protruding that should depress this switch. Color ribbons do not have this tab. Make sure that the tab is depressing the switch. Then most of the ribbon surface will be used for printing.

Seating The ImageWriter LQ Ribbon Properly

If the top edge of your ribbon is receiving the brunt of the printing load, you may

not have the ribbon seated properly.

A well-worn LQ ribbon has four parallel wear lines spaced evenly up and down on its surface reflecting the up and down movement of the print head. An improperly seated ribbon defeats this motion, and the result is the characteristic top-edge fraying. In other words, you're using only one-fourth of your ribbon.

If you set up the printer as the manual instructs, there's every chance that you won't seat the ribbon properly, because doing so requires a degree of force and thumb pressure that most people will not instinctively apply to a new \$1,300 printer.

To seat your ribbon properly, you must apply very strong thumb or finger pressure to the extreme end of each of the little arms that extend out from each end of the cartridge. You will feel a very satisfying click when it is properly installed.

A Quick Tuneup

If your ImageWriter printer is more than two years old, it will benefit from a quick tuneup. All you need do is turn off the power, remove the ribbon, and clean the pin mechanism. Here's how:

1. After removing the ribbon, locate the white plastic retaining clip, which is to the right of the printing mechanism. Gently pull the clip to the right so that you can lift the assembly up and out of the carriage.
2. Using a general-purpose cleaner on a cotton swab, carefully clean any ink residue from around the pins. On the underside of the unit is a small cutout that allows lubrication of the pins. You can add a small amount of lubricant

(such as WD-40) here.

3. Gently replace the assembly and the ribbon. You're now ready for another two years of printing.

KEYBOARD

There Are Three Apple Keyboard Options

Mac buyers actually have three keyboard choices from Apple. They are the Standard, Extended and IIGS keyboards. The IIGS keyboard has the same key arrangement as the Standard keyboard but is about 10 to 15 percent smaller. The feel of the keys is also slightly different, and the individual keys are relatively unsculpted and easier to rearrange (if, for example, you want to change it to a Dvorak layout). If your dealer doesn't know what you're talking about, refer to Apple part number 658-4081.

Using The Key Caps DA During Keyboard Failure

If one or more of the keys on your keyboard ceases to function or in the middle of a letter or document and something similar happens to you, simply go to the Key Caps DA. Click the mouse on the inoperative key and that letter, number, or symbol will be shown in the text area at the top of the DA. Simply copy it from there and paste it where needed.

Another option, which works in any program that has a global search and replace feature, is to use a symbol that you ordinarily don't use in place of whatever the keyboard won't produce throughout the document. When you're done, use the Change command under the Search menu to have the program substitute the correct





letter (or whatever) for the symbol. Paste the correct letter from the Key Caps DA straight to the Change To area of the Change dialog.

Cheap Keyboard Protection

If you want a really cheap and easy way to protect your keyboard from dust or coffee spills, try wrapping it in plastic cling wrap. It lasts two to three months, and as long as you don't wrap it too tightly, the keyboard "touch" is the same.

Running A Mac With A Copilot

Did you know that you can run Macs with a real live copilot at your side? Just have your nearest Mac expert bring a second keyboard (and mouse) to your desk and plug it into one of the Apple Desktop bus (ADB) ports on the back of your Mac.

The extra keyboard and mouse turn your Macintosh into a state-of-the-art training system, complete with room for a copilot. Your resident expert can sit beside you and demonstrate various techniques. This gives you the chance to try out the techniques yourself without having to share the keyboard or mouse.

The Keyboard Remembers What You Type

The Macintosh has a very effective keyboard memory buffer. So, when you launch an application, you only have to wait about four seconds before starting to type, even if the application isn't fully set up on the screen yet.

Having Numeric Keypads With The Pre-Mac Plus Keyboards

Here's a simple tip for those of us with pre-Plus keyboards, which don't have

numeric keypads: Use a macro program to redefine the backslash (\) key to be a plus sign (+). This saves a whole lot of shifting in spreadsheets, calculators, and other frequently used programs and basically doesn't cost you anything, since you seldom need to use the backslash key — unless you're running MS-DOS.

Curing Keys With WD-40

There comes a time in the life of every Mac keyboard when one of the keys fails to work. How-to articles describe how to repair the keyboard by breaking out the trusty ol' soldering pencil, tearing the keyboard apart, and replacing the individual key with one purchased from the local Apple dealer. Although this method does an admirable job, you may be uncomfortable doing this kind of minor keyboard surgery. There is an easier method that requires no soldering, based on the assumption that the key is probably suffering from a dirty contact and that the contact can be cleaned with a judicious application of a solvent.

Disconnect the keyboard from the Mac and carefully pry the key cap off the offending key. Now take a can of WD-40 (available at most hardware stores), insert the small straw that comes with the lubricant into the nozzle, and direct as short a spritz of WD-40 as possible at the point where the white key plunger enters the black body of the key.

Work the key plunger several times and then reconnect the keyboard to see if the key works. The first application of WD-40 may not do the trick, but the key should be resurrected by the second or third try.

LASER PRINTERS

Printer Care and Feeding

Three hazards face a sheet of paper (or labels, transparencies, etc.) as it meanders through the Laser Printer's intestines. First, the page makes a U-turn as it travels from the paper bin into the printing mechanism. If the page is a sheet of labels, some stickers may peel off while making the turn and get stuck among the innards of the machine. The solution is to feed the page manually to avoid the U-turn.

Another problem is page thickness. Approximately a 60-pound cardboard (business-card stock) is the thickest stuff that can make it through the printer unscathed.

Finally, there's heat from the fusion rollers at the end of the paper path. It can turn a happy sheet of transparency material into a hard glob of plastic nastiness that's terminally fused to the printing mechanism. Because the lowest temperature of the heat rollers is typically about 150 degrees, you can test a sheet of material by setting an iron to 140 degrees or so and passing it over the sheet a few times. If the iron becomes permanently fastened to the ironing board, well, you have the answer.

Most office-supply stores sell special labels and transparency film for use with plain-paper copiers, which are very similar to laser printers; Avery 5351 labels and Scotch 503 transparency film are commonly used for this purpose.

Feeding Label Sheets

Anyone who has ever fed a sheet of labels into a laser printer has feared that some-

how a label is going to wreak havoc by peeling off its backing and adhering to the innards of the printer.

If you print and remove a single label, the remaining sheet starts to curl at that end, increasing the likelihood that the sheet will jam the next time it's fed into the printer. The solution is to print from the bottom of the sheet, not the leading edge. Most label-printing utilities allow you to specify which label to begin printing so that you can — theoretically — use an entire sheet, one label at a time, starting anywhere on the sheet. Don't use the default setting of the first label on the sheet, but rather switch to the last one at the trailing end of the sheet. That way, even if the sheet starts to curl, the leading edge will remain straight and you'll have fewer problems each time you feed it into the printer.

Printing The Screen

Most 300 dpi printers — laser and inkjet — don't support Command-Shift-4, which sends the contents of the active window to an ImageWriter printer.

Never fear. Your Mac has a built-in print-screen-to-disk command. If you have a black-and-white monitor or color under System 7, Command-Shift-3 will create an editable and printable paint document of the current screen, not just the active window. The document appears on the Startup disk as Screen X, where X represents a number between 0 and 9, inclusive. You can take up to ten screen shots (Screen 0 through Screen 9) before you have to renumber them. Once you've created a document this way, simply open the file with MacPaint (or any program that reads MacPaint files) and print it.





If you have a color Macintosh system with System 6.x or earlier, Command-Shift-3 works only if your monitor is set to black-and-white (use the Monitor's cdev in your Control Panel to do this). System 7.0 will let you create color screen images when you use Command-Shift-3.

An alternative is to use special screen-printing utilities for any non-Image-Writer printer if you want to print the active window directly to the printer. The good news is that there are a lot of alternative screen-dump INITs and Fkeys out there. One example is Nobu Toge's shareware Flash-It INIT/cdev (available from user groups, Zmac or other shareware sources).

Avoiding The Startup Page Using The Paper Tray

One way to stop your LaserWriter from printing a page each time it's started on a temporary basis is to pull the paper tray out an inch or so (the distance isn't critical) when you start the LaserWriter. When the green light stops flashing, indicating the printer is warmed up and ready to go, push the tray back in.

Preprinted Paper And The LaserWriter

Here are some suggestions about using preprinted paper in a LaserWriter, such as paper that is offset-printed or copied on a copying machine.

You shouldn't use paper that has been printed with thermography (raised lettering), because the heat generated by the printer can melt the ink, which can cause problems. Depending on the chemical makeup of the ink, when the paper runs through the printer's fusing process, it tends to melt and can damage the fusing

unit. It is better to be safe than sorry: letterhead or other paper printed with thermography is not recommended with any laser printer.

On the other hand, Apple says you can use most precopied or colored paper in a laser printer. If you're not sure whether you should use a certain paper, Apple recommends that you consider the following characteristics:

Don't use paper with a colored coating that was added after the paper was produced, because the pigments used on the paper might not be able to withstand the 392-degree temperature of the printer's fusing process. (You should also keep in mind that colored paper should be the same quality as regular photocopy paper.)

To avoid problems with offset-printed paper, make sure the inks used are heat-resistant and will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing process. Whoever did the original printing should be able to help you in finding out about this.

Copiers use the same electrophotographic process as a laser printer does, so running copied paper through shouldn't be a problem. Remember, however, that depending on the makeup of the copier's toner and the LaserWriter's cleaning process (which scrapes the paper), you may get toner droppings in the bottom of your printer.

To be safe, Apple says, you should avoid using the following in your printer: glossy paper, heavily textured or embossed paper (laser printing doesn't adhere as well to this kind of paper), carbonless or chemically coated paper, and paper and ink that are not compatible with the heat and pressure of the printer's fusing process.

Using Word 4.0 To Disable The LaserWriter Test Page

While in Microsoft Word 4.0, you can create a document containing the following PostScript code, which when downloaded to the printer will disable the test page:

```
serverdict begin 0 exitserver status-  
dict begin false setdostartpage
```

The important step here is to set the style of the code to PostScript style. To do this, select the text and then type PostScript in the style box in the lower left corner of the ruler (you can either select it with your mouse or press Command-Shift-S).

There are also some shareware and commercial utilities that switch the test page on and off, most notably CE Software's Widgets program. You may want to check out Apple's LaserWriter Reference and Adobe's PostScript Language Reference Manual, which contain other PostScript commands and conditions for manipulating LaserWriter features.

No Toner Is Forever

Keeping important documents around for years or decades can be a little tricky. You should always use pH-neutral paper stock for archival printing and always store the documents in a cool, dry place away from light.

And one more thing: If the documents were printed on a Hewlett-Packard LaserJet, don't store them with vinyl binders or notebooks. Vinyl reacts with the styrene plastic in the toner and breaks it down over time.

A Manual Fix For Envelope Jamming

Envelopes frequently jam when going through a LaserWriter because they are too stiff to bend around the mechanism of the paper path.

The low-tech solution is extraordinarily simple and takes about two seconds. Before printing, break the spine of the envelope. Run the flap edge of the envelope between your thumb and forefinger, bending it at about a 45-degree angle as it passes through. Do this twice, bending once in each direction so that the envelope ends up flat. Avoid paper cuts entirely by folding the flap over backwards.

For an even better pass through the printer, break the stiffness along both long edges. This makes the envelope more flexible and the likelihood of jamming is substantially reduced.

Keeping a LaserWriter Running

You do not necessarily need to turn on a LaserWriter while you are using your Mac until you need it. Then, depending on whether you expect to do more printing, you can either turn it off or leave it on. Turning your printer on and off a few times a day cannot harm anything, and it might even save a bit of energy.

If we're talking more than two or three times a day, you wouldn't want to switch any piece of equipment on and off much more than that. Cycling a power supply (nerdspeak for "switching the thing on") causes a certain amount of stress on any circuit, and if you really go overboard, you can shorten the life of the printer. Admittedly, we're only talking about





taking six months (at the most) off your printer's eight-year life span, but it's something to think about.

Paper Trays For Legal And Letter Size Paper

If you regularly use two kinds of letter size paper in your LaserWriter (for example, letterhead and regular paper), it's a good idea to get a second paper tray to avoid taking paper out and putting the other paper in constantly. However, don't get a legal size tray, on the theory that it would be handy to have both tray sizes. You'll discover your pages print misaligned. That's because the LaserWriter doesn't check to see what kind of paper is in the tray, but, instead, checks to see which size tray is inserted!

Jamming With Envelopes In The LaserWriter II

A simple solution to jamming envelopes in the LaserWriter II is to open the door at the end of the LaserWriter II so the paper path is straight.

MAC CLASSIC, LC AND IISI

Expanding The Single ADB Port

Because the Mac Classic, LC and IISI have only one ADB port, you can't plug in more than one pointing device.

To get around this, replace the coil cable on your keyboard with the cable that comes with Sophisticated Circuit's PowerKey. This cable is an L connector you can plug into the back of your Macintosh (where you would normally plug in the keyboard) that gives you an extra connector for a pointing device.

Plug one end of the connector into the back of the Mac and another into the keyboard. Plug your mouse (or other pointing device) into the other ADB port on the keyboard, and plug your second pointing device into the second connector on the PowerKey cable.

You don't need to buy PowerKey to get the cable: Sophisticated Circuits sells it separately for \$10. You can reach the company at (800)-827-4669.

MAC PLUS

The Vents On The Top Of A Mac Plus

Don't block the vents on the top or the sides the Mac Plus, since it interferes with the circulation of cool air to the inside. Without adequate ventilation, the Mac Plus (and other models as well) may be permanently damaged.

Esc For Old Keyboards

If you need to use an Escape key on the Macintosh Plus keyboards you will have to use a work-around.

An easy solution is to use QuicKeys II. You'll find it useful in almost every application. With QuicKeys, you can create a key set with the alias for the Escape key on a Mac with a newer keyboard and then save the key set and install it on your Plus.

Or, CE Software has created a QuicKeys key set called Control KEYS that contains aliases for keys not available on the Plus keyboard – the Escape key (along with Shift-Esc, Command-Esc, and so on) and Control-A through Control-Z. You'll find a copy in the Zmac library on-line.



Yet another solution is to look into buying a third-party extended keyboard, such as Datadesk's Mac-101. It's an IBM PC/AT-style keyboard complete with Control, Escape, function, and a slew of other keys, thus bypassing the need for clumsy key alternatives in most situations.

A Faster Plus

Adding RAM won't speed up your Mac Plus, but you can add an accelerator to speed up my Mac Plus, except for calculations.

MacUser ("Chasing the IIfx: Accelerators," page 84) August '90, recommended the Gemini Series by Total Systems (\$1,895, without a floating-point coprocessor). Call Total Systems at (800) 874-2288.

When The Calendar And Clock Aren't Working On A Mac Plus

The alarm clock and calendar functions are regulated by the Mac's internal battery. In the Mac Plus, its compartment is located in the upper right side on the back of the machine. After about two years, the battery will give out. Replace it with an Everready 523BP, Ray-O-Vac RPX21, Duracell PX21 or Panasonic PX21, all of which are 4.5 volt batteries. You can find them at an electronics specialty store and through some Mac mail order houses. If the above symptoms are occurring on a Mac other than the Plus, the battery is a lithium battery, which lasts about 7 years and requires a Certified Apple Technician to replace it.

MAC PORTABLE

Turning Off The Power Conservation Feature

Mac Portable users who try to use the machine for automated, time-consuming operations may find it performs far below their expectations. Without user interaction or peripheral communication, the system will slow to a crawl after 15 seconds to conserve power. You can turn off this feature from the Portable Control Panel device (cdev): Hold down the Command and Option keys while clicking on the words "Minutes Until Automatic Sleep" at the top of the cdev window. A dialog will appear with the Don't Rest option, which will keep the Portable on full power until reset.

Using A Screen-saver Program On The Mac Portable

Although the portable has an LCD screen, they are subject to burn-in the way CRTs are. You should use a screen-saver if your Portable spends a lot of time with the same image on its screen.

Avoid The Control Panel

Every time you open the Control Panel, the Mac accesses the startup drive. If you must make changes to the Control Panel settings, do them all at once.

Don't Shut Down

The Portable consumes the same amount of power in the Shut Down and Sleep modes. The only reason to choose Shut Down is if you are going to install an expansion card or attach a device to one of the ports on the back of the computer.



(Apple does recommend that you shut down at least once a month.)

Otherwise, choose Sleep so that all of your applications and documents are instantly available when you issue the wake-up call by touching a key. Aside from this convenience factor, you save the power required to spin up the hard disk and reload files from disk.

Open Files In Batches

The hard and floppy drives are the most power-hungry components of the Macintosh Portable. Both require roughly the same amount of power to spin for any given length of time.

Whenever possible, open simultaneously any of the documents that you plan to use in a session. To do so, use the shift-click method to select more than one document in a folder and choose Open from the File menu or press Command-O. This launches the parent applications and opens the designated documents all in one step.

Create A Startup RAM Disk

Whether you configure memory as a RAM disk or leave it available for applications doesn't affect how much power the Portable uses, so if you have at least 2 megabytes of memory, specify a RAM disk, using the Portable cdev.

Make it large enough to hold the required System files plus any heavily used applications and documents. Click on the RAM-disk icon on the Finder's desktop, and then choose Set Startup from the Special menu. Now instead of spinning the hard disk on startup, the Portable can quickly fetch these files from the very-low power RAM disk.

Although the RAM disk retains its contents even when you choose Shut Down from the Special menu, for peace of mind save any really important files to a diskette every once in a while.

Use A RAM Cache

The General cdev has an option for designating a portion of memory as a RAM cache. Frequently requested data resides in the cache, so if it is asked for again, it can be accessed much more quickly from RAM than if it has to be retrieved from a disk drive. Because the drive needn't be accessed, you won't waste power.

Load Entire Applications Into Memory

Some applications (such as Microsoft Word) let you specify whether the entire application should be loaded into memory when launched. Say yes. Forcing the whole program to load at once means that you avoid unnecessary disk access later on.

Turn Off The Speaker

The higher you set the sound volume, the more power is necessary to drive the speaker. Use the General cdev to lower the volume of the internal speaker as far as it will go. With the speaker thus disabled, the Mac flashes the menu bar whenever a system beep occurs.

Use Any Desktop Pattern You Want

Some people suggest using the General cdev to change the desktop pattern to all white. The assumption is that black pixels are "on" and therefore require more power to display than white pixels. In actuality, the Portable uses an active-matrix LCD (liquid-crystal display)



panel, with each pixel controlled by its own transistor. It requires power only to change the state of a pixel, and even then the amount of power involved is negligible.

Quit Telecom Apps When Not In Use

Open telecommunications applications require the Portable to supply power to the internal modem even if you aren't connected to an on-line service. But if you quit the application, the Portable saves power by turning off the modem.

Force The Hard Drive To Sleep

Normally, after you access the hard drive, you must wait until the amount of time has passed that you specified in the Minutes Until Automatic Sleep in the Portable cdev before it turns itself off. But clicking on Sleep at the bottom of the Battery DA immediately puts the system into sleep mode, thereby shutting off the hard drive. Just press any key (except Caps Lock), and the system wakes up exactly as you left it but the hard drive remains off.

If you get Andrew Welch's shareware INIT called Portable Siesta — putting your Portable to sleep is even easier — just press a user-specified key combination (the default is the Escape key). Portable Siesta is available from Zmac; the shareware fee is \$5.

Don't Save As Often

The Mac Portable is a robust piece of hardware, so you needn't worry too much about losing work in progress. If you have a macro utility that saves to disk automatically at periodic intervals, or if the applications you see have this as an option, disable it.

MACINTOSH II

Using The Latest With The Oldest And Not So Greatest

The original ROMs (Rev. A ROM) in original-issue 1987 Mac IIs won't work with the current crop of Apple video cards. A free ROM upgrade is still available from your Apple dealer if you've somehow managed to go this long without it.

Vertical Or Horizontal?

Whether or not you can safely turn a Mac II on its side, lies with the disk drive. If you're going to verticalize your Mac II, do the following:

1. Perform a low-level format on the drive in the position you will use it in.
2. Don't keep changing the orientation — once vertical, always vertical; once horizontal, always horizontal.
3. Pay careful attention to air flow, especially with the Mac II, IIfx, and IIfx, which aren't designed to sit on their sides. If you want to put one of these models on its side, you'd better get a special stand for it. The IIfx and IIfx, on the other hand, were designed to go either way.

The Upgrade Path To A IIfx

Thinking of upgrading your Mac II to a IIfx at some point? Any monitor, keyboard, or color board that works in the your Mac II will also work in the IIfx. As for RAM, any memory that you have for your Mac II will be utterly useless in the IIfx, because the latter machine uses different (64-pin SIMMS) 80-nanosecond RAM chips that won't fit, much less work, in your II.



MONITOR

Two Or More Monitors, Simultaneously

One of the nicest features of the Mac II series is that you can have as many as six monitors hooked up at the same time (each one requires a separate NuBus card), and you can arrange them any way you like, using the Monitors cdev.

To specify which monitor will show the Startup screen, choose Monitors from the Control Panel and hold down the Option key. When the Happy Mac icon appears, drag it to the monitor you want to specify as the main monitor and then reboot.

Monitor Resolution

Exactly how much information a monitor can display depends on its resolution, which is measured in pixel dimensions and dpi (dots per inch). Pixel dimensions are the height and width of the active screen as measured in pixels (picture elements, or dots); the dpi figure indicates how closely these pixels are packed together.

Most of the monitors have screen resolutions of 72 dpi, the standard set by Apple for a one-to-one (WYSIWYG) match with what appears on paper. A higher dpi yields images that are smaller on-screen than they are on paper; a lower dpi magnifies the display. Higher resolutions can make the screen appear sharper, although text may be almost too small to read; a lower resolution lets you work farther from the screen and is good for presentations.

Monitor Annoyances

There are several factors that can make your life in front of a monitor either pleasant or hellish. One of these so-called nuisance factors is glare. A monitor with good glare protection lets you reduce brightness and preserve focus.

Also, check a monitor for flicker, jitter (image instability), bandwidth problems, screen shrinkage, and noise. Refresh rates above 65 hertz are usually sufficient to eliminate flicker.

MOUSE

Solving Mouse Ball Sticking

To keep your mouse on the ball, check the ball your mouse is on. If your mouse sticks and hesitates, even after a thorough cleaning, it may be the ball that needs replacing. Take it out and examine it closely. If you see any small bumps or irregularities, you've found the culprits. You can get a new ball from your Apple dealer (Apple part number 699-8001 for the Plus or 699-8038 for the ADB) for about \$9.

The Frozen Mouse Syndrome

One of the most irritating software crashes occurs when your mouse becomes paralyzed. The keyboard continues to work, the screen is still functioning (clocks and screen savers work fine), and you can continue to direct the Mac with keyboard commands, but the blinking cursor or arrow controlled by the mouse doesn't move.

There are several possible explanations for this, so let's start at the beginning.

A lot depends on whether or not your Macintosh has ADB (Apple Desktop



Bus) connectors for the mouse and the keyboard. Mouse deaths occur far more frequently on ADB machines, because the mouse is just a single element in a somewhat fragile chain of devices.

There are many ways for the mouse to get lost in the chain. You may have too many devices daisy-chained together; if you have more than three devices connected at once, there might not be enough juice in the bus to keep track of all those mice, trackballs and keyboards. Or perhaps your mouse was disconnected from the bus and reconnected with the Mac still turned on – once an ADB device has been removed from the chain, the Mac usually can't find it when it's plugged in again. Or perhaps one of the ADB connectors on the chain is dirty: You can clean it (carefully) with isopropyl alcohol.

It's also possible that something has broken (most likely the mouse, the ADB connector, or the device it's plugged into). Another possibility is that the program you're running isn't compatible with an INIT or cdev that works with your mouse, such as the Mouse cdev or the cdevs that come with some third-party pointing devices. If you have a third-party device, call the manufacturer and ask if there have been similar complaints.

If you have a Mac that doesn't use ADB (the Mac Plus or earlier), then the list of potential problems is somewhat narrower. Hardware-wise, it might be a dirty mouse connector or a loose connection in the mouse itself. In these cases, all you can really do (short of – shudder – taking the Mac to your dealer for a checkup) is clean the mouse connectors or borrow a pal's mouse and see if it works on your

Mac. Some software can clobber the mouse on the Plus, too. One such error is so common that Greg Dudek wrote a shareware Fkey for Mac Plus owners called Defrost that can (sometimes) bring your mouse back to life after it freezes on-screen.

If mouse-freezing is so common on your Mac that it really cramps your style, take some preventive measures. Install the Easy Access INIT that's part of Apple system software. Once it's installed, press Command-Shift-Clear at anytime and Easy Access turns your numeric keypad into a mouse (the 8 key is up, 2 is down, and so on – the details are in your system software manual). Easy Access works well enough for you to calmly save all your work if the mouse freezes, quit the current application, and politely restart your machine.

One last tip – never plug in or unplug an ADB device without first shutting down your Mac. If you do, the mouse-freezes might occur as a result of a damaged ADB chip. If that's the case, a trip to an Apple dealer for repair is necessary.

Making Your Mouse A Tracing Tool

Here's a low-tech way to transform your bulky mouse into a halfway decent tracing tool.

Let's say you want to draw something moderately difficult such as a map of Jamaica to include in a letter with directions to your estate in Spanish Town.

1. Get a paper clip. (Mac tips don't come much simpler than this.)
2. Bend the clip so that one end comes away from the rest at 90 degrees. Bend that point down 90 degrees.



3. Tape it to the top of your mouse.
4. Use the overhanging end of the paper clip to trace the map from an atlas or a map of a decent size. The mouse will “draw” along. The flatter the surface, the better. It takes a little practice, but it works and enables someone with no artistic flair to do a fairly creditable job.

NETWORK BRIDGES

IBM Token Ring To Ethernet Bridge And AppleTalk Packets

An incompatibility exists between IBM's Model 8209 token-ring to Ethernet bridge and AppleTalk itself. According to Apple, Macs on either side of this media-access control bridge cannot communicate, because IBM's blind bit-pusher doesn't get the difference between TokenTalk and EtherTalk and trashes AppleTalk packets in transit.

POWER SWITCH

Troubleshooting Power-On Problems

Below are some techniques and questions to ask when troubleshooting power switch problems. If your Mac is still under warranty, leave repairs to your dealer, don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with the greatest care.

If pressing the power-on switch intermittently fails to start your Macintosh II, IIfx, or IIfx, read further. The usual problem is a weak battery on the motherboard. On the II, IIfx, and IIfx, there are two 1/2 AA lithium cells located under the drive bay. (One

battery powers the power-on key, and the other powers the clock and PRAM. The IIfx and IIfx's power-on keys are powered by a 5-volt “trickle” line on pin 10 of the power supply.)

To test the cells, press the power-on key and read the batteries' voltage with a digital multimeter (available from Radio Shack or other electronics-supply stores for about \$40). Good cells generally read from 3.2 to 3.7 volts and weak cells read from 2.3 to 3.2 volts. Any cells that fall to less than 2.15 volts are considered dead. Newer Macintoshes have a battery box that lets you simply pop the batteries out to replace them. On older Macintoshes the original batteries are soldered in, but you may be able to find a dealer who can retrofit your board with a removable battery holder.

RAM

Whose RAM Should You Buy?

Are you wondering whether to use genuine Apple SIMMs or if there really is any difference between Apple and third-party SIMMs?

Some feel that third-party SIMMs are better — they're less expensive, and most vendors have a better warranty than Apple's. Apple doesn't make its own — they purchase SIMMs from the open market and from a variety of sources.

There is no technical reason why Apple's DRAM is any better than third-party DRAM. Apple published the specs for the SIMMs, and they're turning up all over the place.

So save yourself a few bucks, and get your RAM from a reputable third-party supplier.



Memory-Upgrade Options

When you want to add more RAM (Random Access Memory) to your Mac, you add SIMMs. A SIMM is a Single In-Line Memory Module, which is a bunch of little chips attached to a small circuit board.

When selecting SIMMs you should consider two factors. The first is how the actual chip attaches to the board. The two methods are surface mount (low profile) and DIP (high profile). You want surface-mounted SIMMs, no matter which Mac model you own, because there's no longer a difference in price between the two (DIP SIMMs used to be somewhat cheaper). DIPs generate more heat, and DIPs are taller, which may interfere with the future installation of an internal hard-disk drive or other peripheral.

The second factor is speed. RAM speed is measured in nanoseconds (nsec), which are billionths of a second. The factory-installed RAM in a stock Plus or SE runs at 150 nsec; the factory-installed RAM in a Mac II, IIx, IICx, or SE/30 runs at 120 nsec; the factory-installed RAM in a IICI runs at 80 nsec; and the Macintosh Portable uses special low-power-consumption SRAM (static RAM). The Mac IIfx requires special G4-pin SIMMs, which run at 80 nsec but are not interchangeable with the SIMMs in the IICI.

SIMMS

Troubleshooting SIMM Problems

You may have a SIMM problem if you see a blinking question-mark icon or hear an error tone on startup.

Immediately after their power button is pressed on, all Macs run an internal diagnostic program. The more RAM you have, the longer it takes. If the Mac passes the test and there's a startup disk on-line, the computer boots to the desktop. Otherwise the blinking question-mark icon is displayed. If you hear an error tone when you start up a Mac II, it can mean SIMM problems.

Test the SIMMs by replacing them with another set. Your SIMMs may be defective, in which case you need to replace them, or they may be too thick or too thin for the socket. It is possible to tighten the contacts on the sockets, but this is a sensitive operation and you need to use extreme care. To tighten the contacts, use a small, delicate tool such as a jeweler's screwdriver to move the contact wires closer together.

SCSI

SCSI Device Setup

Small-computer-system-interface (SCSI; pronounced "scuzzi") devices connect to the Macintosh by way of the SCSI port in the back of every Macintosh from the Mac Plus on up, but they also introduce complications in the way the Mac reads signals—even from an internal hard-disk drive. Some conflicts are serious enough to damage your data or Mac, but most are common and easy to fix. The two most common points of SCSI confusion are addressing and termination.

SCSI devices are connected in a single daisy chain. A single daisy chain should not exceed 18 feet in length and each device must have a unique numeric



address between 0 and 7; the Macintosh is a SCSI device with address 7, and in an SE or II, an Apple-installed internal hard disk in an SE or II has a default SCSI address of 0.

Different devices have their addresses set in different ways – through software, through external DIP switches or simple push-buttons or dials. Addresses must be unique, and two devices with the same SCSI address can cause System crashes or devices not to appear. Choosing certain addresses for each device is also important. When the Mac starts up, it checks to see if there is a disk with a System Folder in the floppy disk drives, then it checks for serially connected hard drives, and finally starts checking the SCSI chain. It looks at SCSI address 0 first and then jumps to address 6 and continues downward, booting off the first system it finds. The physical order in which you connect the SCSI devices doesn't matter – just their SCSI addresses.

Termination is another SCSI principle. A terminator is a resistor that reduces signal echoing along a chain of SCSI devices. It is recommended that only the first and last SCSI device be terminated, for a total of two terminators.

The internal hard disk in an SE or II has an internal terminator, but if you have a Mac Plus or an SE without an internal hard disk, then you need a terminator at both ends of a SCSI chain.

Many SCSI devices (hard disks, scanners) have internal termination, and the easiest way to find out – is to check the documentation or call the manufacturer, and avoid peripherals with unremovable terminators.

If a device does not have internal termination, then an external terminator can be placed into one of the two SCSI ports of the peripheral device, or into the cable before placing the cable on the SCSI port.

SCSI Devices Powered Off

It is possible to have several SCSI devices connected while keeping some of them switched off some of the time, depending on how the device was manufactured. Most SCSI devices shut down the entire SCSI chain unless power is supplied to them. Some devices contain a diode that allows you to turn them off and still use other connected SCSI devices. Unfortunately, such devices are in the minority, and it's not a feature that many manufacturers place high on their priority lists.

The only way to tell whether a device will shut down the SCSI chain when the power is off is to try it. If your device is like most, though, you'll need to keep it turned on when you're using any of your SCSI devices.

STYLEWRITER

Reducing Printing Time

Here's how StyleWriter owners can reduce printing time for large word processing documents. The StyleWriter is definitely no speed demon when used with any computer less powerful than a Mac LC. But if you don't mind if the print quality is slightly less than the best, try this:

Use a bold TrueType font for your text. When the Print dialog box appears, choose the Print Faster option. The document will print in about one-third of the



time, and the output will be almost as good as that of the best printing quality.

SURGE PROTECTORS

What's The Best Kind Of Surge Protector For Your Mac?

Surge protectors are designed to protect electrical equipment — such as your Macintosh — from sudden surges of electricity. You might find one very useful if you've been experiencing power problems.

Surge protector prices range from less than \$30 to more than \$200. The best surge protectors use silicon diodes, which have a reaction time of 5 billionths of a second and a clamp level of 220 volts. This technology apparently is superior to that of the standard MOVs (metal-oxide varistors) in all other surge protectors, which react too slowly and clamp at about 500 volts.

Surge suppressors get hyped a lot. To avoid getting burned, make sure that both the packaging and the product carry the UL (Underwriters Laboratories) 1449 trademark (1449 refers to the UL surge suppressor test). Counterfeit UL trademarks on some surge suppressors usually lack the 1449 designation.

Also, look on the packaging for the designation "UL Listed 1449 Suppression Voltage LN 400/L-G 400/N-G 400," which means that the suppressor clamps at 400 volts when power surges across the line, neutral, and ground wires of the circuit. This is appropriate for Macs and their peripherals. The best UL rating, 330 volts, isn't mandatory.

The response time needs to stay at less than one millisecond, and most — if not all — UL 1449 suppressors are this fast. Buying a faster suppressor is like putting premium fuel into an automobile that's rated for regular.

No surge suppressor works against direct lightning strikes — for that, you need a surge arrester. Your local power company can probably install one on the line leading into your home or office for less than \$300.

THUNDERSCAN

ThunderScan 2.0/4.0 Running Under MultiFinder

Frustrated that neither version 2.0 nor 4.0 of ThunderScan will operate in the background with MultiFinder? Simply launch ResEdit, locate your copy of the ThunderScan software that you want to use for a background scan, and double-click on it to open. Locate the Size resource, double-click on it, then locate the 0 listing in the Size resource. Open this by double-clicking, at which time you should see the words "Can background" with two radio buttons to the side. Click on the 1, and then close the file and save changes. You can now run ThunderScan in the background with MultiFinder. You can also make most programs MultiFinder compatible, if they aren't already, by clicking on the "Juggler Aware" button in the Size resource just above the "Can Background" radio button.

Solving Distortion With Acetate

If you're getting a lot of unwanted distortion from your ThunderScan, and the program even crashes occasionally, try

putting a piece of clear acetate over the item to be scanned.

Focus in the high 50s and great scanned images will reduce possible distortion. Be sure the acetate lines up with the left-hand edge of your document to be scanned. Also clean the lens on your scanner and adjust the height of your scanner cartridge (according to your printer manual) for optimum focusing.

Adjusting Lines In A ThunderScan Image

If you sometimes have trouble with just a few lines of a ThunderScan image, it may be because the scanner is having trouble with the end of the timing tape installed on the left end of the ImageWriter roller.

The easiest way to see if this is your problem is to scan an image at least 3-1/4 inches long that contains a series of vertical lines. Watch the Image window closely as the end of the timing tape passes under the scanner. If you see part of the vertical lines displaced to the left, it is probably because the timing tape doesn't reflect light back to the scanner accurately and the scanner misses its timing for a line or two. The problem is more noticeable if you magnify the image being scanned.

An easy way to fix the problem is to carefully apply some typewriter correction fluid even with the edge of the tape to fill the gap. If you accidentally get correction fluid on the rubber roller, it can be removed with isopropyl alcohol.

VIDEO

Care And Maintenance Of The Screen

Turn the screen intensity down when you're not using the machine. This prevents images from burning into the video tube. If you have a separate monitor, you can turn it off with disrupting your files. Using a program like After Dark or Pyro accomplishes the same thing.

Cleaning The Screen

Do not forget that your Mac screen is extremely susceptible to inadvertent damage. Never use glass cleaner on it or touch it with anything but a very soft cloth. Better still, use a commercial CRT cleaning product designed specifically for use on computer monitors.

VIDEO CARDS

8•24GC Display Card And The 12-inch Monitor

According to Apple, the Mac Display Card 8•24GC and 12-inch RGB monitor work fine together—which is helpful info if, for some reason, you sprang for a \$2,000 card and then got cheap on the display.

Troubleshooting Video Card Problems

You see colored blotches, static, or buzz lines on the monitor display. Find out if the monitor is in trouble. Connect it to another Mac, and see if the problem persists. The monitor may just require Degaussing, which quite often is handled



with a button in the back of the monitor (check the monitor manual).

If the monitor's OK, then the problem is in the video card. (With a IIci and other Mac II series with no external video card, the problem may be the video circuitry on the motherboard). To remove the card, turn the power off, wait at least 20 seconds, and then pull straight up on the card. Component-level repair of a video card costs about \$115.

If you do not have a picture at all, but the monitor is plugged in and the power is on, try straightening the cord connecting the monitor to the video card or Mac (in the case of built-in video). Sometimes the cord needs to be untangled.

HYPERMEDIA

HYPERCARD

Working With The Tools Menu On A 9-inch Classic-style Screen

When you're authoring HyperCard stacks on an 9-inch screen, you don't always have a convenient spot to stash the tools menu. You can hit the Tab key to go from button or field mode to browse mode, but this has the sometimes undesirable side effect of selecting the first unlocked field. The contents of fields can be lost this way. This can be avoided by adding these lines to the Home Stack script:

on tabKey

```
    get the tool
    if it is "button tool" or it is "field tool"
    then
    choose browse tool
    pass tabkey
```

end if
end tabKey

If you have the extended keyboard, you can change tools by using the function keys. Put the group of lines below into the Home Stack script:

```
on functionkey num
    put "browse, button, field,
select" into fKeys
    if num > 4 and num < 8 then
    get "choose" && (item
(num-4) of fKeys) && "tool"
    do it
    else
    pass functionkey
    end if
end functionkey
```

Don't use F1 through F4, since these are reserved for Undo/Cut/ Copy/Paste.

Outlining Hidden Buttons

Pressing the Command and Option keys simultaneously will outline all buttons. However, hidden buttons are only outlined in Button mode — other buttons will be shown in Button and Browse modes.

While in Field mode, you can outline all fields, whether hidden or not, by pressing the Command, Option, and Shift keys simultaneously. This is very useful when learning programming techniques from other stacks. Version 1.2 has a command to show all buttons.

Using Font/DA Juggler To Minimize Disk Space.

To use Font/DA Juggler to minimize the size of HyperCard stacks, first use the fKey/Sound mover, included with Font/DA Juggler, to create the Sound files. Hold down the Option key while opening files to open a HyperCard stack.



Then create new fKey/Sound mover files, and copy the HyperCard sounds to the new files. Font/DA Juggler can open these new Sound files at any time. Up to 12 Sound files can be opened. The only limitation on the number of sounds is disk space. You can switch sets of sounds quickly and easily.

One problem: HyperCard can play only HyperCard sound resources. The Mac II beep sounds that come with Font/DA Juggler cannot be played in HyperCard.

Reports

While using HyperCard-compatible Reports, you can encounter an unusual problem. In the HyperCard script editor, using the Tab key simply realigns the indentation in the script. However, when using Reports' script editor, pressing the Tab key actually inserts a character (probably a tab character) that shows up as white space. When the script is executed, HyperCard cannot interpret the added character and this results in a "can't understand" error. To fix it, you must delete the added character. So don't use the Tab key in HyperCard Reports' script editor.

Printing A Range Of Cards

The HyperCard printing options allow only the printing of the current card or the entire stack. But if you create a button on any card of your stack with the following script, you'll be able to print a range of cards that you specify.

on mouseUp

```
ask "First Card to Print?"  
put It into Start  
ask "Last Card to Print?"  
Put It into Finish
```

```
open printing with dialog  
repeat with counter = start to  
finish  
    print card counter  
end repeat  
close printing  
end mouseUp
```

Opening A Card To The Current Date

If you'd like an Appointment stack that'll always show the current day's card whenever you open the stack, do this: make a copy of the Appointment stack contained in Stack Ideas, create three months' worth of cards, then open the the stack's script via the Stack Info dialog box and enter this script:

```
on openStack  
    if field "date" is the long date  
then  
    exit openStack  
else  
    find the long date  
    push card  
    hide message box  
end openStack
```

The next time you open the stack, the current day's card will be on top. If it's not, see if there's a card with today's date. If there isn't, open the Message box, type extend, and press Return. That should do it. To check this, open the Message box again and enter "find the long date," press Return, and the current day's card should appear.

Adjusting The Find Command

The Find command of HyperCard searches only for the first occurrence of a string in a stack. The Find menu item continues its search for the next occurrence of the



string in the stack after the Return key is pressed.

If you want to prompt the user of your stack with a personal message (not the standard Find of the Message box), and want to continue the search after the first match, use the "Ask" dialog box to enter the string to find. Then "type" it in the message box with the Type command. All this can be done with the message box hidden if the BlindTyping is set to true. Here is an example of a script of a "Find" button:

```
on mouseUp
    go first card
    ask "Find what word or
    group of words?"
    type "find" & quote & it &
    quote & return
end mouseUp
```

If you type "Macintosh" as the string to find, HyperCard will itself type the string "Find Macintosh" in the visible or invisible message box, and will itself depress the Return key to begin the search. The next time you press the Return key, the search will continue, as with the Find menu item. With the command Find It (it = "Macintosh"), only the first occurrence of the string "Macintosh" would have been found, and the Return key as a "continue the search" command would not have worked.

Adding A Phone Hang-Up Script

When dialing numbers from the Address stack that comes with HyperCard, there is no obvious way to hang up once a number is being dialed or has been dialed. You can solve this problem by adding a background button to the address stack that sends a hang-up message to the modem.

The script is:

```
on mouseUp
    send "dial " & quote & quote
    & "with modem " & ~ quote & "+++
    ATHO" & quote to HyperCard
end mouseUp
```

This sends a hang-up message to the modem. If you have the phone off the hook, you will still be connected until you manually hang up.

Dialing With A Prometheus Modem

In HyperCard, using the dialing feature with a Prometheus modem can be a little difficult if the modem doesn't switch from data to voice transmission. Prometheus thinks this is a bug in HyperCard, but not so.

In the Phone Stack that is supplied with HyperCard, open the Stack script. Find the code that reads: then send "dial" & quote & ~ dialNumber & quote ... Change it to read: then send "dial" & quote & ~ dialNumber & ";H" & quote ...

Now the modem will switch to voice transmission immediately after dialing a number.

Expanding The Cursors In HyperCard

If you want to expand the cursors of HyperCard, make the ones you need with ResEdit, and call them from HyperCard by indicating the ID Number. The browse tool and all other HyperCard icons and cursors are in the Font resource of HyperCard, shown as a strange "12 ID 31756."

You may not be able to open a resource with the ID number set so high. You can



change the ID number, temporarily, to a lower number using Get Info from the menu bar. Now you can open the resource, make your changes, then reset the ID number to the the previous value. Be sure to save the changes.

Printing A Card With Better Quality

If you want to print a card from a stack with better quality, especially text, export the card data to a Paint program, and print in the best quality available.

Getting The Name Of A Tool With HyperTalk

If you need HyperCard to select a tool or pattern from the Tool menu or the Patterns menu but you're not sure what it's called, follow this procedure:

1. Tear-off the menu that has the item in question.
2. Select the tool or pattern that you plan to use.
3. Type "get the tool" or "get the pattern" into the Message Box and press Return.
4. Type "it" into the Message Box and press Return.

The Message Box should contain the exact name (or, for patterns, a number) that HyperCard needs to identify that item.

Uninterrupted Keying While Refreshing Settings

Showing the time in a stack is nice, but it becomes a pain in the mouse if the stack is used for keyboard input. At the end of each minute, HyperCard updates the time. If you happen to be typing when the clock strikes, HyperCard abandons the text field to update the Time field. One

way to ensure uninterrupted keying is to have HyperCard only refresh the time when you are not keying. The following lines in your stack script will do just that (assuming a field named "Time" is in the background):

```
on openField
    set lockText of field "Time" to
false
end openField
on mouseLeave
    set lockText of field "Time" to
true
end mouseLeave
on idle
    if lockText of field "Time"
=true then put the time into field
"Time"
end idle
```

Adding The Time In Any Stack

It's easy to show the time in any stack. Start by creating a field in the background called Time. Then add this short script to the existing background script, if any:

```
on idle
    put the time into field "Time"
pass idle
end idle
```

If you want to add this feature to a single card rather than to all the cards of a background, simply create a card field named "Time." The script should now be added to the card script, changing the second line to put the time into card field "Time."

Compacting HyperCard Stacks With Hypertalk

HyperCard stacks can be real memory hogs, especially if you modify them occasionally. The HyperCard manual



suggests you look at the amount of free space in the stack by selecting Stack Info from the Options menu. If there is a lot of free space, you can reclaim it by selecting Compact Stack from the File menu. If you forget to do this, your stack can grow to twice its normal size.

Start by choosing the Authoring level from the home stack. Then go to the desired stack and choose Stack Info from the Options menu. Click on the Script button and add the following script:

```
on closeStack
    if the freeSize of this stack > 0
    then doMenu Compact Stack
end closeStack
```

Another alternative script is the following:

```
on closeStack
    get the freeSize of this stack
    if it > 1024*10 then do-Menu
    Compact Stack
end closeStack
```

This script will automatically compact the stack if you exit it and it has more than 10K (1024 = 1K) of free memory. If there is already a script for this stack just add the new part at the end, and if there is already an “on closeStack” script, just add the two lines before the “end closeStack.”

Changing The Default Font In HyperCard

HyperCard uses the default (application) font to label icons as well as in the message window. It's also used as the default font for the Text tool and new fields. To make HyperCard use your favorite font as its default font, change your application font using any of the several excellent public domain and low-cost shareware

programs that will do this. For example, to set the icon font to Geneva 9 you'll need to make the following changes using FEdit Plus or MacTools.

Change: 6720 3F2D F31E

To: 6720 3F3C 0003

The final 0003 is what sets Geneva.

Using Alphanumeric Keys To Set Polygon Shapes

When using the Polygon tool, it is not necessary to complete each polygon by clicking where you started drawing the polygon. If you are in the Fill mode, you can complete the polygon and fill it by typing any alphanumeric key.

Outline mode acts differently. When you type an alphanumeric key in that mode, the polygon lines stop where you last clicked the mouse. These methods work in MacPaint, also.

Blind Typing Out Of A Jam

The message box is always there, even when it's not visible, so just blind-type your message, such as “open resedit” or “go home.” Don't worry about getting the capitals right, but be sure you put spaces where they belong. Using this technique can get you out of a jam, such as when you use Recent to go to a card which you then discover has no menu or working buttons.

Attaching FONT Resources To Stacks

If you write a stack that includes text fields that use particular fonts, you can ensure that they will appear in your chosen font no matter what fonts other end users have available in their System. Using ResEdit, copy the Font ID



number of the font you want to lock in from the System file. Then paste this ID number into the Font file in the stack you want that font used in. Even if there wasn't a Font file to begin with, pasting in the Font ID will create one.

Now when others open your stack, the fonts included within that stack appear in the text menu in HyperCard, along with the System fonts. You no longer have to worry about your stack using the default fonts and not looking the way you had planned it. Remember that fonts (and snds) take up large amounts of space in a stack.

Seeing All Hidden And Transparent Buttons

It's easy to see where all the buttons are, including hidden and transparent buttons that have been painted over, on a HyperCard card. All you have to do is press the Command and Option keys at the same time. All buttons will be outlined with a dotted line.

Returning To The Finder Instead Of HyperCard

If you want to return to the Finder rather than to HyperCard when quitting applications or documents launched from HyperCard, hold down the Option key while quitting.

Creating A Scrapbook Of Buttons

Often when creating a new stack you'll want to use the same buttons on different cards, with different backgrounds. If you save these buttons in the Scrapbook, you lose all identifying information, and can easily forget which button is which. The solution is to create a "ScrapCard" on which to save these buttons.

First, add a new card at the end of the stack. Paste any button you intend to use again onto this card. Now all you need to do is press Command-4 to get to the ScrapCard (be sure to leave it as the last card in the stack), choose and copy the appropriate button, press Command- to return to the card you were working on, and paste the button in.

Putting HyperCard Into MacroMaker Macros

HyperTalk is a verbose language – and typing commands is often tedious. But thanks to Apple's MacroMaker, typing HyperTalk scripts can be a breeze if you turn the most commonly used words into macros:

1. When MacroMaker's active, its Cassette icon appears on the menu bar. If it's not active, put MacroMaker into your System Folder and restart.
2. Launch HyperCard. Record your macro from any stack, at any card (but not from the scripting window, which won't let you do anything other than enter and edit scripts).
3. Select Start Recording from the MacroMaker menu (the Cassette icon starts flashing).
4. Type in your most frequently used HyperTalk commands, bearing in mind that you won't see what you've typed.
5. After entering each command, select Stop Recording from the MacroMaker menu (the icon stops flashing).
6. Assign a keystroke to the macro you've created—Command-Shift-U for on mouseUp, for example—and store it.

Setting Control-Key Combinations To Set The User Level

An easy way for Mac SE and II owners to switch between user levels is to create Control-key combinations by inserting the following lines into the Home stack:

```
on controlKey x
    if x=49 then set the user Level
to 1
    else if x=50 then set the user
Level to 2
    else if x=51 then set the user
Level to 3
    else if x=52 then set the user
Level to 4
    else if x=53 then set the user
Level to 5
    else pass control Key end
controlKey
end if
end controlKey
```

Now you can press Control and any number from 1 to 5 and be transferred to that user level.

If you've ever wanted to make your HyperCard stacks like real Mac applications with an About . . . command in the Apple menu, copy the following resources (with ResEdit) to your stack from HyperCard itself:

DLOG "About" ID=2002

DITL "About" ID=2002

STR# "About" ID=2002

ICON "Bill" ID=2002

CON "HyperCard" ID=1001

Once you've loaded the resources in your stack by means of the scary magic of ResEdit, you can alter them to your heart's content without actually modify-

ing the originals in HyperCard. To do so, make STR# read whatever you want; move, add, or delete any of the icons; or place your own text inside the DITL. You can even move the DLOG box elsewhere.

Now, when you open your HyperCard stack, the About . . . command will really tell other users what your stack is all about. So if you're tired of the same old HyperCard programming team, add a little spice, delete Bill's lovely face – and put in whatever you want.

Speeding Up The Performance Of HyperCard And SuperCard By Turning Off Color

The speed of HyperCard varies depending on the color setting, but in general you will gain significant speed if you are using a color monitor and the color is turned off completely when you are moving a lot of monochrome images. For HyperCard, as well as SuperCard, if you have 256 colors, you should use either no color or 256 colors (2 colors or 256 colors).

In the Control Panel, the Control Panel Device (cdev) called Monitors lets you adjust the number of colors your monitor shows. If you have 256 colors, your monitor will typically be at 2, 4, 16 or 256 colors.

Loading Fonts Into HyperCard Stacks With The Font/DA Mover

With the Font/DA Mover open to fonts, you can load fonts into HyperCard stacks if you hold down the Option key while clicking on the Open button for the second window. This lets you access and open applications and stacks in the Font/DA Mover window.





Simulating A Toggle Switch

Here's a simple way to simulate a toggle switch in HyperTalk (actually the basic idea can be implemented in any programming language). Each time the program executes the following line, it toggles the variable Switch between 0 and 1. If the value of Switch is 0 (off), it will change to 1 (on) and vice versa.

In HyperTalk the line looks like this:

```
Put (-1 * Switch) + 1 into Switch
```

You'll find this useful because it makes your scripts easier to understand and leaner and it saves typing all the code below:

```
If Switch is 0 then
    Put 1 into Switch
Else
    Put 0 into Switch
End If
```

Moving To The End Of A Scrolling Field

Let's say you have been using a stack that requires switching from card to card and entering text — but always at the end of a scrolling field. The speed of text entry is hampered because when you open a card, you have to scroll to the end of the field and click after the last word before you can type the text.

Here is a short background script that causes the cursor to appear automatically at the end of the scrolling field whenever you switch to another card.

```
on opencard
    select char (the number of
chars in bg fld x) + 1 of bg fld x
    type selection
end opencard
```

If you want to make sure that the cursor always appears below the last line, even if

the last line does not end in a carriage return, make the script read as it appears below:

```
on opencard
    if last char of bg fld x <> return
then
    put return after bg fld x
    end if
    select char (the number of
chars in bg fld x) + 1 of bg fld x
    type selection
end opencard.
```

Truly Hidden Buttons

HyperCard lets you create hidden buttons, but anyone can "peek" at their location by holding down the Command, Shift, and Option keys simultaneously. What if you want to create a hidden button that truly stays hidden?

The answer is to create two hidden buttons. Create the button you want, and then copy it and paste the copy directly on top of the original button. Neither button will be visible when Shift, Option, and Command are pressed, although you'll still be able to see them when the button tool is selected.

Easy Userlevel Settings

If you are tired of typing "set userlevel to 6" and "set userlevel to 2" when developing applications in HyperTalk, add the following into your Home-stack script: `on u x set userlevel to param (1) end u`, Now I just type `u 6` or `u 1` in the message box.

HYPERCARD 1 AND 2

HyperCard 1 And 2 Co-existing On Your Disk

Some HyperCard 1 stacks can't successfully be converted to Version 2. If you've

got some of these, and you need to keep them around, here's an admittedly awkward trick for keeping both versions on your disk.

Using a file-editing utility, change the creator of HyperCard 1 and any Version 1 stacks to something other than WILD.

Once you've done this, double-clicking on a Version 1 stack won't launch HyperCard 2, as is usually the case. In fact, double-clicking will result in an error message. But you can launch the HyperCard 1 application and open your older stacks from inside it. Your new HyperCard 2 stacks and any stacks you've converted will continue to open with Version 2.

Compacting 1.2 Stacks With HyperTalk

Even before you have a chance to convert a 1.2 stack to 2.0 (it's possible to run a 1.2 stack under 2.0 without converting it), you may encounter the script error message "Can't find menu item 'Compact Stack'." What's going on here?

Some stack authors build in routines that compact a stack according to some time interval (say, once a week) or a calculation based on a stack's freeSize property (for example, if the size of the free space is 20 percent larger than the stack size). Compacting a stack rearranges the current stack on the disk, removing any unused space so that it fits into the smallest possible space.

Although compacting regularly is highly recommended, a stack that has not yet been converted to HyperCard 2.0 simply doesn't have the Compact Stack menu item on the File menu. In its place is the Convert Stack menu item. Because compacting is dependent on the data structure

of a stack, HyperCard 2.0 cannot compact a 1.2-generation stack until the stack's data structure has been converted to the 2.0 format. After you've converted the stack to 2.0, the Compact Stack menu item returns and the stack's compact routine should run fine.

Vision Problems

Depending on what kind of Mac you use, the speed of visual effects may differ under HyperCard 2.0. You can set a stack's visual effects to slow, very slow, fast, or very fast. Except for the very fast speed (which works as fast as your Mac's CPU chip does), these speeds have been normalized across all Macs in HyperCard 2.0, so that visual effects will have roughly the same impact when run on a Mac Classic as on a IIci. Because these speeds have been standardized to the slowest common denominator, if you use anything faster than, say, a Macintosh SE, you'll probably notice slower visual effects when the stack is converted to HyperCard 2.0 than you did under version 1.2.

You can speed up these effects so that they're closer to what you're used to. To do this, start by using the searchScript command from the Message Box to let a helpful utility handler in the Home stack find the locations of the Visual Effect command.

Show the Message Box by pressing Command-M. Then type searchScript "visual", and press Return. If any object's script contains this command, the script-editor window will open to display the script. The script editor already knows what text you searched for with searchScript, so you can simply press



Command-G to issue the Find Next command within that script.

The search will find a line that looks something like this: visual effect wipe left (or whatever is being applied to the visual effect). To the end of the line, add fast or very fast, as in “visual effect wipe left fast.” Press Command-G in this script until you hear a beep, which means there are no more visual effects in the script. Press the Enter key to save the script change, and close the script window.

Sound Problems

As for sound, if you’re running System 6.0.7 or later, you must use HyperCard 2.0 to ensure trouble-free sounds when using the Play command.

In addition, existing sound XCMDs (external commands), such as those provided in Farallon’s HyperSound Toolkit, need to be upgraded to work successfully with HyperCard 2.0 (you need to get the upgrade from the company that created the sound). You may get some sound out of the old XCMDs but not consistently.

A note on XCMDs: Most existing XCMDs work in HyperCard 2.0 just fine. The ones that cause the most problems are those that create their own windows or are dependent on HyperCard 1.2 stack data structures. The former need to be redesigned around the new XCMD structure and libraries (both available from Claris); the latter need major overhauls.

Finding Missing Text

Some users have fretted over the apparent disappearance of text in fields after converting a stack to 2.0. To encourage users to keep entries in this field to a

maximum of four characters, the script author might have carefully sized the field so that the rectangular border allowed just a few pixels of white space to the right of the last character.

When a stack is converted to HyperCard 2.0, however, it looks as though the last character of the field has been cut off. The full text is still there – it’s just wrapped to the next line. If you widen the field a couple of pixels, all the characters will return to the first, visible line (for best results, widen these fields after converting the stack). Although some word-wrapping oddities of HyperCard 1.x have been corrected in 2.0 (for example, parentheses and quotes now stay with their associated words), a field still requires several pixels of white space between the last character and the right edge of the field rectangle for the character to be visible on that line.

HYPERCARD 2.X

Crippled HyperCard

Currently Macs come with a version of HyperCard 2.x that appears to be partially disabled. It really isn’t; the Home stack is locked at the second level (Typing).

To access the higher user levels, here is what to do:

1. Launch HyperCard, and go to the last card (Command-4).
2. Make the Message box visible (Command-M).
3. Type “Set the UserLevel to 5”; press Return.
4. Type “Magic”; then press Return.

Your copy should now have all five user levels available.

SUPERCARD 1.5

Using Stand-Alone Files Without The Application

A lot of programs on the Mac market create stand-alone applications or self-extracting archives. Two good examples are SuperCard and Compactor.

If you get a project-only version but do not own SuperCard, it is impossible for you to run it. The same goes for Compactor: If you get a Compactor file but do not have the program, you cannot extract the file's contents.

The obvious answer is just to go out and purchase SuperCard or Compactor, but that's not always a cost-effective or timely solution.

A different approach is to convert the SuperCard project into a SuperCard stand-alone application or to convert a Compactor file into a self-extracting archive.

The following methods requires ResEdit. If you're converting a SuperCard project, it also requires a SuperCard stand-alone application. If you're converting a Compactor file, it also requires a self-extracting archive.

Follow the steps (SuperCard project/Compactor file is referred to as the data file, and the SuperCard stand-alone application/Compactor self-extracting archive as the app file):

1. Run ResEdit.
2. Open the data file.
3. Open the app file.

4. Select and copy all the resources in the app file.

5. Activate the data-file window.

6. Paste the resources in.

7. Close the app file.

8. Save the data file.

9. Issue a Get Info command (Command-I) for the data file.

10. Change its type to APPL.

11. Quit to the Finder.

Now run the SuperCard or the Compactor file, and it will work perfectly.

MULTIMEDIA

MACROMIND DIRECTOR

Drawing Concentric Circles

Some graphics programs, such as MacroMind Director, don't provide a command for drawing concentric circles. Here's a quick and simple approach that works with any graphics program that doesn't include a concentric-circles command.

Open the Paint window. Draw a 45-degree line, using the line tool (you can restrain the line tool to 0 degrees, 45 degrees, or 90 degrees by holding down the Shift key). Choose the Sphere tool. Hold down the Shift key, and place the cross hairs on any point on the line. Draw the circle down or up at the same angle as the line.





Now choose another point further along on the same line, and draw out another circle in the same direction and angle as before. You now have perfect concentric circles.

Aligning Onstage

To align text or graphics onstage in MacroMind Director, create QuickDraw shapes as registration tools and then discard them when the layout is done. Also, use your tool bar or cast window for quick vertical registration.

Joining Endpoints

To make joining the endpoints of an open path easier, Option-select anywhere along the path and then use the Join command. This way, you don't have to go through the trouble of selecting both endpoints of the path.

MUSIC

CONCERTWARE

Keep Instrument Files In The Same Folder As The Player

ConcertWare was designed before the Mac used the HFS filing system, so it might tell you it can't find the Instruments you're using if they're stored in a different folder than the Player file.

DELUXE MUSIC CONSTRUCTION SET

Hooking Older Mac Models Up To Your Stereo

You can get really great sound from older (128K or 512K) Macs when working

with DMCS or other music software. Hook the Mac up to your stereo with a cable that has a mini phone plug on one end and a pair of phono plugs on the other. Put the phono plugs into the equivalent AUX jacks on your stereo, then fit the mini phone plug into the back of the Mac, near the modem port.

When you do this, remember to turn the volume slider all the way down on the Control Panel or else the music will distort. You should also set the External Speaker option on. Then, set the stereo to Mono, turn it on, and make music to your heart's content.

Hard Disks Incompatible With Earlier Versions

Earlier versions of DMCS don't work with hard disks. When you would normally see a prompt to insert your key disk, your hard disk will bomb instead. The only solution is to upgrade.

Don't Modify The Program's System Fonts

Deluxe Music Construction Set uses special musical notation fonts which won't work properly after they've been modified.

Save Only When You Have Enough Room On Your Disk

Make sure you have plenty of room on-disk before saving a file. If the disk is short on memory, the program could destroy your file instead of prompting you to insert a new disk.

PROFESSIONAL COMPOSER

Work-around For Ignored Rehearsal Marks

Use the Print Parts option under the File menu to “consolidate” rests in parts. However, in all parts other than the first, rehearsal marks will be ignored if rests precede AND follow the rehearsal mark. You can fix the problem by inserting a thick barline from the palette at the left side of any measure in which a rehearsal mark is inserted. Any barline at rehearsal marks, other than the standard one, force Professional Composer to break consolidated rests around rehearsal marks in parts where rests precede and follow the mark.

Place Ties And Articulations After Transposing Parts

When working with transposing instruments, make sure to place your articulations and ties AFTER you Transpose Parts. This is because the program won't allow for the fact that note stems often change direction after transposition. Your articulations and ties will often end up on the wrong side of the notes, and redoing all of them can be tedious work.

STUDIO SESSION

Note Entry Shortcut

There's a quick way to enter notes with Studio Session. After putting any note on the staff, hold the mouse button down. Dragging it left or right changes the duration, and dragging up and down changes accidental. After moving one way

back and forth, you'll have to click again to make a different kind of change.

SPREADSHEETS

EXCEL

Working With Several Work Areas

If you have several work areas on the same Excel worksheet (for example, one for expenses, one for income, and one for a summary), you can sometimes run into layout problems when you add columns or rows to one of the areas. To avoid this, stagger the various work areas along an invisible diagonal running through the worksheet. This ensures that adding rows or columns in one area will not affect any of the other areas.

More Than A Megabyte's Wasted

Early versions of Excel (until version 1.5) access only the first megabyte of memory. If you have more than that installed in your Mac and use the program under MultiFinder or System 7, make sure to install it in the first memory slot to give it the lowest possible memory allocation.

Customizing Chart Formats

If you use charts a lot and like to use custom chart formats built from those already available, this tip will make your charting chores more palatable.

You can store libraries of custom chart formats, instead of re-creating a custom format every time you need it. Simply use the Clear command to empty the formulas of a chart with a format you find particularly useful, and use Save As to store it to disk.





To use your custom chart format, copy the data from the worksheet that you want to see in the chart and use Paste Special to paste the formulas into the formatted chart window. You now have the data illustrated in your custom chart format, without spending an hour or so to re-create that custom format.

If you encounter a situation where you can't copy the data directly (a discontinuous selection, for example), select the data you want charted and create a new chart file. Then open your customized chart file. Do a Select Chart on the customized chart file, use the Copy command, and then switch to the new chart file. Use Paste Special to paste the format of your customized chart file onto the new chart file.

Single-Letter Command Selection

You can quickly select commands within most dialog boxes by typing the first letter of a radio button command. That often selects the command without your having to actually click the mouse on the button.

Selecting The Entire Worksheet

You can select an entire worksheet without using the mouse by typing Command-A. This is the equivalent of clicking in the upper left corner of the worksheet.

Show Or Print All Worksheet Formulas

To show or print all the formulas in a worksheet (rather than the data), open a new macro sheet, copy the required cells from the worksheet, and paste them into the macro sheet. If you don't include all related cells, the cell references within the macro sheet may be incorrect or misleading.

Excel Quick-reverse

Fill Right and Fill Down are two of the handiest commands in Microsoft Corp.'s Excel. If you want to duplicate you data in other directions, though, just hold down the Shift key when you select the commands from the Edit menu.

Insert New Row/Column Without Using File Menu

You can select Insert to insert a new row or column without going back to the file menu every time. Hold down Option while clicking on the row or column in which you want to add a new area.

Automatic Dates In Column Heads

There's a way to make Excel automatically fill in the dates at the heads of columns. For example, to fill in months, select the cells you want to fill in with the months (12 in this case). Then, choose Number from the Format menu. Type "mmm" into the dialog box for abbreviated months, or "mmmm" to have the month names spelled out. Then, without deselecting the cells, enter 1 in the first cell and press Enter.

Now go to the data window and choose Series. Then, in the dialog box, select Series in Row, Type Date, Month Date Unit, and increment of 1 without a stopping point.

Finally, go back to the spreadsheet, type 2 in the second cell, and press Enter. The dates should appear in the columns. You can experiment with this method to see how it works for other time increments as well.

You can also use the NOW() function to enter the current date or time into a cell.



Define which part of the information should be displayed by selecting DAY(), HOUR(), MINUTE(), MONTH(), WEEKDAY(), or YEAR(). The formula for entering the current month in a cell would be =MONTH(NOW()).

Displaying/Printing Columns Starting With Zero

Some zip codes have leading zeros (for example, 05091 for Woodstock, Vermont). If you always want Excel to display and print these zeros, select the row/column in question and select Number... from the Format menu. Type in five zeros at the bottom of the dialog, then click OK. The selected area will now allow for zip codes with zeros as their first digits.

Copying A Spreadsheet As A Graphic Image

Excel has a feature that allows you to copy a portion of a spreadsheet as a PICT file, instead of having to copy only the numbers. Select the area of the spreadsheet you want and choose Copy Picture from the Edit menu. (To get this option to appear, hold down Shift before clicking on the Edit menu.) The selection, along with row and column headings, will now be in your Clipboard, where you can transfer it to another program like MacDraw for resizing or "dressing up."

Highlighting Multiple Cells

Highlight a large number of cells by clicking on the top left cell of the range and choosing Go To... from the Formula menu. Then specify the lower right cell of the desired range and press Shift while clicking OK or pressing Return.

Cursor Key Movement

When a group of cells is highlighted, you can't move the cursor outside the selected area if you're using the keyboard to control it. However, you can use the cursor keys to move around within the selected cells. When the cursor hits the bottom or the edges, it will wrap to the other side.

Naming Cells In Columns Easily

If you find yourself entering a column of labels, only to have to manually name each cell in the column just to the right of the labels for use in formulas, here's an easier way: Select the first cell that you want to have the same name as the contents of the label cell to its left. Then use Command-L (or choose Define Name from the Formula menu) and press Return. Excel will automatically assign the contents of the label cell to the left as the selected cell's name.

Centering Tables With Borders

To center a table with a border, increase or decrease the left margin. Check your centering by viewing the page with the Preview option in the Print dialog. The left and right margins will both appear if the table is centered. Only the left margin appears in the reduced view if it is not.

Remove Formulas To Trim Document Space

When entering a formula into a cell, press Enter or Return to confirm the formula. The results will appear in the cell, but the formula is saved with the sheet. Press Command-= instead and the results of the formula will be entered into the spreadsheet, while the actual formula is lost. (If a



new value is entered into a variable cell in the formula, the results won't change.)

Use this method to trim a few K from your saved document when disk space runs tight.

Enter Some Text Strings As Formulas

You might find that entering some text strings into a cell produces odd results. For example, pasting 10A into a cell results in Excel displaying 10:00 A.M. Work around this by entering the text as a formula. Instead of 10A, type = "10A," and the cell will show 10A.

Copying Cell Groups For Page Layout Applications

When copying a group of cells to be used in a page layout application, highlight the cells and then press Command-Shift-3 to copy cells, divider lines, and any other information in the spreadsheet. It will be converted into QuickDraw, so when you paste it into a word processor or desktop publisher, it can be easily resized while retaining its full resolution.

Reopen Macro Sheet To Recompute Macro Functions

You can only use macros from open macro sheets when building your spreadsheet. If you close a macro sheet containing a macro that a cell in your open spreadsheet refers to, the value of the affected cell will change to "#REF!" The way to recompute your functions is to reopen the macro sheet.

Using X-modem To Import Lotus 1-2-3 From MS-DOS Machines

If you import Lotus 1-2-3 worksheets from a PC by modem, use X Modem. If

the terminal program on your Mac has selectable MacBinary, turn it off. If you use X Modem, only 7 of the 8 data bits per byte come through, so the transfer is useless. If MacBinary is used, the first 128 bytes of data will be lost.

Command Key Combinations To Select Page Setup Options

Excel provides command key combinations for almost all the choices in page setup and print dialogs. In both, Command-C or Command-period select Cancel, and Command-O or Return/Enter selects OK.

For The ImageWriter Page Setup Dialog...

Command-U activates "US Letter."

Command-A activates "A4 Letter."

Command-I activates "International Fanfold."

Command-T activates "Tall Adjusted."

Command-5 activates "50% reduction".

Command-N activates "No Gaps Between Pages."

Command-P activates "Print Row and Column Headings."

For The ImageWriter Print Dialog

Command-B activates "Best."

Command-F activates "Faster."

Command-D activates "Draft."

Command-A activates "All".

Command-H activates "Hand Feed."

Command-P marks "Preview."



For The LaserWriter Page Setup Dialog

Command-U activates "US Letter."

Command-A activates "A4 Letter."

Command-B activates "B5 Letter."

Command-F marks "Font Substitution."

Command-S marks "Smoothing."

Command-P marks "Print Row and Column Headings."

For The LaserWriter Print Dialog

Command-A activates "All."

Command-F activates "From...To."

Command-M activates "Manual Feed."

Command-P activates "Paper Cassette."

Command-N activates "No" (for No Cover Page).

Command-L activates "Last Page" (for cover page).

Command-H activates "Help."

Formatting Commands In Headers And Footers

To embed formatting commands or other instructions in the header or footer of an Excel document, insert the commands in the Page Setup dialog box. The keyboard equivalents are:

&L: Align the characters that follow at the left margin

&C: Center the characters that follow

&R: Align the characters that follow at the right margin

&P: Print the page number

&D: Print the current date

&T: Print the current time

&F: Print the document name

&B: Print the left, center or right side of the header or footer in boldface

&I: Print the left, center or right side of the header or footer in italics

&&: Print a single ampersand

Extra-Long Text In Headers Or Footers

You can enter header or footer text that's longer than the box can display. If you need to edit this text later, view it by placing the cursor in the visible text near the rightmost end of the entry box and then dragging off the end. The text will scroll to the left and the extra text, already highlighted, will appear.

"Can't Save" Message

When the Mac boots, the System sets the maximum number of saved files a document may have open at once. The number is generally 32, although it varies slightly from System to System. The error message means that the System won't let Excel open any more saved files or save any previously unsaved files. You can still create additional new documents in Excel, but you can't save them until you close some of the currently open saved files.

Error Message "Extract Range is not valid"

When using Excel's database, selecting a range of cells containing field names and choosing Extract from the Data menu may generate an error message "Extract Range is not valid."

The names selected as the extract fields must exactly match the field names in the database. The names are case-sensitive and



can't have any leading or trailing spaces, and the extract range can't have any blank cells in it.

The best way to make sure the titles in your extract range match exactly the titles from your database is to copy the titles from your database directly to your extract range. Any number or date field names in the database can't be used in the extract range. If you're still encountering problems after making sure the names match, try extracting each field independently to see which one is causing the alert.

Loading A Work Space By Default

To load a work space by default when opening Excel, save your worksheet, chart, macro sheet, or work space into a file, label it Excel Startup, and place it in your system Folder. Excel then automatically opens that file whenever the application is started.

Inserting Cells Without The Dialog Box

To insert cells without bringing up a dialog box that asks whether you want to shift cells up or to the right, do the following:

Hold down the Option key, and select the range you want to insert. Excel will insert the range according to the default setting in the dialog box.

Line Up Numbers With Mixed Formats

You can line up the numbers exactly when using both the regular-number format and the dollar format in the same column. Select the cells with the regular-number format and choosing Number on the Format menu. Then select the dollar for-

mat, and delete the dollar signs in the Format Number dialog box.

Using The SUM Function To Add Up Time

How can you use the SUM function to add up individual times of less than 24 hours when the sum of the times exceeds Excel's clock limit of 24 hours? This is a frequently encountered problem for many Excel users, and the solution is a simple formula.

Say you want to add three triathlon times, 14:10:00, 16:15:00, and 13:23:00 and get an answer in hours and minutes. (14: 10:00 is 14 hours, 10 minutes and 0 seconds.) Type the times into cells A1:A3.

Enter the following formula in cell A4 in General format to sum the times in hh.mm.ss format:

```
=INT(SUM(HOUR(A1:A3))
      +SUM(MINUTE(A1:A3))/60)
+(MOD(SUM(HOUR(A1:A3))
      =SUM(MINUTE(A1:A3))/
60,1)*.6)+MOD(SUM(MINUTE
      (A1:A3)),60)/100
```

In this case, the range is A1:A3 (the cells in which you entered the times) but you could substitute a different range for your own spreadsheet.

To enter the formula as an array, press Command-Enter after typing in the formula. The formula should give you a total of 43:48 (43 hours, 48 minutes).

Inserting Lines Into A Chart Label

To insert more than one line of text into a chart label, go to the formula bar, press Command-Return. This creates a larger

space in which you can type multiple lines of text.

Rearranging Linked Data

When you link worksheets in Excel, you can rearrange the data on the supporting worksheet without affecting the link.

Let's say you have a total in cell C5 of Worksheet1 (W1) that is linked to cell D7 in Worksheet2 (W2), using the formula =Worksheet1!\$C\$5. If you insert a row into W 1, which pushes your total down to C6, the value in D7 of your second worksheet changes, because it's still linked to cell C5. You can adjust for rearrangements by using a name instead of a cell reference. For this example, select C5 in W1. Choose Define Name from the Formula menu, type in a name such as Total, and click on OK.

On W2, change your link to read:
=Worksheet1!Total.

Now if you cut and paste the value in C5 to some other area of W1 or insert rows that push C5 down, the name will follow the original value in C5 wherever it goes and the link will be properly maintained. Note: This won't work if you sort the rows into a new order.

Bringing A Color Excel Chart Into Word

Select Print Using Color in the Excel Print dialog box (you have to Click on OK and then press Command-period to stop the print job). Then when you copy the color chart (by clicking on the outer edge of the chart window and choosing Copy) and Paste Link it into Word, the chart appears in color in Word and is updated in color.

Copy Picture in the Shift-Edit menu in Excel also lets you bring a color chart into Word, but it lets you update the chart only in black-and-white.

Displaying Formulas

You can display, in a cell, the formula that produced a value. Command-tilde (~) lets you toggle between showing a formula and displaying a value in a cell.

Deleting Formulas While Maintaining Values

To delete formulas in selected cells on a spreadsheet while maintaining the values, select and copy the cells. With the same cells selected, choose Paste Special from the Edit menu and select Values from the resulting dialog box.

Creating An x-y Chart?

You can plot an x-y chart for one or more series of y data by using the Scatter format from the Gallery menu. If your data is in columns, enter the y data into the columns directly to the right of the x data on your worksheet. If your data is in rows, enter the y data into the rows directly below the x data on your worksheet.

Next, select the data you want to plot, including column headings if you want to plot them as well. Copy the data to the Clipboard. Open a new chart: choose New from the File menu, and select Chart. Click on OK, and a blank chart will appear on your screen.

Choose Paste Special from the Edit menu. If your data is in columns (or rows), choose Values in Columns (or Rows) and Categories in First Column (or Row). If you have also copied column (or row) headings for inclusion in the chart, click on Series Names in First Column (or Row).





Click on OK, and the data will be plotted in a bar chart. Select Scatter from the Gallery menu, and the data will be plotted as an x-y chart.

Linking Data With Word 4.0 For Auto-Update

Do you want to link Excel data and charts into a Word 4.0 document so that the Word document can be automatically updated when you change your data or charts in Excel?

Select and copy the Excel information that you want in your Word document. Quit Excel, and then open your Word document. Position the cursor where you want to paste the information, and choose Paste Link from the Edit menu.

To update this information in Word after you've changed it in Excel, select the data in Word along with the identifier paragraph preceding the data. You can update everything you earlier copied from Excel or select specific rows or columns. Choose Update Link from the Edit menu. Word starts up Excel (if necessary), opens your spreadsheet, copies the updated information, and then transfers it to your Word document. If Word can't find the Excel program or file it's supposed to be linked to, it displays a dialog box and asks you to locate the program.

Avoiding Update Prompts

When opening an Excel file, it can be annoying to get an alert dialog box that tells you to update references to unopened documents. This is especially annoying when hidden macro sheets are associated with the "workspace."

Here's how to avoid this unwanted prompt. Files are opened in alphabetical

order as specified in the saved workspace. To make your macro sheets open before the worksheets that reference them (thus avoiding the prompt), simply add a zero at the beginning of each macro-sheet name. This technique also works for combinations of worksheets and charts that are opened by a single document.

Hiding Sensitive Data From View

Using the Cell Protection command only hides formulas from being viewed. To really protect sensitive information, eliminate the column containing the data from view. Select all of the columns you want to hide, choose Column Width from the Format menu, and set the width to zero. Although hidden, the values will still be used in computations.

Now, protect the document with a password. No one will be able to view the hidden data without knowing your password and unprotecting your document.

Protecting Sensitive Information While Working On It

To protect documents from prying eyes while you're working, open a new document before opening the confidential one. Then use the new document's size box to make it as small as possible, and move it to the bottom of the page, so low that only its title bar shows. Finally, open the confidential document.

If you're intruded upon while working, double-click the new document's title bar and it will instantly cover your private information.

Manipulating The Insertion Bar With Arrow Keys

Editing the Excel Formula Bar with the mouse can be a test of dexterity. It might

actually be impossible for a physically impaired user.

The Microsoft manual does not mention that the insertion bar can be manipulated with arrow keys. The trick is to activate the Formula Bar first with Command-U instead of with the mouse. Once activated from the keyboard, the left and right arrows will then move the insertion point one character. With the Command prefix, the left/right arrows move one field per stroke. This field can be a word, a space, a symbol, or a cell reference, for example. With the Shift prefix, the region through which the bar moves is extended and highlighted in the usual way.

EXCEL 1.5

Quickly Returning To Where You Left Off

When you're using several worksheets, charts and macros simultaneously, quitting the application and later returning to where you left off can be painful – you have to open every worksheet, macro, and chart separately.

However, Excel lets you return to where you left off with the Resume Excel icon, which is created after quitting Excel. It works only if you haven't tried to use Excel with another worksheet.

If you want to save a configuration, drag the Resume Excel icon out of your System folder and rename it. Resume Excel remembers all the windows last opened, their positions, and the locations of all files.

This also works in earlier versions of Excel, where the Resume Excel icon appears in the folder that was open when you launched the application.

EXCEL 2.2

The Thick Border Trick

Have you ever wondered how Microsoft does it in its ads – gets those nice thick rules in a spreadsheet? There's nothing in the manual about how to do this. You can't specify border thickness anywhere in the program. Here's the trick:

1. Select just the cells around which you want thick rules. Don't select an entire row. Use the Border command on the Format menu to add top and bottom borders in those cells.
2. Now select the entire rows that contain the bordered cells by Shift-clicking on the row numbers or dragging through the numbers of the desired rows.
3. Select Row Height from the Format menu, and specify 1.

You can also make gray lines by not bordering the cells first. The result will look like gray bands on the screen but will not print out unless you decide to print all the worksheet's grid lines.

Using Excel To Simplify Word's Mail-Merge

If you are left intimidated by Word 4.0's mail-merge features, Excel can simplify the mail-merge process for you and provide a simple flat-file database as well.

Here's how to set things up:

1. Create an Excel address database. You can sort, print, edit, or search it. Make sure you save a version in the CSV (Comma Separated Values) text format so Word will be able to access it.



2. Set up a Word “main document” (see the Word 4.0 manual) – not a difficult process. The first line contains the DATA statement followed by the name of the “data document,” or address database. Text prints as usual. Field names are enclosed in double angle brackets (Option-[, Shift-Option-]).

3. Now here’s the good part. See all those field names? They’re common to both the Excel address database and the Word main document (the form letter). Just make sure the name you use in the Word form letter is the same as the name you’ve given the Excel file saved in the CSV text format.

To print form letters, open your main document in Word, select Print Merge, and choose which records (the row numbers in your Excel address database that contain the names and addresses you want) to print. Click on the Print button, and you’re finished.

EXCEL 3.0

Aligning Number Formats

It’s possible to modify noncurrency number formats in Excel 3.0 so that they align properly with currency formats by using the Format Number command.

In previous versions of Excel, the numbers in noncurrency cells didn’t line up properly with cash or currency numbers in columns. This was because positive numbers formatted as currency included a space the width of a right parenthesis so that they aligned with negative currency amounts, which are always enclosed in parentheses.

In order to avoid this problem in Excel 3.0, select the noncurrency number cells, and choose Number from the Format menu. After the number format, which appears in the Format box, type an underline character and a right parenthesis: _).

When you press Return, the noncurrency and currency numbers should align properly. Note: This tip does not work with the General number format.

Microsoft Excel Has A Special Look That Says System 7

To make System 7 users feel extra special, Microsoft gave Excel 3.0’s Toolbar and outlines a 3-D, Excel-for-Windows-style appearance when run under System 7. But System 6 users don’t have to miss out on the fun. Just hold down Shift-3-D when you start up Excel 3.0 and you, too, can have puffy buttons in your spreadsheet.

FULL IMPACT 2.0

Under System 7.0, Full Impact Just Won’t Quit

Early adopters of System 7.0 would be wise to pay heed to Apple’s Compatibility Checker stack before booting up their favorite applications.

When Ashton-Tate Corp.’s Full Impact 2.0 is run under System 7.0, the Quit command disappears from the File menu and the Command-Q keyboard equivalent doesn’t work. To exit without shutting down the Mac entirely, you need to create a macro that includes the instruction to quit.

Late (but not final) versions of the Compatibility Checker also contained an incorrect phone number for the



company. Ashton-Tate's upgrade hotline is (800) 227-4866.

MULTIPLAN

Quick Column Additions

Quickly add a new column to a spreadsheet by holding down Shift while clicking in the head of the column directly to the right of the position you want to insert the row at.

Copying Rows and Columns Into A Word Processor

It's easy to copy the rows and columns of your spreadsheet into a word processor. Just select all the cells in the spreadsheet and Copy them to the Clipboard. Then, launch your word processor, making sure its tab settings correspond to the spreadsheet's column widths. Then, Paste in the data from the Clipboard.

Sorting A Series Of Rows

To sort a series of rows, select all the filled-in cells in the column containing the "field" you want to sort on. Then choose the Sort... command. In the dialog box, click your sorting choice in ascending or descending order. The information in columns other than the one you sorted on will be rearranged to reflect the sorted column.

Extra-Long Header Or Footer Text

You can create a header or footer that's longer than the box can display. To edit or view this text, place the cursor in the visible text near the right-most corner of the entry box and drag off its end. The text will scroll to the left and the "hidden" text appears, highlighted and ready for editing.

Recalculating New Values Or Formula Entries

If you're having a problem because new value or formula entries aren't recalculated into the rest of your cells until the document is saved, you must have turned off the Automatic Calculation feature. You can either just use Calculate Now from the Calculate menu (also accessed with Command-=) or you can reactivate Automatic Calculation from the Calculate menu.

Rounding Off Half-Pennies

If your spreadsheet contains dollar figures with decimal places less than a penny, Multiplan executes the calculations exactly, using those values. You can choose the Round function to round the figures off to two decimal places before calculation, if you don't need such exacting figures.

Fixed Numbers Act Like Text

If you display a number with the Fixed function, it will act like text and can be treated as such for concatenation.

Use Forced Page Breaks When Printing Large Sheets

When you're printing large sheets of Multiplan documents, it's easier to use forced page breaks. These break up the spreadsheet into printable units. Then select pages from the Print dialog box.

This may sound cumbersome, but it's a lot easier than constantly selecting areas to print from a large spreadsheet.

Squeezing More Data On A Page

You can squeeze a little more data on a page by choosing a page size in the Page Setup menu that's larger than the actual size of the paper you're using.



Another way of getting more data on the page is to select the Page Setup option and set all page margins to 0.

Tall Adjusted Print Option Looks Good, Takes Longer

The Tall Adjusted printout is much darker and more legible than the printout you get using just the Tall setting. However, Tall Adjusted pages take almost twice as long to print.

Simulating Freeze Titles Option On Printout

You can simulate the Freeze Titles screen option on your printouts if you want to. Copy and paste an extra titles column at the leftmost side of each page, then obscure the column from view by dragging from its right, over the dotted lines. You won't see it on-screen, but the printer will produce the titles column in its proper position.

You Can Print More Columns Than You Think

Multiplan can print columns up to 128 characters wide with the orientation printing option, even though you can't enter numbers over 99 in the Column Width dialog box.

First, open the spreadsheet and Show Values. Then, use Column Widths to set the column width to exactly half of the width you want for the printout. Finally, select Show Formulas, and the column width will double to what you want.

If you choose Column Width again, you'll get an "Invalid Column Width" message, but this won't affect any printing or operations.

Highlighting Sections With A Graphics Program

It's not possible to highlight particular sections of a Multiplan sheet. However, pasting the documents into a graphics program like MacDraw lets you add tints to highlight headings and important totals.

Showing Cells That Need Alteration

Use the Protect Document and Remove Cell Protection options together to set up a model in which cells that might require alteration show up as highlighted and unprotected. Then, to make changes, you can move instantly between these unprotected cells by using the Enter key. A plus is that row and column lines are suppressed on a protected sheet, making them cleaner looking and easier to read.

An Easy Way To Unprotect Protected Spreadsheets

To recover protected spreadsheets, all you have to do is open the protected document and Save As. Pick a new file name, Save, Close, and then open the Saved copy and get to work. Protection doesn't transfer to new copies of old documents.

Putting Titles At The Top Of Lists After Sorting

If you compile lists and want the title at the top after the sorting, type a space before the title. This space has a lower ASCII code than any other single character.



WINGZ

Using HyperScript To Add Hide And Show Commands

You can use HyperScript to easily add Hide and Show commands to the Sheet menu.

First, select New Script from the Script menu, and then type the following script

```
select menu "sheet"
add menu separator
add menuitem "Hide" command
"repaint off
hide sheet hide tool box hide entry
bar
select report border no line border
repaint on
repaint window"
add menuitem "Show" command
"repaint off
show sheet show tool box show
entry bar
select report border single line
border
repaint on
repaint window"
```

The Repaint Off command in this script stops Wingz from redrawing the screen after hiding each element, which would slow down the script. The No Line Border command hides the border that Wingz normally draws around every printed sheet.

Improved Date Formats

Wingz's five date formats all use hyphens, but you may prefer Excel's compact m/d/yy format. This script replaces the fourth date format (mm-dd-yy) with m/d/yy. The fourth format was chosen for modification because Wingz uses it by

default for entering a date into a cell, but you can change the script to substitute this new format for any of the five Wingz formats:

```
select menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"
```

The new date format is not stored with spreadsheets – to use it, the script must be executed each time you start the Wingz program, making it a good candidate for placement in your Startup script.

Restoring Row Height And Column Width

Wingz lets you adjust the height of rows, but this ability is a mixed blessing. Rows are narrow, and it's easy to accidentally change the height of a row when all you actually meant to do was select it. Once it's been changed, there is no simple way to restore a row to its original height. This script does exactly that – all selected rows are reset to their default height: row height 240.

The 240 measurement is in TWIPs, Wingz's standard unit of measure. One TWIP is 1/20 point, so 240 is 12 points, the standard row height. A similar script restores default column widths: column width 1480.

Setting Row Height And Column Width

This script allows you to set the height of all selected rows by simply entering the desired height, in points, into a dialog box:

```
row height value(dg:dgask ("Enter
height in points," round (rowheight
()/ 20, 0), 5)) * 20
```





The dialog box initially displays the height of the first row in the selection. The `dg:dgask` function, which ships with Wingz, displays a dialog box with a message and a text field in which the user can enter a response.

It takes three arguments: the message string, the initial value to display in the response field, and that field's desired size in characters. The multiplication and division by 20 handle the conversion of values between points and TWIPs.

A similar script lets you set the width of all selected columns:

column width value (`dg:dgask` ("Enter width in points," round (columnwidth () / 20, 0), 5)) * 20

Time Made Simple

Wingz is not smart when it comes to accepting time values. For instance, if you enter 10:35 or 12:30 pm into a cell, Wingz does not understand that you are entering a time – it interprets the entry as ordinary text.

This script converts the text in the active cell to a genuine time value and then formats the cell to use the HR:MN AM format:

**put timevalue (cell () into
range (makecell (col (), row ()))
format time 2**

A Goodies Menu

Wingz features a HyperScript programming language, which lets you easily create custom features and menus. You don't have to be a programmer to use the following scripts. To enter a script into Wingz, select New Script from the Script menu; type the text of the script; and then

Save it, using whatever name you like. To run the script, select Run Script from the Script menu and open the file containing your script. If you create a script named Startup and put it into the same folder as Wingz, it will be executed automatically each time Wingz is launched.

This script combines several previously mentioned scripts and includes an additional script for selecting the last cell in a spreadsheet. Directly out of the box, Wingz won't let you select the last cell – this script defines the last cell. The Startup script provides the new date format and then creates a Goodies menu that has an entry for every one of the remaining commands. Be especially careful to type the script exactly as it is shown here: quotation marks in the scripts appear doubled when they are embedded as menu commands in the Startup script. Name this script Startup and put it into the same folder as Wingz; that way, you'll get the Goodies menu automatically each time you launch Wingz.

{set 4th date format (the default date format) to m/d/yy}

**select
menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"**

{create Goodies Menu}

**add menu "Goodies" with 6 items
{restore selected rows to default height}
add menuitem "Fix Row Height" command "row height 240"
{set row height in points}
add menuitem "Set Row Height..."
command "row height value (dg:dgask ("Enter height in points", round**



```
(rowheight (/ 20, 0)) * 20"
{restore selected columns to default
width}
add menuitem "Fix Column Width"
command "column width 1480"
{set column width in points}
add menuitem "Set Column Width..."
command "column width value
(dg:dgask ("Enter width in points",
round (columnwidth (/ 20, 0)) * 20"
{convert current cell's text represent-
ing time to time value}

add menuitem "Fix Time" command
"put timevalue (cell () into rnage
(makecell (col (), row ())) format time 2"
{select last cell in spreadsheet}
add menuitem "Select Last Cell"
command
"define sel, lastrow, lastcol
repaint off
select Active Cells
sel = selection(1)
lastrow = rowof(sel) + rows(sel) - 1
lastcol = colof(sel) + cols(sel) - 1
select range range (makecell(lastcol,
lastrow))
repaint on
repaint window"
```

WORKS

Taking Advantage Of The Draw Module

The Draw module is a hidden treasure that you can use only in conjunction with the word-processing or spreadsheet program of Microsoft Works. You can use it to dress up documents or as a graphics program. Objects and text created in the Draw module exist in a separate layer from the word-processing or spreadsheet information – similar to an acetate overlay – so you can read underlying text through a graphic if you choose.

The module lacks a vertical ruler and precise sizing tools – serious omissions, but you can precisely position objects in two ways: A snap-to-grid system lets you specify grid increments down to 1/36 inch or 1/14 centimeter, and the keyboard arrow keys and the directional arrows in the tool palette let you move objects one pixel at a time.

Spreading Text With The Draw Module

Works' Draw module has some exotic features. It can make text follow and spread evenly along an arc or diagonal line. You can also use this technique to adjust letter spacing.

Cut or copy your chosen text to the Clipboard, and draw an arc or line in the Draw module. Make it invisible by selecting White or No Line on the Line Pattern menu, and then select the Spread Text command on the Format menu. Each letter becomes a separate Draw object that you can move or size independently. If you group the letters, using the Group Picture command on the Format menu, you can stretch or distort them.

Desktop Publishing

Yes, you can create multiple-column newsletter pages and fliers with Works. To create columns, select the Text tool from the palette and hold down the Option key while you draw text frames, just as you would in a desktop publishing application. To link columns, hold down the Option key and, with the pointer, click on the columns in the order you want. Headings above each column indicate the name or number of the current column and the column it is linked to. You can edit these headings manually with the Text tool.



Once you've created the columns, typed or pasted text flows from column to column. This doesn't work as smoothly as it does in conventional DTP applications – you must deselect a column before text reflow occurs – but for occasional use, Works is a competent desktop publishing application.

Better-Looking Charts

Works is at its best when you use two or more modules together. You can't edit a Works chart in its own window, but if you paste it into a spreadsheet, you can edit it by using standard draw techniques.

To improve a chart's appearance, use the Ungroup Picture command on the Format menu. This breaks the chart into individual Draw objects. You can then pull a wedge out of a pie chart, change the fill or line patterns, add additional text labels, circle important information, or draw lines with arrowheads.

Make Works Desktop

The Make Works Desktop commands on the File menu creates a file (its icon looks like a desk) that remembers groups of Works documents: open the file, and you automatically open the whole group. You can use this feature to file any kind of linked documents, such as letters or mailing labels.

Creating a Works Desktop file is simple: Choose the Make Works Desktop command on the File menu while the files you want to include are open, and then name the new file.

How can you put this feature to practical use? Try creating a check-writing module with the Make Works Desktop command. You'll need three Works files:

A database that contains all the information that will appear on the check, another database containing a list of companies to whom you write checks regularly (including the check amount, in some cases), and a word-processor document that prints the checks by merging the data from the check-register file. Name this Works Desktop file Banking; double-clicking on it gives you instant access to the three files you need to write checks.

Moving A Selected Range Of Cells In The Spreadsheet

While in the spreadsheet, you can quickly move a selected range of cells by holding down Command-Option while clicking in an empty cell. The cell that you click in will become the upper left cell of the moved range.

Date and Time Shortcuts

Works provides a shortcut – Command-D – for entering the current day's date into a date field in a database. For time fields, Command-T has an analogous effect.

Alternatively, you can enter a date in the current year by typing month/date (12/22, for example), and Works automatically adds the year. This shortcut works even if you want to display the date in medium or long format; Works will display the date in your chosen format.

Presentation Spreadsheets

Like a high-end spreadsheet program, Works lets you insert charts within a spreadsheet. Starting with a chart window on-screen, select the Copy command, switch to the spreadsheet window, and paste in your chart.

Works lets you ungroup your charts after you've drawn them. Select Ungroup

Picture on the Format menu, and you can adjust the placement of bars, legends, titles, and so on.

Spreadsheet Cell Notes

Cell notes are like Post-it notes that you can attach to individual cells. Use them for comments about the calculation for the cell or instructions about what to enter. This information, although useful, is unnecessary in the main display.

To create a cell note, select the cell you want, select the Open Cell Note command in the Edit menu, and type your message in the cell-note window. The notes are saved with the document, and a mark appears in the upper right corner of any cell that has an associated note.

Telecommunications Sessions

Many communications applications forget text that has scrolled beyond the top edge of the window. To review a session later, you must save the screen text to a disk file. This approach has two disadvantages: The file can't be read while the communications session is in progress, and you need a separate word processor or text editor to read the file. But what if you just want to reread information from three screens back?

During a session, Works can remember up to 100 previous screens (the more screens you select, the more memory you need).

Works also permits up to 14 windows to be open simultaneously and supports background communications, uploading, and downloading. You can save text from the screen into a new document, and you can also paste text you want to transmit into the communications window.

Using A Word Processor To Change Fonts

Although the spreadsheet has no font changing capabilities, you can move a block of cells from a spreadsheet to a word processing document via the Clipboard, and then change the font, sizes or styles in the new word processing document. The only problem with this is that you lose the display grid, if you had one. Works' drawing functions allow you to easily reintroduce one.

Sorting Columns

The program's spreadsheet can sort rows, but there is no direct way to sort columns. A column sort can be performed by selecting and copying the range of columns you want to sort. Then paste this selection into a new spreadsheet using Paste With Options instead of the standard Paste. Choose both Formulas And Values and Transpose, and click OK. Then reselect the range (it's now in a row) and use the Sort command from the Edit menu. Once the sort is completed, cut the data and then paste it back into the original range, using the Paste With Options command and both Formulas And Values and Transpose options selected.

Microscrolling

When horizontally scrolling, your view usually shifts a fixed length. Scrolling in the word processor happens one inch at a time, while scrolling in the data base or spreadsheet moves you one column.

Hold down Shift while scrolling to microscroll, allowing you to position all or parts of a window more exactly.



Hanging Up Fast In Telecommunications Mode

While in the communications mode, you can quickly hang up the phone or modem by typing **Command- =**.

Pasting In Data Without Field Names

If you have cut or copied information from the database, hold down **Option** while pasting it into a word processor to avoid pasting in the field names along with the data.

Saving Files With Return At End Of Each Line

Hold down **Option** while saving a word processor file as text (Export File) to save the file with **Return** characters at the end of each line. This will come in handy when transmitting text files.

Bringing The Bottom-most Window To The Front

When working with multiple documents, type **Command-comma** to bring the bottom-most window to the front. Use this to quickly switch between different documents you're currently working on.

Entering Page Breaks From The Keyboard

Enter a page break without having to go to the **Format** menu by hitting **Shift-Enter** while you're typing. The page break will be entered at that point.

Quickly Accessing Graph Specifications Dialog

Double-click in a chart window to quickly bring up the graph specifications dialog box, which allows you to change the graph.

WORKS 2.0A

Going From Works 1.1 To 2.0a

If you would like to transfer all information from Microsoft Works version 1.1 to version 2.0a, it's simple. First launch version 2.0a. Now use the **Open** command on the **File** menu to open any file you created with version 1.1. Once the file is open, select **Save** from the **File** menu. That's it. The file is now in Works 2.0a format.

Rounding Off Numbers

The Microsoft Works database and spreadsheet modules don't round off numbers consistently.

Here's a formula used initially to round off test grades:

=Round(((B7 + C7)/200),2)

When this formula averages the test scores of 87 and 84, it rounds up the result, 85.5, to 86. But with scores of 91 and 100, the average, 95.5, is instead rounded down to 95. By adding a very small number (.0000001) to the formula, as in

=Round(((B7 + C7)/200) + .0000001),2)

you can force Works to consistently round up to the next-higher whole number.

Navigation Commands When Without The Extended Keyboard

Here are some undocumented navigation tips for anyone who is using Microsoft Works 2.0 without an extended keyboard:

To go to the top of a document, press **Command-A**.

To go to the end of a document, press **Command-D**.

To move up approximately one page at a time, press **Command-K**.

To move down one screen at a time, press **Control-L**.

SYSTEM SOFTWARE

ALARM CLOCK DA

Why Your Menu Bar Or Apple Is Flashing

If your menu bar (or the Apple icon at the top left of the screen) is flashing and you don't know why, chances are it's because someone set your alarm clock. Choose Alarm Clock from under the Apple menu and click on the tiny flag at the far right side of the window. From there, choose the alarm clock icon (in the far right corner). Look into the middle section of the window — see that small switch image on the left? Set it to the up position by clicking on it, and your alarm should stop flashing.

APPLE DESKTOP BUS (ADB)

Power Down First

Never connect or disconnect anything without first shutting down your Mac and all the peripherals. You may get away with it some of the time, but there's always a chance of damaging an internal component when you connect a peripheral without first powering everything down.

Don't worry about turning your Macintosh on and off a few extra times. Also, don't forget to use the Shut Down command before you turn off the power.

APPLE FILE EXCHANGE

Recovering Files From A Damaged Disk

Occasionally the Desktop file on a floppy disk will become damaged so that it can't be rebuilt in the usual way. You can tell that the file is damaged when there is a long pause after you insert the disk into the drive, followed by an alert dialog box that says the disk needs minor repairs and asks if you want to repair it.

If you click on OK to repair the disk, however, often the head shuffles around a bit and the disk is ejected without being read.

Although you may lose the disk, you can retrieve all the files not with an expensive recovery application but with an application—AFE (Apple File exchange)—that comes free with the System software.

Launch AFE, and the entire file list appears. Now transfer all the files safely off the damaged disk to another floppy or hard disk. Other programs could probably do the same, but AFE is fast and efficient — and the price is right!

Fooling The SuperDrive

Here's a tip aimed at people who do a lot of MS-DOS-to-Macintosh conversion, using the Apple File Exchange. IBM PS/2s and compatibles that use a 3.5-inch 1.44-megabyte drive can read, write, and format a high-density disk at the lower 720K density. Unfortunately, when trying to read these disks on a SuperDrive-equipped Macintosh, Apple File Exchange assumes that it formatted at the 1,440K density. AFE is looking at





the extra notch on the disk before it attempts to read the actual format.

You can fool the SuperDrive hardware into thinking it has a standard DS/DD (double-sided/double-density) disk by using a piece of tape to cover the extra notch (or to further confuse the issue, you can use a write-protect sticker, as used on those archaic 5.25-inch floppies).

Also, AFE displays hidden files, such as the desktop, and seemingly transfers them to an MS-DOS disk. However, the only thing that gets transferred is an empty file that is hidden on the MS-DOS side (i.e., the file's contents are not transferred, but a hidden file is created). If you make a habit of hiding your data files under a security program, you'd best unhide them before trying to transfer them to an MS-DOS disk.

APPLE INSTALLER

Reducing Disk Swapping

When using Apple's Installer under MultiFinder to create startup disks, you normally have to put up with a lot of disk swapping — especially if you're working from a hard disk and your system has only one floppy drive. You can reduce the number of disk swaps by increasing the amount of memory allocated to the Installer program, so that each of the four System disks needs to be inserted only once to obtain the necessary information. Here's what to do:

Select the Installer icon, and choose Get Info from the File menu (or press Command-I). Increase the amount of memory allocated to the Installer in the Application Memory Size box. Give the

Installer at least 1 megabyte of RAM to work with.

Using the same method, you can increase the amount of memory allocated to Font/DA Mover. This will reduce the number of system crashes when you're copying or deleting large Font or DA files.

CLIPBOARD

Creating A Macro To Edit Clipboard Items

One shortcoming of the Mac's Clipboard is that you can't add to it or edit it. But you can create a set of macros that alleviate the problem by turning an ordinary untitled window into a quasi-Clipboard.

First, create a macro (using any macro program) to open a new document that will be "under" the document you're working on: Press Command-N, and go back to your original document by choosing it from the Window menu in the application you're using. Because both this and the macro that follows depend on mouse position, make sure your untitled document is below the original one on the Window menu. (Unless the filename begins with a letter that comes after T, just leaving the Untitled name is OK.) This untitled hidden window is your new Clipboard.

Next, create a macro that copies text from the original document: Press Command-C, select Untitled from the Window menu, then press Command-V, and finally select the document you are working on from the Window menu. You can create a separate macro that cuts from the original, by substituting Command-X for Command-C in the sequence.

The Copy macro, which you can call Library Paste, is especially handy for selecting items from a long general list (such as a large bibliography) for inclusion on a specialized list. The Cut macro, which you can call Gather, is useful for collecting and moving material in a document. As a companion to the Gather macro, you might want to create a fourth macro, Spill, that places the newly assembled information in your document at the desired insertion point and empties the fake Clipboard. Before beginning to record the macro, click on the insertion point and select Untitled from the Window menu, press the command that selects all in the application, press Command-X, select your original document, and press Command-V.

COLOR

Color Windows On A Mac

Kolor, a free cdev written by Russ Wetmore, allows you to change the default colors associated with buttons, scroll bars, windows, menus, and highlighting. Kolor isn't available directly from Russ, but it should be easy to find on your favorite on-line service or from a user group.

If you're into spending money, you can buy Preferred Publishers' Personality. In addition to coloring the desktop, it gives buttons and scroll bars 3-D shading, rainbowizes the pointer, and other stuff. Many of Personality's features duplicate shareware INITs that are available, but it's still convenient to have them all in one package.

Cycling 24-Bit Color On And Off

A good rule for using 24-bit-color in your system is: Don't use it all the time. For example, when you have 24-bit color active, whatever program you're using may develop the annoying habit of flashing as you scroll or as the screen redraws. Turn off 24-bit color off while working with programs that aren't dependent on color, such as word processors or spreadsheets. As a side benefit, you get faster scrolling and graphics drawing.

How do you turn 24-bit color off? If you think the only way is to pull down the Apple menu, choose the Control Panel, and go to the Monitors cdev, you're wrong. Fortunately, there's a much easier method. The second rule for using a 24-bit color-system (indeed, any color system) is: get a copy of Switch-A-Roo. Similar utilities are available—Screen Flipper, for example.

Switch-A-Roo is simple, and it's free (you can get it from Zmac and other freeware sources). Switch-A-Roo is an fKey that lets you configure Command-Shift as 9 and toggle between two video parameters, and set the toggle between 24-bit and 8-bit color. Switching to the lower color resolution results in faster screen updates (and gets rid of those annoying screen flashes). Then when you're manipulating color or touching up color transitions in a graphic with Adobe Photoshop, for example, I turn on 24-bit color.





CONTROL PANEL

Controlling The Happy Mac At Startup

If you use a Mac with more than one monitor, here is a way to select which monitor you want to use as the main one for the Welcome to Macintosh dialog box or a Startup screen. Choose Monitors from the Control Panel, and hold down the Option key. When the Happy Mac appears, drag it to your main monitor and reboot.

DA HANDLER

Disabling The DA Handler Under System 6

It can take a long time to access DAs under MultiFinder and System 6, because you have to wait for the DA Handler to start up. You can disable the DA Handler by holding down the Option key when you select the DA (if you use Suitcase II, pull down the Apple menu before you press the Option key, or you won't see your DAs listed). The DA opens faster because it opens in the current application's allotted memory space, just as it would under the Finder, rather than in the DA memory block that MultiFinder assigns. This is particularly useful for the Control Panel and the Chooser DAs, which are slow to start anyway.

You should use this technique only if you intend to close the DA immediately after using it; otherwise, it may cause memory problems for the active application. If you like to keep the Scrapbook open

while you work on other things, for example, you should probably select it without the Option key so that it has its own memory space under MultiFinder.

DESKTOP MANAGER

Substituting The Desktop Manager For The Finder Under System 6

The Finder uses the Mac's Resource Manager, which was designed to work with 400Kbyte floppies, to maintain the Desktop file. So it is not efficient when you begin to build up 1000 files or more; it is especially noticeable when copying and moving files takes a long time. The Desktop Manager is a Finder enhancement which speeds up the Desktop maintenance over a network. It is included with the AppleShare server disk, and used automatically if present in System 6.0 and later. To reduce the amount of time the Finder spends maintaining the Desktop, put the Desktop Manager file in the System Folder and reboot. Your single Desktop file will be replaced with two invisible files, Desktop DB and Desktop DF.

DIALOG BOX SHORTCUTS

Switching Drives In The Dialog Boxes In System 6

When presented with a Save or Open dialog box in System 6, pressing the Tab key is a short cut to clicking on the Drive button. It selects the next available disk drive.

DIRECTORY DIALOG BOX

Three Ways To Search The Directory Dialog Box

You have just selected Open from the File menu to find yourself staring at a folder with multitudes of files. How can you speed up your search for a file that's in the middle or toward the bottom of the list?

1. Scrolling or using the arrow keys lets you see every file in a folder, but these are also the slowest ways to search the directory dialog box.
2. No matter how you have your view set in the Finder windows, the directory dialog box always lists files in alphabetical/numerical order. Typing the beginning letter (or number) of the filename takes you right to the file or to a range close to it. If the file is near the bottom, try typing Z.
3. Typing the tilde (~) key takes you to the very bottom of the list.

These techniques also work on windows in ResEdit, Symantec Tools, DiskTop, and DiskTools II, but they don't work with all file editors. You might find other instances in which these work.

Press On The Drive Name

If you want to go upwards in the hierarchy of a drive while in a dialog box, click on the name of the drive.

DOS EMULATION

Running DOS Programs On A The Old Mac SE

To run DOS programs on an old Mac SE,

you can use a program called SoftPC, from Insignia Solutions. You have to upgrade to at least 2.5 megabytes of RAM to run it, but going to 4 megabytes is recommended for the best results. That solves only half of your problem, though, because the old SE doesn't have the DOS-reading SuperDrive that's standard equipment on all newer Macs. The old Mac SE lacks the SWIM chip that would enable it to use Apple's cheap external SuperDrive. However, you can get a 3.5-inch and/or 5.25-inch SCSI floppy drive called the DaynaFile from Dayna Communications that will work just fine.

SoftPC Or Mac286, 386?

Since it uses a real 80286 or 80386 processor, Anaheim, Calif.-based Orange Micro Inc.'s Mac286 NuBus card is faster than Sunnyvale, Calif.-based Insignia Solutions Inc.'s SoftPC, which is a software emulation of a processor. Typically, the Mac286 will be four to five times as fast in raw CPU throughput. Depending on the case, SoftPC can deliver close to the same performance as the Mac286, and it's a lot cheaper.

EASY ACCESS

Using Easy Access

Easy Access is a startup utility which comes with recent versions of System software for those who can't use a mouse. Easy Access turns the numeric keypad into a substitute mouse. Put Easy Access into your System Folder and restart your Mac. Command-Shift-Clear invokes the Easy Access-mode mouse keys. The 5 key performs the mouse-button functions (clicks and double-clicks), and the other





numeral keys from 1 through 9 move the mouse. The 0 key locks the mouse button down, and the period key unlocks it. This is documented in the New Features Update bundled with System 6 or later.

Sticky Fingers Feature Of Easy Access

Sticky Keys is a feature of Easy Access that allows single-finger operation of the keyboard.

To turn the Sticky Keys feature on, press the Shift key five times in a row. Be careful not to move the mouse at all while pressing Shift, or you'll have to start all over.

A Frozen Screen May Really Be Easy Access

Here is a simple tip for those who often use cursor keys in Easy Access. If your screen freezes and it appears that your Mac has bombed, always try pressing the period key on the numeric keypad. You may have accidentally hit the keypad 0 key, causing the mouse to stay clicked and creating the illusion of a System error.

With Sticky Keys turned on, the "modifier" keys (such as Shift) can be pressed before the key they modify, rather than at the same time. Pressing the modifier key once modifies the next keystroke only; pressing it twice locks it on until it is turned off by being pressed again. Multiple-modifier key sequences (like Shift-Option) can be executed using Sticky Keys. An indicator in the menu bar shows you which modifier key is active.

With Sticky Keys turned on, you type as usual until you want to type a multiple-character keystroke. Instead of pressing the keys together, you can now press one of the modifier keys, and the icon in the

menu changes to a down arrow indicating that the last key you typed is still pressed.

The other half of Easy Access, Mouse Keys, uses the numerical keypad for mouse movements by pressing the keystroke combination Command-Shift-Clear.

Using Easy Access For Fine Tuning Graphics

Easy Access was meant primarily to aid physically impaired Mac users who have trouble using the keyboard and the mouse. But any user can profitably use the utility from time to time. For example, using the Mouse Keys function of Easy Access, you can easily implement a "nudge" command, which moves a selected object one pixel at a time in any direction. Such a command exists in SuperPaint and Cricket Draw but is sadly lacking in many other draw programs — like FreeHand. Here are the steps:

1. Make sure Easy Access is in the System folder when you start (or restart) your computer. You have to be using System 4.1 or later.
2. Open your draw program and position the pointer over the item you want to nudge. Click the item to select it.
3. Press Command-Shift-Clear to turn Mouse Keys on. With Mouse Keys on, the numeric keypad operates as a mouse substitute.
4. Press the keypad's 0 key to lock the mouse button down. (This is an electronic locking, not a physical one.)
5. Tap any of the keys surrounding the 5 key to move the selected item exactly one pixel in the direction specified by the position of the key. For example, the 2 key moves the item straight down, the 8 key

moves it up, and the 6 key moves it to the right.

6. When you've nudged the object into place, press the keypad period key to unlock the mouse button.

You can leave Mouse Keys on as long as you don't need to use the keypad for regular input (the Enter key is unaffected by Mouse Keys, however). To turn Mouse Keys off, press Clear on the keypad.

Mouse Keys can be incredibly useful for very fine mouse movement – and it's lots of fun once you get used to it.

FIND FEATURE

Take Your Time When Using System 7's Find; Extra RAM Won't Hurt

Everybody's happy about System 7's built-in Find feature, but the "all at once" check box is a memory hog. If you have applications using up most of your available memory, the all-at-once option may not be able to display all the found items. In such cases, the Finder alerts you to the fact and suggests you choose the Find Again command to see more.

But Find Again doesn't let you perform multiple, narrowing searches, which is one of the Find feature's neater tricks. Normally after choosing the all-at-once option, you can perform subsequent searches on the selected items. If Find can't select all items at once, you can't do an accurate follow-up search. The solution is to quit some applications and free up more memory for Find. Be warned: If your search nets more than a couple hundred items, the results can take a minute or more to display.

FINDER

Easy Editing of Filenames

There's a quick and easy method for adding prefixes or suffixes to a filename without carefully placing the insertion point. Select the file/folder you want to modify by clicking on it once. Press the left arrow key, and when the blinking insertion point precedes the filename, type your prefix. Press the right arrow key to deposit the blinking insertion point at the end of the filename, and then type in your suffix.

If you press the arrow keys and no insertion point is deposited, the file is locked. If that's the case, make sure the file is selected and choose Get Info from the File menu (or press Command-I), click on the Locked check box, and close the Get Info window. The tip will now work.

An Inherent Organization Tool

This tip provides a quick and easy To-Do List function for the Finder. There are other list generators, outliners, and organizers – both applications and DAs – but in most cases you have to open the program or the DA to look at your list. Although a program such as Smart Alarms solves that problem for a certain price – in money, INIT conflicts, and memory – here's a free and easy way to keep organized lists on your desktop.

Press Command-N to get a new folder. Then, in 31 characters or fewer, enter a brief description of your memo. Do this for each item on your list. Drag these folders onto the desktop, where they're constantly under your nose as a reminder of some important activity or event.





Or you can neatly arrange these folders inside other folders appropriately entitled To Do Today, Letters, Appointments, and so on. You can easily create, trash, rearrange, and modify these folders as needed. They're also useful as repositories of further information on a particular project.

Ejecting Disks

There are keyboard shortcuts to eject disks from disk drives using the Command-Shift keys.

Command-Shift-1 ejects a disk from the first drive;

Command-Shift-2 ejects a disk from the second drive;

Command-Shift-0 ejects a disk from a third drive.

To just eject a selected drive, press

Command-E.

Ejecting Floppy Disks Without Ghosting

When you eject a selected floppy disk using the keyboard shortcut Command-E, a ghosted image of the floppy remains on the desktop and your Mac can demand that you insert the floppy when you least want to. To keep that from happening under System 6.0x, press Option-Command-E or hold down the Option key when you select Eject from the File menu when you want to eject a disk. Under System 7 press Command-Y.

You can use the Option key for the same purpose when you click on the Eject button in the standard Open dialog box; Option-click on that button to ensure that the Mac doesn't pester you again for that floppy during your work session.

Printing From The Finder

To print a document directly from the Finder without opening it, select the document and use the Print command on the Finder's File menu. The Finder will run whatever application created the file and print it out. This is really useful if you have a whole folder full of documents you want to print. If you select them all and print from the Finder, many applications, such as Word, will show you only one Print dialog box and then print the documents in succession.

The requirement is that you must have a copy of the correct application on a mounted disk, of course, or you get the dreaded "the application is busy or missing ..." error message. You can't select two files from different applications – this works with only one application at a time. Many applications, such as Word, won't let you print from the Finder if the application is already open.

Use Special Characters To Arrange Files

Add special characters to the beginning of filenames to force grouping in the Apple menu (or in list views). For example, placing an exclamation point (!) in front of application names groups them at the top of the Apple menu, and adding the grave accent (`) character to folder names moves them to the bottom. You can also start a filename with a space.

Rebuilding The Desktop Of A Disk

Holding down the Option and Command keys when the Finder launches rebuilds a disk's desktop. Rebuilding the desktop speeds up the process of launching applications. Be aware that you will loose any

comments in the Get Info box of all documents and applications when you rebuild the desktop.

Keep Folders Small

The more items there are in a folder, the longer it takes to open it, so you want to keep folders small. On the other hand, when folders contain fewer items, folder nesting becomes deeper. You'll want to find a balance between too many items in a folder and too many levels of nested folders. Some programs locate files by using their full pathname. This includes the name of the volume the file is in and every folder name, in order, on the path to the file, with each name separated from the next by a colon (:). For example, the full pathname to WriteNow 2.0 in the hierarchical organization might be like this- Hard Disk: Applications: Word Processing: WriteNow: WriteNow 2.0. As you can see, the deeper folders are nested, the longer the pathnames get. Most programs can't handle full pathnames longer than 255 characters. This 255 character limit is also a reason not to make file or folder names too long.

Why Isn't My Memory Freed When I Quit?

Sometimes, when you quit a program, it seems as if the memory it was using isn't freed – at least according to the About the Finder window. Why?

Actually, the memory's really there. If you look at About the Finder under the Apple menu you will see that the second number isn't Total Memory Available; it's Largest Unused Block.

When you run a program under MultiFinder (or System 7's Finder), the program is run as high up in memory as

it can. When you run another program, it loads under the first program. When you quit the first program, its memory is available, but the size of the largest unused block of memory might not change, since the second program is sitting there with free memory both above and below it. MultiFinder can't move running programs, so your memory remains fragmented until you quit the second program or reboot.

In this situation, the amount of memory available could be as much as twice the memory shown as the Largest Unused Block. But no more than the amount indicated could be used by any one program. If a program crashes under MultiFinder, it may leave parts of memory allocated even though it's not running any more, which results in even more fragmentation.

RAM Caching

When you activate RAM caching in the General section of the Control Panel DA (or in the memory control Panel in System 7), remember to reboot the machine. Only then will the RAM cache activate. The same applies to turning the RAM cache off.

Changing Close In The File Menu

In the Finder, holding down the Option key while pulling down the File menu changes the Close menu item to Close All.

Clicking And Dragging Files And Folders

When a folder is shown by name, date, or kind, many users feel compelled to double-click or drag a file by the itsy-bitsy icon on the far left. Even though this works just fine, it's unnecessarily precise and can slow you up. You can, in fact, click or drag a file anywhere in the row





(including the white space after the name). If you're double-clicking, however, avoid the name column because two clicks there makes the name editable and puts an insertion point where you clicked.

Organizing Applications

If you regularly use many applications and want to keep them all handy, the usual solution is to group all of them in a single folder on your hard disk. Unfortunately, many applications require that you keep several utilities and sample files in the same folder as the application, which makes spotting the application itself difficult. You can remedy this problem by hiding these utilities outside the visible window or by burying them in folders within the application folder, but there is a better way:

Create an empty document in each of the applications you use regularly and keep it in a folder separate from the application. When using one of these blank documents to create a new file, choose **Save As** to save the new file and to preserve your template. Lock the empty document (using **Get Info**); this will prevent you from making any changes to it.

These blank pages take up little memory and can be customized to your particular needs and serve as style sheets.

Organizing Icons Alphabetically

Here's a quick way to alphabetize a column of icons:

Select them, drag them to a new folder, set that folder to **View by Name**, then reselect all the files and drag them back to the original folder. And don't forget that you can make a column look tidy by dragging

a selection rectangle around it and then choosing **Clean Up Selection** from the **Special** menu.

Neatness Counts

It's worth the effort to arrange your desktop neatly – and to keep it that way. You can size and place windows so that as you open nested folders, the display is compact and all the windows are visible. You can also drag a folder to the desktop and keep it there over the span of your project, making it easily accessible. Later, you can select the folder and use the **Put Away** command in the **File** menu to return it to its home location.

Tab Stop Assignments In The Finder

You can save a considerable amount of horizontal space by resetting the generous tab stops Apple assigns in the Finder.

To do so, run **ResEdit** and open the Finder on the disk you want to change (do this on a copy of the Finder other than the one you are currently running), open **LAYO**, open **LAYO=ID 128**, scroll down to the **Tab-stop** labels, and substitute the following values:

Tab stop 1 20
 Tab stop 2 114
 Tab stop 3 154
 Tab stop 4 208
 Tab stop 5 304
 Tab stop 6 352
 Tab stop 7 384

You can change these values to suit your preferences. These values save the most space without obscuring too much of the column's contents.

Opening Applications Easily

The mouse button on the Mac is buffered, so when you need to open an application directly on one of your hard disks, just make sure that all the images of the folders and the application's icon are aligned. Let's say that you have a folder on your desktop called "Word Programs," inside of which are several folders containing various word processors and associated files. Odds are that there is one application you'll use more than the others, such as Word 3.01, that is in a folder by the same name. Click open the Word Programs folder, and align the newly opened window so that the Word 3.01 folder is directly over the outline of the Word Programs folder (this might take a few tries). Once they are aligned, open up the folder called Word 3.01 and align the application Word 3.01 in that window with the previous windows.

Now when you want to open your most used word-processing application, all you have to do is place the arrow cursor in the middle of the Word Programs folder and click six times to open the two folders and launch the application. No more moving the mouse each time a folder window is opened to get the next folder to open. And this trick still allows you to keep a neat desktop with everything in its correct folder.

Moving Windows Without Activating Them

When you hold down the Command key and click in the title bar of an inactive window, you can move that window on the desktop without activating it and bringing it to the front.

Cleaning Up Windows In The Finder

Want to neaten the appearance of the application and document icons inhabiting windows in the Finder? Open the window you want to tidy up. Go to the View menu and set it so that the window is showing your applications and documents by Name and not Icon or Small Icon. Use the Select All command under the Edit menu. Drag everything out onto the Desktop and wait a second or two while the Finder catches up with you. Go back to the View menu and reselect By Icon or By Small Icon — whichever you prefer. Then go to the File menu and select Put Away. Your applications and documents will begin quickly arranging themselves in the window in alphabetical order.

Drag-selecting In List View

When viewing a folderful of files by icon, you can click and drag to create a selection rectangle that scoops up a bunch of icons all at once. When using any of the text-list views (name, date, size, kind or color), it appears that you can't use this shortcut — but you can.

Expand the window to fill a standard 9-inch screen or larger (you can click on the window's zoom box). Next, click in the space to the left of the vertical scroll bar. You can then drag a rectangle over to the left edge of the window and select as many files as you can see. It sure beats shift-clicking.

Speed Up Folder Copying

If you Mac takes too long to copy a folder full of small files from a floppy disk to your hard disk, open the folder first, use the Select All command, and drag all the files to the hard disk. This technique cuts the copying time by up to 85 percent.



Preventing Pirating Of Applications From Your Hard Disk or Network

Here's a way to stop people from pirating applications from a hard disk or a network:

First, create a blank document with the application you want to protect and give it a name similar to that of the application (such as "Word 4" for Microsoft Word 4.0).

Next, use ResEdit to make the program invisible (highlight the application name, choose Get Info from ResEdit's File menu, and click on the Invisible box). Quit ResEdit and restart.

Copying Disks From The Finder

When using the Finder to copy a disk, you can avoid typing the new disk name. Simply click on the icon of the original disk and select Copy from the Edit menu (Command-C), then click on the icon of the disk.

Virus Protection

Here's a very simple and effective way to protect programs on your hard disk from virus infection.

While in the Finder, do a Get Info on each of the programs on your disk and click in the Locked box at the upper-right corner of the window. This usually protects the selected file from accidental deletion, but it also guards it against virus contamination, since it prevents new resources from being written to the application. Don't forget to protect mini-applications like Font/DA Handler.

Quick Disk Erase

The quickest and easiest way to erase a

disk is to copy a blank disk over it. To do this, just insert a blank, formatted disk in a drive and drag its icon onto that of the disk you want to erase. You'll usually save a minute or so over using the Special menu's Erase Disk command.

Preventing Switch-Launching

Pressing the Option key while launching an application from a floppy disk equipped with its own System Folder prevents switch-launching – that is, you can continue operating under the current System (as opposed to the floppy's System).

Note that System 5.0 (and later version) won't let you switch-launch from a hard-disk drive unless you hold down the Option key.

Activating A New System Folder

To bless or select a new active System Folder, hold down the Option and Command keys while double-clicking on the Finder icon in the desired System Folder.

Closing All Open Windows With The Close Box

In the Finder, holding down the Option key while clicking on a window's close box closes all open windows.

Closing All Windows After Quitting An Application

After you quit an application, holding down the Option key closes all windows that were left open on the desktop before returning to the Finder.

Problems Trashing Files

If a file won't budge, like when you try to move it or to send it to the Great Trash Icon in the Corner, and the following alert

comes up: "Cannot be duplicated or moved," you may have a locked or protected file.

In this instance, the file's attribute File Protected or File Busy flag has been checked. (File Protected means that the file cannot be copied or deleted; File Busy means it's currently being used by some application, such as MultiFinder or AppleShare.) To change a file's attributes, you need a program such as SUM, DiskTop, or ResEdit 2.0.

If the File Protected or the File Busy flag is set, try turning it off (after you've made a note of which attributes were turned on before you started making changes). A document generally has just its Init'd flag set; an application usually has its Init'd and its Bundle bits set. Use a little caution at first – maybe another application really is using that file, and trashing it could ruin your whole day. For safety's sake, turn off MultiFinder and remove the Mac from any file-sharing networks.

Ideally, file attributes should be modified only by the System, the Finder, and other programs that know what they're doing.

Still can't trash the file? Maybe there's an INIT that's struggling to keep the file open, such as Suitcase II or a networking INIT. Disable all your INITs, and try again.

Changing The Application Memory Size

When in the Finder, if you highlight a file and choose Get Info from the File menu, a window about the file appears.

On the bottom of the window are the Suggested Memory Size and the Application Memory Size.

How much memory – minimum – does a program need to run under MultiFinder? The answer is more complicated than it might appear. What you see in Suggested Memory Size is what the publisher officially says is the minimum memory required to run the application under MultiFinder. You can always assign a program a greater slice of the RAM pie, but you should not try to run it with less memory than is listed here.

Application Memory Size, a user-modifiable field, lets you change the amount of memory assigned to a program while it is running under MultiFinder. When you launch a program under MultiFinder, it claims a certain amount of RAM real estate as its own.

There is no correct answer to the question of how much memory an application needs. It depends on how much RAM you have to divvy up, what other applications you will be using at the same time, and what demands you will be placing on the application while you are using it. The best strategy is trial and error: start out with the recommended amount (which should be the default setting anyway). If you find you are running out of memory at critical moments, start increasing the amount of memory by small increments until your problems cease or you run out of memory and have to buy more, whichever comes first.

Many people forget that the Finder itself is an application and that it can be assigned an amount of memory to be used under MultiFinder. The default is 160K, but in some situation – when you are using a large hard disk or a CD-ROM disc, for example – you might find yourself running out of Finder memory. Increasing the



Finder memory to 256K not only solves that problem but also improves file-copying performance in general.

Keeping Get Info Comments Using ResEdit

It is a good idea to rebuild the desktop occasionally by holding down the Command and Option keys when turning on your Mac. The only drawback is that rebuilding your desktop deletes the Get Info comments permanently. (To see the Get Info window, select a file and choose Get Info from the File menu while in the Finder.)

DiskTop (CE Software) has a feature called CD Comments that lets you rebuild your desktop without losing the Get Info comments.

Here is a way around the problem for anyone who is comfortable with ResEdit or some other resource editor:

1. Start Apple File Exchange or any other program that lets you see and copy invisible files.
2. Make a copy of the file called Desktop, giving it a different name if the application you are using allows you to. If it does not, save the copy to a different folder so that you will not overwrite the original Desktop file. With Apple File Exchange, choose Rename Destination Files from the File menu to change the name.
3. Rebuild the desktop by holding down the Option and Command keys while your Mac is starting. Just before your hard disk is mounted, you will get a confirmation dialog box asking whether you want to rebuild the desktop. Click on OK.
4. Once the desktop has been rebuilt, open ResEdit and open the copy of the

Desktop file that you made in Step 2. Find the FCMT resource in the list of resources. This resource contains the Get Info information that was erased when the desktop was rebuilt. Select and copy it.

5. While still in ResEdit, open the rebuilt Desktop file and paste the FCMT resource into it. Now select the copy you made of the Desktop file and choose Clear from the Edit menu.

6. Quit ResEdit, and answer Yes to "Save 'Desktop' before closing?" Your Get Info boxes will now have their comments restored.

FINDER 6

Vivid Color Icons

If you have a color Mac, you can change the way colors are used with icons and change the colors displayed on the Color menu using an application called Layout. Layout is a free but copyrighted resource-editing tool by Michael O'Connor that is available on CompuServe and other on-line services.

Open Layout and select Color Style from the Options menu. This will bring up two radio buttons labeled Normal Color Style and Alternate Color Style. Click on the latter for more vivid icons. You'll also see eight color bars like the bars on the Finder's Color menu. Click on any color and use the Color Picker to change its value. Quit, saving your changes (you can reestablish the old colors later by choosing the default).

A Pre-Trash Folder

For those who worry about throwing files in the trash and then later regretting the





decision, just create a new folder on your startup disk called “Pre-Trash”, “Today’s Garbage”, or the like and place it above or next to the true trash on the desktop. You could even place it so that it mostly covers the icon. Then, instead of throwing files directly into the trash, put them first into the pre-folder. At the end of every session, you can calmly sort through the files placed in this folder and render judgment on them – no more accidental trashing of vital documents.

Locking A File

When in the Finder, if you highlight a file and choose Get Info from the File menu, a window about the file appears.

The Locked box in the top right corner is, by default, unchecked. If you click on it, an x appears and the file is locked. If you click on it again, the x disappears and the file is unlocked. Folders cannot be locked.

If a file is locked, you cannot delete the file (or any folders containing it) by the usual method of dragging it to the Trash (unless you manually override by holding down the Option key).

Most applications let you change the locked file in memory, but you won’t be able to save the changes to disk unless you create a new file with a new name. This feature is handy for protecting template files from accidental changes.

Some applications – notably HyperCard – will not let you make any changes at all to a locked file. The file becomes “read only.”

The security provided by locking a file is very low-level – basically it only protects you from your own mistakes.

Rebuilding The Desktop Without Rebooting

Holding down the Command and Option keys when you quit an application produces the same dialog box and desktop-rebuilding procedure as holding down these keys when you restart your computer. The net effect – rebuilding the desktop – is exactly the same.

By the way, this technique works under the Finder only. If you’re using MultiFinder, holding down the Command and Option keys when you quit an application does nothing. In this case, you have to rebuild your desktop by restarting your Mac.

Hiding Files

There are several programs for the Mac that can “hide” the existence of a file so that it doesn’t appear in the directory window but also can’t be overwritten. Any program that allows you to edit a file’s attributes (such as CE Software’s DiskTop, Apple Computer’s ResEdit or Symantec’s SUM II) can do this. All you have to do is turn on the Locked and Invisible attributes. To use the file, just reverse the process – use the same program to turn the Locked and Invisible attributes off.

System Heap

When you access About the Finder under the Apple Menu while in the Finder, you will see a System gray bar indicating the amount of memory allocated to the System heap being used. The System heap is where all your fonts, DAs, INITs, cdevs, and Chooser devices reside. Under System 6.0x and before, if you don’t have enough memory allocated to the System heap, your Mac will slow down or even crash. You won’t do any damage by making your



System heap too large, although applications can't use the memory you assign to the heap.

If you don't add a lot of fonts, DAs, cdevs, or INITs to your system, the System heap's default setting is fine. However, if you've added lots of these goodies, you'll probably need to increase the System heap. How do you know whether or not you need to do this? A good rule of thumb is that if the System bar in the About the Finder bar graph is more than 75 percent dark gray, your System heap probably needs expanding.

Apple doesn't provide a tool for expanding the heap, nor does it adequately explain how to expand it anywhere in the Mac's manuals. Luckily for us, however, there are a lot of tools that let you expand your System heap. Among the low-cost options are Bootman (freeware), HeapTool (shareware) and HeapFixer, which CE Software includes with some of its products. Bootman includes excellent on-line help that explains all the subtleties of the System heap. As far as commercial products go, INIT Manager (Baseline Publishing) and Startup Manager (included in Now Software's Now Utilities) handle heap expansion elegantly and also provide sophisticated mechanisms for managing INITs.

Canceling The Ghosted Icon Response

People in multiuser environments sometimes eject floppy disks with Command-E or through a dialog box but forget to drag the ghosted icons of those disks into the Trash when they have finished. New users come along and eventually get asked for a disk they do not have.

When the Mac demands a disk you do not have, one way to continue working is to press Command-period (a reserved key combination that stops operations before they complete). Most of the time, this will eliminate the computer's "Please insert the disk" message, letting you continue working in peace.

FINDER 7

Adding Keyboard Commands With ResEdit

Several of the commands in System 7's Finder lack keyboard command equivalents. Some obvious ones spring to mind – Command-M for Make Alias and Command-P for Page Setup. You can easily add these keyboard shortcuts to the Finder's Edit menu with ResEdit. (ResEdit can be obtained from on-line services and local user groups.)

1. Make a copy of the Finder, and work only with the copy – editing an active file with ResEdit is always a bad idea. Open the copy of the Finder in ResEdit.
2. Locate the fmnu resources (resources are listed alphabetically). Double-click on the icon, and then double-click on ID 1252. This brings up a window filled with arcane text and numbers.
3. The far-right column contains some familiar strings of text, such as New Folder, Close Window, and other Finder menu commands. The keyboard command equivalents for these (and other Finder menu items) are stored in the third character before the name of each item – the N before New Folder and the W before Close Window, for example, are what determine the keyboard command

equivalents for these options. A menu item without a keyboard command equivalent has only a box in this place.

4. To change or add a keyboard-command equivalent, select the appropriate character in the far-right column and type in uppercase the character you want instead. It's important that you select only the character you want to replace. If you delete the character and then replace it, the Finder may reorder your menus or behave in other unpredictable ways.

5. Save the changes, and quit ResEdit. To restart with the newly customized Finder, move the current Finder out of the System Folder, rename the Finder copy so it's called Finder, and restart your Mac.

The new keyboard command equivalents should appear on the menus once the new Finder has loaded.

Editing Icons On Folders

There is a way to edit or colorize icons in System 7 with nothing more complicated than a paint program. Here's how:

1. Select an icon, and choose Get Info from the File menu (Command-I).
2. In the Get Info window, click on the icon once to select it, and copy it.
3. Open a new document in a paint program, and paste the icon into the document.
4. Modify the icon in any way you want, and then select it, and copy it.
5. Return to the icon's Get Info window, and paste in the new icon.



Desktop Manager Is A Part Of Finder 7

In Finder 7, Apple finally fixed the nasty problems – including delays, freezes, crashes and error messages – that had long plagued people using many applications (or other files with resources) on a single disk volume. The new Finder uses the same approach as Desktop Manager, software Apple developed years ago to eliminate the problem on AppleShare servers. The software, which many users with large disks had installed on their personal systems, bypasses the Resource Manager, which was at the heart of the problem.

Using Desktop Manager on your System 6 disks avoids the hassle of rebuilding the desktop every time you switch between the old and new systems, since they can share the same invisible Desktop DB and Desktop DF files. Finder 7 needs to make some one-time modifications to the old Desktop Manager's files, but thereafter you can switch freely between the two systems, as long as Desktop Manager is installed on the System 6 disk.

If either MultiFinder or Finder 7 rebuilds the desktop, any comments entered into Info windows are lost, despite Apple's earlier promises to solve this problem in the new system. And, whenever you rebuild the desktop under System 6, even with Desktop Manager installed, it must be processed once again the first time you restart with Finder 7.

The Invisible Desktop File Is Not Needed Under Finder 7

If you're running both System 6 and 7, the invisible file named Desktop (from System 6) is not needed with either



Desktop Manager or Finder 7, so delete it if it is not in use.

Rebuilding The Desktop

To rebuild the desktop manually in System 7, hold down the Command and Option keys during the last part of the start-up process, just as you do with Finder 6. (The option of rebuilding the desktop by holding these same keys down when quitting an application is no longer available).

Under System 7 there is another, quicker way to rebuild the desktop, but it is not recommended. System 7's abort key combination – Command-Option-Escape – will quit from the Finder, letting you hold down Command-Option to rebuild the desktop immediately as Finder 7 starts back up again.

Using Put Away To Eject Disks

The File menu's Put Away command (Command-Y) ejects and/or dismounts disks, removable media, or file-sharing volumes.

Saving Desktop Patterns Under Finder 7

If you like to create custom patterns for your desktop instead of using the default patterns in the General cdev, you now can save them by double-clicking on the cdev's miniature desktop. No longer will your handiwork disappear forever as soon as you choose another pattern.

Color Screen Shots

Pressing Command-Shift-3 takes a color PICT snapshot of your screen, complete with a camera-shutter sound effect. (In previous Systems, this command produced only a black-and-white MacPaint file.)

Emptying The Trash

If you don't want a warning message every time you empty the Trash, turn off the appropriate button in the Get Info dialog box. To do this, highlight the Trash and choose Get Info from the File menu or type Command-I.

Renaming Files Faster Under Finder 7

Some people are feeling a little disoriented since Apple changed the way users rename files, folders and whatnot in the Finder. Under System 6, you simply select an item and type the new name, but under System 7, typing selects files instead of renaming them.

If you select an item and wait, however, System 7 eventually will present you with a text-editing box around the item's name. The length of the delay is determined by the double-click speed set in the Mouse control panel. For the really impatient, selecting the item and hitting the Return key or moving the mouse slightly make that box appear immediately.

Keyboard Short-Cuts In Finder Windows Under System 7

Under Finder 7, you can navigate within a window by using the arrow keys.

Command-down arrow opens a selected file or folder (additionally holding down the Option key closes the current folder); **Command-up arrow** opens the parent folder or volume window (adding the Option key closes the current folder). The **Tab key** moves you through files alphabetically. Type the first characters of a filename to jump to a particular file. **Command-W** closes the



active window. In list views, press **Command-Option-right arrow** to expand the entire outline and **Command-Option-left arrow** to collapse it. (More shortcuts are now listed on the Finder's Help menu.)

Sorting Icons In Finder 7

In System 7, holding down the Option key while selecting the Clean Up command lets you sort file icons. To choose the type of sort, select a list view (such as View by Date) immediately before selecting View by Icon or View by Small Icon. Using the View control panel's new Staggered Grid and Snap To Grid options helps Finder windows stay tidy even before cleanup. Holding down the Command key as you drag icons toggles the Snap To Grid option on and off temporarily. In list views, clicking on a column title sorts files by that field.

Background Copying

In Finder 7, you can copy files in the background while continuing to work in an open application. You can't launch a new application while copying is in progress, however.

Opening Documents In Finder 7

In System 7, you can open a document by dragging its icon onto the icon of an application, provided that the program supports the document's format. This lets you open a file in programs other than the one that created it (for example, open a MacWrite file in Word).

Locating The Original File For An Alias In Finder 7

Need to find the real McCoy? Go to the Get Info dialog box for the alias, and click on Find Original. The Finder window

containing the original file opens and the icon is highlighted.

Closing/Hiding Windows In Finder 7

The Option key brings new flexibility to window management in the Finder. Holding down the Option key when you launch an application closes the window containing the application icon. Using it as you bring a background application to the foreground hides the current application. Pressing the Option key and clicking on the desktop hides all the open application windows.

FKEYS

Testing Fkeys With ResEdit

If you are looking around in a file with ResEdit and you see an Fkey resource, or you just want to try an Fkey before putting it in your System file, you can try the Fkey while in ResEdit. The system looks through the chain of open files, not just the System file, to find Fkeys. Since ResEdit has opened the file, when you press Command-Shift-N, where N is the ID of the Fkey, the Fkey is invoked. The most recently opened file is searched first, so even if the Fkey you want to try has the same ID as an Fkey in your System file, the Fkey you want to try is invoked instead of the one in the System file.

GENERAL

Opening An Older Document With The Current Application Version

Open the application first, and then try



to open your old document with the Open command (usually Command-O), selecting the document in the standard-file dialog box. More often than not, the application can convert the old format and open an untitled copy of the older file. Then save it with a new name. When you return to the Finder, you will find a double-clickable copy of the renamed file in the new format. If you want to avoid duplicate files, save the copy under the old name so that it overwrites the original file.

Switching Drives In The Dialog Boxes

When presented with a Save or Open dialog box, pressing the Tab key is a shortcut to clicking on the Drive button. It selects the next available disk drive.

HD BACKUP

No Longer Supported Under System 7

HD Backup is also no longer being supported by Apple and is incompatible with System 7.x.

INITs

The Scoop On INITs

An INIT is an initialization resource — a System resource that is loaded into the part of the Mac's RAM called the System heap and runs as part of the normal start-up procedure. You can buy INITs commercially or download public-domain INITs from a bulletin-board service (BBS). INITs are generally neither menu or Command key-driven; they are designed to function automatically.

When INIT-based utilities first appeared, there was no way for the average user to install them into the System file. Developers invented their own installation methods, and some neglected to provide a way to remove INITs when they were no longer wanted. What users needed was an INIT equivalent to Apple's Font/DA Mover.

Responding to this need, Apple released INIT 31. It worked at startup, searching the System folder for any files of type INIT and loading the enabled ones it found. So now you can simply drag an INIT into the System folder and INIT 31 would do the rest.

Because INIT 31 executes only at startup, the Mac must be rebooted before a new INIT becomes active. To disable an INIT, simply remove the file from the System folder and reboot. The INITs that are active in your System file will usually display a small square icon at the bottom of the screen during startup.

With System 7, INITs are "system extension," and are placed in a folder in the System folder, called Extensions.

Too Many INIT Icons

At startup, most of the INIT icons appear in one long row, but some get lost. To see all the INITs you are loading, get a free-ware INIT called IconWrap, written by Ken McLeod. Just drop it into your System Folder, and reboot. Voila — the icons automatically go into two rows. You can get IconWrap on Zmac and from your local user group.

Trashing Active INITs

If you attempt to trash an INIT and get a message saying the application is locked



or busy, it is because the INIT was in the System Folder at startup time, and so it is activated. Many INITs cannot be removed while they're active.

There are several ways to deactivate them and then trash them.

The easiest is to boot from a floppy disk with a System Folder on it and then drag the INIT from the System Folder on your hard disk to the trash. Another way is to use an INIT manager, such as InitPicker or Aask. Turn the INIT off, reboot, and then drag it into the trash. Finally, you can move the INIT out of your System Folder and onto the desktop (or into another folder) and restart your Macintosh. Because an INIT won't activate unless it's in your System Folder at boot time, you can then trash it without any problem.

Loading INITs At Startup Time

INITs (or Startup documents) placed in your System Folder will normally be loaded and active in the System upon starting up your Macintosh. When starting up your Mac, you can choose not to load certain INITs by holding down the Shift key until the menu bar appears. This is an option that not all developers take advantage of, so some INITs will work

and others will not respond to this key press. Suitcase and On Cue are two INITs which do respond to this action.

INTERRUPT SWITCH

A Crash Recovery Trick

There are two "switches" on all Macs, the reset and interrupt switches. One serves as a restart switch and the other is pro-

grammers switch. When you press the interrupt key, the machine enters a very simple debugger. In it, you can type G for Go, SM for Set Memory, and a few other commands.

Programmers who need a real debugger for the Mac can use MacsBug, which is available from Apple Programmer and Developer Association (APDA can be reached at 1-800-282-2732; 408-562-3910 International). MacsBug is a complete, full-feature debugger with breakpoints, tracing, and so on.

Here is a trick for using the interrupt switch: If you've crashed or the cursor is frozen, press the interrupt switch and then type G FINDER at the >prompt. Leave a space after the G, and type a carriage return after the R. If the crash wasn't too severe, you'll be returned to the Finder, where you can use the Restart or Shut Down commands to close things up tidily. You'll probably see a message telling you that the application you were working in has "unexpectedly quit." That's OK. Even though you'll probably lose any work you've done since your last Save, chances are your file won't be damaged. (See also System Errors.)

INTERRUPT AND RESET SWITCH

Where Are The Macintosh IIsi's Switches?

On most Macintosh computers, the reset and interrupt switches are activated by a small plastic button found on the front or side of the computer. The Macintosh IIsi has a keyboard-based set of switches. To activate the reset switch, press Command-



Control-Power On: to activate the interrupt switch, press Command-Power On.

KEYBOARD

Keyboard Secrets!

Option key : Hold down the Option key while dragging a file from one location to another within a single volume, and the file is copied to the new location, not moved.

Option – Command: Hold down these keys and double-click on a Finder file to switch to a different Finder without restarting your Mac.

Option – Command: Hold down these keys when you mount a hard disk to rebuild the Desktop file.

Option: Holding down the Option key while dragging a file into the Trash overrides any file lock or query from the System about whether you really want to throw away an application.

Option: Holding down the Option key when opening folders that contain folders will close the previous folder – a great way to keep your desktop uncluttered with open folders.

Option: When running DOS software on the Mac, the Option key doubles as an Alt key.

Option: Press the Option and the semi-colon key, and you'll discover this is where Apple hid the ellipsis (...).

ESC Key: Cancel an action (in some applications) (same as Command – period).

Tab Key: Move through fields in a dialog box

Shift–Tab: Move through fields backwards in dialog box.

LARGE FILES

Transportation Of Files Larger Than 800K or 1440K (High Density Disk)

If you have to split up a file too large to fit on an 800K or 1440 K (High Density) floppy so that you can take it to a service bureau there is a solution. If you have a program for backing up your hard disk, bring a copy of it with you the next time you visit the bureau. If a file becomes too large to save to a floppy-disk, use the backup program to back up the file (the program will break the file up – you can restore the fragmented file on your hard disk when you get home).

LASERWRITER DRIVER

Using Different Versions Of The LaserWriter Printer Driver On A Network

When using AppleTalk on a network, make sure all Macs have the same version of the LaserWriter driver in their System Folder, assuming you are using a version of the LaserWriter driver which is less than version 5.2. The LaserWriter driver series 6.0x can be mixed across a network, for example 6.01 and 6.02.

If you're upgrading some computers to System 7.x, System 7 includes a new version of the LaserWriter driver. In this case, all the computers accessing the same printer should have the 7.x printer driver,



whether or not they are upgraded to System 7.

Using ResEdit To Place The PostScript File Option In The Print Dialog Box

Pressing Command-F after clicking on OK in the LaserWriter dialog box writes the PostScript output, minus the LaserPrep file, to a file. But some applications intercept this Command-F event, preventing the file from reaching the LaserWriter driver. To fix this:

1. In ResEdit, open the copy of the LaserWriter driver, version 5.2 or 6.0, and select DITL from the list of resources.
2. Using the Open as Template option (labeled Open As in earlier version of ResEdit), select DITL ID = -8191 to open it as a DITL resource.
3. Find the Item for Disk File with a Display rect (display rectangle) of 0 0 0 0. Change the Display rect to 49 320 65 400. Save your changes, and exit from ResEdit.
4. When the LaserWriter Print dialog box appears, you should see a new option called Disk File. Clicking on it results in the creation of a PostScript file of the output called PostScript0 (or 1, 2, 3, and so on). This file will appear in your System Folder or in the Spool Folder within the System Folder.
5. To avoid confusion with other LaserWriter driver files on your hard disk, rename this altered driver. You'll have to select this driver from the Chooser to access it after you've changed its name.

LASERWRITER DRIVER 6.01

Changing LaserWriter Defaults

The LaserWriter driver (version 6.01) can be modified to change the default settings of the radio buttons in the Print dialog box default print mode to be Black & White instead of Color/Grayscale.

First, make a backup copy of the LaserWriter driver. That way, if you somehow mess up with ResEdit and set fire to the file, your tuchas is covered. Launch a resource editor like ResEdit, and open the LaserWriter driver.

Lunge straight for the PDEF resource with ID = 4. Set out on a search for the series of bytes 377C001700047801 and replace that series with 377C001800047801. Save your changes, and you're done – from now on, the default setting will be Black & White.

By the way, the latest version of ResEdit is 2.0x. It features an icon-based interface and much less intimidating editors for most resources. You should be able to find a copy in most of the usual places – CompuServe, GENie, America Online or your local user group.

MACROMAKER

No Longer Supported By Apple Under System 7

MacroMaker will no longer be supported by Apple (Apple states that it is incompatible with System 7 and no update is

planned). However it does work with System 7 when placed in the root System folder, not the Extensions folder.

Fixing Transposed Letters With A Keystroke

If you catch yourself making typos such as typing “teh” for “the,” you’re not alone—transposing letters is one of the most common typing mistakes. Here’s a macro that fixes transposed letters with one keystroke. It can be used with Macro-Maker and Word, or you can use the same general procedure with AutoMac III, Mind-Write or other combinations of word processors (that support the arrow keys) and macro programs.

1. If you don’t already have MacroMaker installed, put a copy of the MacroMaker file, which comes on the Macintosh Utilities Disk 2 in System 6 and later, into your System folder. For MacroMaker to take effect, you have to restart your Mac.
2. Place the cursor immediately after any two transposed letters in your word processing document (if you’ve just typed them, this is where the cursor will be anyway).
3. From the MacroMaker menu, select Start Recording.
4. Press Shift-left arrow to highlight the second of the two letters to be swapped (don’t use the mouse to highlight the letter, or the macro will operate only on this position of the screen).
5. Cut this letter (with Command-X).
6. Press the left arrow to move the cursor to the left of the first letter (again, do not use the mouse).
7. Paste (Command-V) the second letter on the left side of the first letter.

8. Press the right arrow to return the cursor to its original position following both letters.

9. Immediately select Stop Recording from the MacroMaker menu.

10. Give the macro a name, such as Swap Letters or Transpose, and assign it a keystroke.

11. Store the macro.

To use the macro, make sure the cursor is positioned immediately after the transposed letters and use the keystroke you assigned in step 10.

Launching Applications

When launching applications with Apple’s MacroMaker, you may run across some instances in which it’s difficult or impossible to make a macro for a simple launch. These applications may not allow access to the menu bar, or they may require you to perform some action prior to accessing the menu bar.

This restriction makes it impossible for you to stop recording as soon as the application has been launched. An example of this annoying problem in an application is the HD Backup program, which is provided with Apple hard-disk drives.

To overcome this limitation, temporarily place an empty dummy folder over the precise location of the application for which you want to create a launch macro. Then record the steps you need to go through in order to launch the application.

After the dummy folder has opened, stop the recording and save the macro. Exit from MacroMaker, and then remove the folder so that you can once again see the application on the desktop. From now on,





the application will launch nicely. This technique works because MacroMaker records the location of the mouse clicks – not the items the mouse clicked on.

MAP CDEV

Magnifying The Map Control Panel Device (CDEV)

The Apple documentation on the Control Panel Map utility mentions that if you want a magnified map image, you should press the Option key while clicking the Map icon. This results in an image that's so magnified as to be virtually unusable. What the manual doesn't mention is that you can get a slightly magnified version of the map by pressing Shift while clicking the Map icon.

Changing The Map Figure

The world map image in Apple's CDEV Map can be copied to the Clipboard simply by choosing Copy from the Edit menu when Map is on-screen. Make sure the city name box is not highlighted (or you will copy the name instead of the map). So what's so great about that? Several things.

First, if you have a color system, you can copy and paste the map image into a program like PixelPaint, color it, and then copy and paste the colored version back into the cdev's window. Oceans could be blue, continents in contrasting colors, and so on.

If you live in a black-and-white world, you can still modify the map in MacPaint, using patterns instead of colors.

And in any case, you have a fairly decent world map that you can store separately

with your clip art for use in other documents.

And, by the way, you don't have to worry about cutting or clearing the map image accidentally – only Copy and Paste work from the Edit menu while you have the CDEV open.

If you have System 7, you'll notice a more detailed color map in the scrapbook file. You can use this in the map control panel simply by copying in from the scrapbook and pasting it into the open control panel

MULTIFINDER (SYSTEM 6)

Starting MultiFinder Temporarily When In The Finder

While running the Finder, you can start the MultiFinder without restarting your Macintosh by double-clicking the MultiFinder icon (in your System Folder) while holding down the Option and Command keys. The next time you do Restart, you will be back in the Finder.

Loading Desk Accessories Into The Finder's Application Heap

Under MultiFinder, holding down the Option key and then selecting a DA (desk accessory) loads the DA into the Finder's application heap instead of loading it into the DA Handler.

Reinserting Disks To Find Disk Icons

It's often necessary to return to the Finder from an open application for file information. But when you are working under MultiFinder, open documents

obscure the desktop, hiding the disk icons you need. One way to open a disk's window from beneath the clutter is to eject it, using Command-Shift-1 or Command-Shift-2 (depending on what drive the disk is in) and then reinsert it. Reinsertion automatically causes the disk's icon to be selected (even if you can't see it). Then you will be able to open it with Command-O, and its window will pop to the forefront.

Getting Info When Busy

Have you ever received the message "the file is busy" when trying to get information (Command-I) about an open file? This can be annoying, but there is a way to access the file without having to close the file or reboot (in case you're prying into some INITs).

For example, suppose that while using an application, you have problems you suspect may be memory-related. You go to the Finder to check the memory size (with Command-I) and learn that this information is "n/a" (not available) because the application is open. Your only recourse is to save your work and quit the application in order to check it. Or suppose you want to check the version number of an application or an INIT/cdev such as MacroMaker that's always "busy." Quitting the application or relocating the INIT and then rebooting take some time.

There is an easier way of obtaining the information you want with minimal disruption — at least if you're running under MultiFinder. Simply duplicate the file (Command-D) you're interested in and then use Command-I to get the data you need from the copy. When you're finished, you can trash the duplicate file.

Hidden Humor

Ever wondered what kind of people programmed your Mac? If you're running MultiFinder 1.0, hold down Control-Option-Command and select About MultiFinder from the Apple menu. Alas, in more recent versions, this humorous box seems to have been removed. But don't despair, the Mac spirit lives on. For an example, use ResEdit to examine STR# ID = -127 in MultiFinder 6.0.x.

PARAMETER RAM

Resetting The PRAM In The Mac

The parameter RAM (PRAM) is where the Mac stores basic information like the time and default font (and other things) that it must know when you start it up. It's powered by the battery. And occasionally it gets fouled up and must be reset.

On Macs and Mac Pluses resetting the PRAM is simple. Just shut the machine off and remove the battery for 5 or 10 minutes. It's impossible to do that on the SE or the II, however. But Apple has provided another way to reset the PRAM. You must be using Control Panel 3.1 (or higher). Version 3.1 is included with System 4.1 and Finder 5.5. Here's what to do:

As you select the Control Panel hold down the Shift, Option, and Command keys. You'll get a dialog box asking if you want to zap (reset) the parameter RAM. Select Yes, and then Restart your Mac. This will set most of the PRAM to zero, and will change all your Control Panel settings to default settings, but will not reset the clock. Reset all your other options as they were or as you wish.





PRAM And System 7

Under System 7, the secret trick for rebuilding parameter RAM is even more unfriendly and obscure than in System 6. (PRAM is a special chunk of battery-backed memory that retains data such as your control panel settings even when the computer is shut off.)

In System 6, you could reset almost all of this special memory by selecting the Control Panel DA while holding down Command-Option-Shift. In System 7, you must hold down Command-Option-P-R while restarting the computer. When the system sees this key combination, it resets PRAM and restarts the computer.

PRINT MONITOR

Making Print Monitor 7 A Little Less Pushy

System 6 users who have turned on Background Printing and who also print manual-feed pages may complain. After they switch to System 7's LaserWriter drivers, they receive annoying alerts that "the LaserWriter is waiting for a sheet of paper." As they say, this is a feature, not a bug.

To turn off these prompts, choose the Preferences command in the Print Monitor application (you can do this while printing) and click the "Give no notification" radio button.

PUBLISH/SUBSCRIBE

Publisher/Subscriber Options In System 7

You can see what material in a document

has been published or subscribed to by selecting the Show Borders command. This places a gray border around all the sections that are published or subscribed to. Double-clicking on this border brings up either the Publisher or Subscriber Options dialog box — depending whether the text has been published or subscribed to — which includes options for updating or canceling editions.

QUICKDRAW

Color Icons For Some

The 32-bit QuickDraw icon appears in color when 32-bit QuickDraw is installed — except on the machines that have it in ROM (examples are the Mac IIci and IIfx). On these Macs the icon is just black and white like all the other icons, even if a newer version of 32-bit QuickDraw is installed.

STARTUP SCREENS

Creating Custom Startup Screens

Instead of a "Welcome to Macintosh" message, you can replace it with what is known as a Startup Screen.

Obtain the image you want to make a Startup Screen in MacPaint format. You can create the file from scratch in any paint program — MacPaint 2.0, SuperPaint, UltraPaint, or PixelPaint, for instance — that supports the Startup Screen format. You can also scan in an image and save it in MacPaint format.

If you have a color-compatible Mac, you can even have a color Startup Screen. All you have to do is use a color paint program that supports the Startup Screen format.



SYSTEM

Slimming The System Folder

What doesn't belong in the System Folder? Many applications, DAs, fonts, sound files, and sometimes dictionaries, filters, and help files. A rule of thumb here is to take out items such as prefs files or dictionaries if the application doesn't require their presence in the System Folder.

Sometimes the System Folder sprouts new files on its own. Word, for example, puts Word Temp files into the System Folder. These are temporary files that Word fails to clean up. Just make sure you quit the application first before deleting its temp files; otherwise, your Mac may crash.

What does belong in the System folder? System files, Control Panel devices (cdevs), startup documents, and Chooser documents (PRERs and RDEVs) all belong there. Also include any utility whose documentation specifies such placement or that won't work unless you place it there (these will mostly be INITs).

Consign everything else to a utilities folder (outside the System Folder), along with any of the above file types for which you have no present need. If you are not sure of a file's status, click on a questionable file's icon and type Command-I (Get Info) to bring up the file's Info box, or view the System Folder window as text (under the VIEW menu) to see if the file fits into any of these categories.

Opening An Application From A Floppy Disk Without Switch-Launching

Pressing the Option key while launching

an application from a floppy disk equipped with its own System Folder prevents switch-launching – that is, you can continue operating under the current System (as opposed to the floppy's System) – note that System 5.0 (and later versions) will not let you switch-launch from a hard-disk drive unless you hold down the Option key.

Selecting A New Active System Folder

To bless or select a new active System Folder, hold down the Option and command keys while double-clicking on the Finder icon in the desired System Folder.

Turn Off The Color To Speed Application Performance

If your work doesn't depend on color, you should turn off the color display. Color can really cost you time in ordinary operations such as scrolling. The two main time consumers are:

The cost in time required to put the color in, including the time needed to make appropriate color choices and

The cost incurred in using the color file, which will take up more disk space and time than a monochromatic document.

In the Control Panel, the Control Panel Device (CDEV) called Monitors lets you adjust the number of colors your monitor shows. If you have 256 colors, your monitor will typically be at 2, 4, 16 or 256 colors.

Virus Checker Says "Encountered FCB Expansion"

FCB stands for file control block, a data structure the Mac uses to reference an open file; there must be one FCB for each open



file. Under System 6, the number of FCBs was fixed at start-up. Sometimes after opening lots of files, you can run out of FCBs, in which case you can't open any more files; applications often report this as a -42 error.

Some utilities, such as Bill Steinberg's BootMan, can alter the number of FCBs created at start-up. System 7, however, automatically creates more FCBs as they're needed. This is what your virus checker is reporting, and it is harmless.

Creating A Finder-less Startup Disk

When you need to create a disk with a System folder and an application, and want the System on the disk to be as small as possible you may be able to get along without a lot of the common files listed above.

One way to trim the disk is to manage without the Finder. You can get rid of the Finder completely on a startup disk: eliminate all folders by placing everything on the desktop and make an application on the disk the startup file. You can do this by selecting the application's icon (or launching it if you're in MultiFinder) and selecting the Set Startup option under the Special menu. When you use this Finder-less disk, you'll see at least one Finder-related error message that you can ignore.

Ten Basic, Good-Natured Tips

Here are ten tips for using your System (or your system) wisely. They're so fundamental that you're probably already honoring some of them now and can check them off immediately.

1. Save your work often enough, so often that it becomes a reflex. If you press Command-S whenever you get up to refill

your coffee cup, if you press Command-S before answering when asked a question, if you press Command-S whenever you pause to gather your thoughts or wool, yours is the world and everything in it, and that's not bad.

2. Back up all your work adequately. There are a lot of strategies for backing up files. Adequately refers to the number of backup copies you keep. Two is the minimum for any files you really care about, but if you think you need five, make them.

3. Organize your files somehow. Pay attention when the Save As dialog box comes up the first time you try to save a newly created file. That way, you can save the file into the folder in which it belongs rather than into whatever folder you happen to have opened most recently, which is exactly what will happen unless you specify otherwise.

4. Use spelling checkers often.

5. Rebuild your desktop annually. That's how often Apple recommends. Rebuilding the desktop improves your system performance.

6. Don't use commercial software or shareware without paying for it. Commercial software and shareware authors deserve compensation and sometimes even respect for their efforts. It's a matter of payment for value received. If you use it, pay for it.

7. Send in your registration cards promptly. Sending in your registration cards is just good sense; it makes it possible for the company to reach you in the event of a product upgrade or recall.

8. Keep your computer reasonably clean. What this means is that you shouldn't

crush potato chips into the keyboard or pour liquids on the motherboard.

9. Experiment. Try new things.

10. Look out of the window now and then.

SYSTEM 7

Getting Desk Accessories To Open In The Application Heap Under System 7

Under System 6 with MultiFinder, holding down the Option key while choosing a DA causes the DA to open in the application's memory partition instead of the system heap. This trick is useful with DAs that depended, for example, on the current program's color environment.

DAs installed via the Apple Menu Items folder under System 7 are unaffected by the Option key. But if the DA is in a file opened with Fifth Generation Systems Inc.'s Suitcase II, the old trick still works. You also can use Font/DA Mover 4.1 (available from CompuServe and local user groups) to install the DA in a specific application.

Hidden Viewing Options In Finder 7

The Clean Up command in the Finder's Special menu has always had some more-or-less secret options. Under System 6, holding down the Option key while selecting this command force-fits all the icons in a window into an orderly pattern. Under System 7, Clean Up options let you sort icon or small icon views by any other available viewing criteria (date, size, label, etc.).

First, you select one of the non-icon views from the View menu. Then you switch to

one of the icon views – poof! The icons lose their sorted order.

But if you then hold down the Option key while selecting the Clean Up command, the icon view will be sorted by whatever criteria you had chosen for your earlier list view.

Crash Recovery Under System 7

If you crash in any application under System 7x, you can usually recover to the Finder by pressing Command-Option-Shift-Escape and clicking on OK in the resulting Force Quit? dialog box. To be safe, you should then immediately close all applications and reboot the machine.

With Virtual Memory, Is There Any Reason To Buy More Real RAM?

Virtual memory (disk space used to simulate RAM) is obviously cheaper than real memory. It's also a lot slower. SIMMs (single in-line memory modules) with 1 Mbyte of RAM are cheap enough these days to make real memory readily available, at least up to 8 Mbytes.

Using virtual memory in a low-RAM configuration can make sense if you use one or two programs that benefit from the extra memory or if you use several programs under MultiFinder but switch between them infrequently. In these cases, virtual memory might make more sense than paying for rarely used RAM, and the performance penalties will be minimal.

In other cases, virtual memory doesn't work well. Using a graphics program to edit a large 24-bit-color image will be slow if most of the image was stored in virtual memory, resulting in continual thrashing of the disk as parts of the



image were swapped into and out of RAM. Try out System 7.x's virtual memory to see how it works for you; after all, it's free.

Disabling Extensions

Holding down the Shift key while the Mac starts will prevent the launch of all INITs in the Extensions, Control Panels, and System folders. You must restart the machine to turn them back on.

No Need To Initialize Your Hard Disk For System 7!

There is no need to re-initialize any hard disk on which you plan to run System 7.x, unless the disk has been damaged in some way, or it is a third party drive that requires initialization. Check with your third party hard drive vendor for more information on that specific drive.

If you plan to run Virtual Memory, the SCSI driver will need to be updated using HD SC Setup v7.x. This requires that you boot from the Disk Tools floppy, choose the target drive, and click on "Update." This process takes a second or two to complete, and does NOT require any reformatting, or reinitializing of your hard drive.

Software No Longer Needed Under System 7

The following software is no longer needed under System 7 because Apple has incorporated its functionality into System 7:

800K Eject INIT
Font/DA Mover
Memory Manager INIT
TrueType INIT

Invisible Applications Under System 7

In System 7, an application that is marked invisible will not be found when you try to open one of its documents, and the result is an error message.

Under System 6, documents are always connected with applications, even if the application is invisible.

Each approach has its advantages. Under System 6 you could set up your Macs so naive users couldn't delete, rename or move applications, but could still run them by double-clicking on a document.

Under System 7, the applications are more completely hidden, and you can open them only with the help of a utility such as the DiskTop desk accessory from CE Software Inc. (DiskTop is convenient both for launching applications and for setting the Invisible attribute.)

Stay At Phase 1?

Though everyone will tell you that System 7 requires an upgrade to AppleTalk Phase 2, you can stick with Phase 1 for your Ethernet cards if you like. According to sources at Apple (don't blame us if this doesn't work), if you install System 7 and then reinstall the older drivers, the cards should operate like they did before.

Aliases Multiply File-sharing Options

If you need to share the same application programs or files with several groups of people, you may want each group to have its own set of file-sharing privileges. System 7 lets you define different privileges for a group of owners and one other





group. The way to accommodate more than two workgroups is through System 7's aliases.

First you make aliases of the files you want to share and put them in a folder. Then you share that folder, and give it a set of access privileges. For a second group of users, make another set of aliases, put them in a different folder and give that folder its own privileges. You can repeat this process as many times as you like within the system's limit of 10 shared items.

Clicking On Installer Scripts

Don't double-click on a script to open the Installer application. Unlike most applications, the Installer doesn't pay attention to how it was launched and opens only the documents it wants to. If you've copied the program to your hard disk, the script that it reads might not be the one you double-clicked on.

SYSTEM ERRORS

How To Avoid Restarting The Macintosh During A System Error

To avoid restarting your Macs if a serious system error occurs, you can press the interrupt switch (also known as the programmer's switch) when your Mac bombs and type "G 40F6D8 <return>." This works fine on a Mac Plus, but not on a Mac SE or a Mac II. To accomplish this on a Mac SE, use the procedure above, replacing "G40F6D8 <return>" with "G409B24<return>." If you are using a Mac II, substitute "G4080D5CE <return>" for "G40F6D8 <return>." This method has been used many times to copy files from a RAM disk after a system

error occurred. If you use this method, however, you should keep in mind that a serious system error really does mean serious. Your safest bet after copying the files is to restart your computer.

Two more character sets that might work is "SM 0 A9F4 <return> G 0" or "G FINDER <return>." If this works, you'll be returned to the Finder, where you can select Restart from the Special menu, giving your Mac a chance to shut the file system down properly and minimizing the risk of damage to disks or files. (See also Interrupt Switch.)

SYSTEM 7 UTILITIES

System Utilities Upgraded For System 7

This software is incompatible with System 7, but compatible versions are included with the System 7 Personal Upgrade Kit:

Apple File Exchange	(prior to 7.0)
Disk First Aid	(prior to 1.5)
LaserWriter Font Utility	(prior to 6.0)
TeachText	(prior to 7.0)

This software is incompatible with System 7, but compatible versions are supplied with the System 7 Group Upgrade Kit:

QuickMount	(prior to 1.0.7)
Apple CD-ROM	(prior to 3.0)
The Namer	(prior to 2.1)

VIRUSES

Recurring WDEF Infection

WDEF is a computer virus that infects the invisible "Desktop" file used by the Finder, but does not infect applications,



documents, or other system files. WDEF is spread through the sharing and distribution of disks (floppy disks, hard drives, etc.), and it spreads quickly. Also, both hard disks and floppy disks are completely immune to the Desktop file viruses WDEF and CDEF under System 7. These viruses never activate, spread or cause any damage of any kind under System 7.

There are actually two strains, WDEF A and WDEF B. The B strain beeps when it infects a Desktop file, but the A is silent. Other symptoms include system crashing and problems with the display of font styles, especially the "outline" font style.

Frequent scanning with anti-viral tools such as Disinfectant, SAM or Virex won't prevent you from getting reinfected; you really need to install the INITs that come with these programs to completely eradicate the virus.

Another way you can rid your Mac of the WDEF virus is by rebuilding the Desktop (hold down the Command and Option keys while starting the Mac). If you have more than one hard disk or multiple partitions, keep holding the Command and Option keys down until you've seen the dialog box for each drive.

The difference between Disinfectant (shareware) and some commercial INITs is in the auto-scanning. Disinfectant's INIT automatically scans the System file at startup, but it doesn't automatically scan individual files, because it's designed to sense the activity (not the presence) of known viruses and block them from actually following through with their unholy machinations. Compared with commercial scanning INITs, Disinfectant's INIT is faster, less

obtrusive, and just as effective in preventing infection.

Virus Protection Across A Network

If someone on your network has mounted your hard disk as a remote volume, it's possible that your disk could become infected by a virus on that person's hard disk, transmitted through the network. For this reason, any attempt at virus protection has to be applied to all the Macs on the network in order to be effective. Of course, if you install virus protection on every networked Mac, you'll eliminate the problem entirely.

UTILITIES

ADD/STRIP

A Powerful File Filter And Converter

Jon Wind's Add/Strip shareware application is a file filter that combines powerful conversion options, such as converting spaces to tabs, up to nine strings of characters to replacement strings, cleans up spaces, blank lines, double hyphens to em dashes and much more.

Add/Strip also has built-in tables for conversion between DOS and Macintosh text formats and a encryption/decryption system. Add/Strip is available on Zmac or your local user group.

AFTER DARK 2.0

Editing The MultiModule

Even After Dark 2.0's extensive collec-



tion of modules can fail to stimulate after a while. But the screen saver's MultiModule allows an amazing amount of customization without you having any programming knowledge whatsoever. One of my favorites is Stormy Skyline. To turn Stormy Skyline into one hell of an electrical storm, simply follow these instructions:

1. Duplicate the Zot! module twice while you're at the desktop, renaming the copies Zot!2 and Zot!3.
2. Open the MultiModule to Stormy Skyline (a predefined combination of Starry Skyline and Zot!), and click on the Edit button. Add Zot!2 and Zot!3 to this MultiModule, making them transparent instead of opaque. You should now have all three of the Zot! modules and the Starry Skyline module combined.
3. Resize and reposition the Zot!s – it looks better to have them different sizes.
4. Close the edited MultiModule, but first rename it something like Really Stormy Skyline.
5. Open the individual Zot! modules, and edit the forkiness, kinkiness and delay of each.

ALTWDEF

Shrinking Finder Windows

If you have window clutter – as in too many open or overlapping windows in the Finder, get a copy of AltWDEF, a shareware cdev that “iconizes” a window, shrinking it out of the way when you're not using it. AltWDEF is available on Zmac or from your local user group.

CAPTURE

Capture Your Thumbnails

Whenever you need a thumbnail of some pages, don't bother using your page-layout program's Thumbnail print option, because it takes too long to print (especially if the pages consist of halftones and fonts that have to be downloaded and scaled).

Instead, use a screen-capture utility such as Capture to take a picture of the pages one at a time. Paste them into the Scrapbook or directly into another document, reducing the “thumbnails” so that several can fit on a page.

Although the quality of thumbnails created in this way won't be as good as that of those generated from within page-layout programs, it will be good enough for examining the general look of a page or document. This method has several advantages:

1. You can choose the exact thumbnail size you want – something you can't do with the Thumbnail print option in your layout program.
2. You can add descriptive copy.
3. Printing is much faster because you're only dealing with a single bitmap per page.

DISKFIT 2.0

Managing MultiFinder Memory For DiskFit 2.0

SuperMac Technologies DiskFit 2.0 was designed to backup typical hard disks on typical Macs. If you try to back up more files than usual, however, DiskFit 2.0 can run out of memory under MultiFinder.

Here's the suggested MultiFinder memory settings for large numbers of files:

No. files	Memory Partition
1,000	>625 Kbytes
1,500	825 Kbytes
2,000	925 Kbytes
3,000	1,225 Kbytes
5,000	1,877 Kbytes

JUST CLICK

Just Click Under System 7 To Switch Between Applications

If you want to have the old MultiFinder-style application switching (clicking in the upper right corner of the screen) in System 7, then Just Click (freeware) is a system extension for you. If you're tired of pulling down System 7's Application menu and long for the good old days, Just Click will bring them back. You can find Just Click on Zmac and from local user groups.

KIWIENVELOPES! 3

Bar Coding With Dot Matrix Printers

KiwiEnvelopes! 3, an envelope-addressing DA, doesn't currently support bar coding on non-laser printers. The feature is disabled.

If you own SuperGlue, though, you can print the bar coding on your dot-matrix printer. Open the Chooser DA, and select Super Glue's SuperImageSaver II instead of your dot-matrix printer. Print your envelope from KiwiEnvelopes 3, and save

the file in SuperGlue format. Reselect the printer from the Chooser DA. Open the SuperGlue file and print.

Kiwi Software has stated that tests administered in close cooperation with the U.S. Postal Service indicate that dot-matrix printers cannot position a print job precisely enough to produce valid bar codes. Kiwi disabled the bar-code feature for dot-matrix printers deliberately, and this is documented in their manual. A bad bar code may move your mail more slowly through the postal system than no bar code at all.

LAUNCHINIT 2.0

Logging Mac Activity

There is a program that automatically logs your activities on the Mac — LaunchInit 2.0. LaunchInit will prompt users for a name each time a Mac is booted and then keep track of the programs or folders that are opened (logging the date, time, length of use and user name).

To run it, launch the INIT by double-clicking on it while holding down the Command and Option keys. When the Configuration dialog box appears, make sure to check the Enter at Startup option under User Name and then save. Because this is an INIT, you need to drop LaunchInit into your System Folder and restart your Mac to activate it.

If for some reason, it still doesn't work, consider Softview's commercial product MacInUse. It does everything mentioned above and sells for about \$99.



LAYOUT

Lengthening The Document Name

Layout (a freeware program by Michael C. O'Connor) is a convenient tool for changing the way the Finder displays its various views (bringing a System 7 feature to System 6 users). You can use it to stagger icons in the Finder's icon view, preventing the names from overlapping the icons. Unfortunately, Layout uses the rather short name "Document" for the samples that you drag on the screen to set the grid spacing and offset. The Finder allows names of up to 31 characters, so some trial and error is necessary to achieve the best spacing for the name lengths you typically use.

The name Layout uses in adjusting spacing is stored in the STR resource "DocT" (ID = 328). To eliminate the trial-and-error approach, employ ResEdit to modify this resource, which originally contains the string "Document". Replacing this string with "Document name with max 31 chars" lets you space the icons to accommodate the longest names Finder lets you use.

Of course, you can enter any other string here to represent the maximum length of names you normally use. As always when modifying applications with ResEdit, be careful to make your changes on a copy of Layout, not on the original.

Layout is available in the Download Library Forum on Zmac.

Doesn't Work With System 7

Mike O'Connor's freeware application, Layout, lets people control how Finder 6

handles the desktop, including how icons are staggered, how many windows can be open at once, how text is displayed and much more.

In Finder 7.0, Layout no longer works because the new Finder lacks the LAYO resource O'Connor's software modified. System 7.0 offers a Views control panel instead, with a few of the same functions, but far less flexibility.

LIFEGUARD

Eye and Body Saver

You may have seen many screen savers, but have you heard of an eye and body saver? The National Academy of Sciences reports that more than half of all video-display and microcomputer users polled complained of eyestrain, headaches, and muscle pain, and Business Week reports that RSI (repetitive-strain injury) is the fastest-growing occupational disease of the 1990s.

The best way to protect yourself is to take a break every so often and do something else. You can do this with a software product called LifeGuard.

LifeGuard is an INIT and DA from Visionary Software that interrupts your work at customizable intervals — with an audible or visual notification — and reminds you to do something else. It also keeps track of the number of keystrokes you've made in the past hour (according to the manual, experts recommend you keep your keystrokes to fewer than 12,000 per hour). The DA includes illustrated exercises for the eyes, neck, shoulders, back, arms, wrists, hands, and legs, plus ergonomic reference diagrams to



help you create a workstation that won't cause you pain.

MAPPING UTILITIES

What's My Contour Line?

Looking for a program that can create topographical maps? If you have a spreadsheet program with decent graphing capabilities, such as Wingz or Full Impact, you might not need a special program. If you have all the elevation data for the area, all you need to do is plug the data into a spreadsheet as a 2-D table and have the program create a 3-D surface graph from the data. You'll be able to make all kinds of modifications – zoom in or out, rotate around the area, change the viewing angle – from the spreadsheet.

If you haven't shelled out for a spreadsheet program that can handle 3-D graphs, there is a more sophisticated solution. RockWare, Inc., of Wheat Ridge, Colorado, has a \$400 gridding, contouring, and basemap-plotting program called MacGRIDZO that might be exactly what you're looking for. Call RockWare at (303) 423-5645 for more information.

PARTITIONING SOFTWARE

Organizing Your Hard Disk

Partitioning software (including AlSoft's MultiDisk, FWB Software's Hard Disk Tool Kit, and the HD Partition program in Symantec Utilities for Macintosh) divides your disk into multiple volumes, each of which is its own "virtual" disk. You can use parti-

tions to help organize your files. They're a great aid with most backup programs, which work volume-by-volume. If you create a small partition for your recent documents, you can back up that volume daily and the backups will go quickly. Keep older documents in a separate partition. For security, partitions can be password-protected, and if you share your hard disk, partitions can give all users their own private work areas.

You can keep older versions of software in a separate partition for when it's necessary to use an old version of a program. You don't want both the old and new version on the same volume, because when you double-click on a document, you don't know which version of the application will open.

The Finder also slows down when a disk has too many files and the System Desktop file gets too big—so partitioning your disk limits each volume to a size the Finder can manage.

NORTON UTILITIES

Using The Fast Find DA

When you're using The Norton Utilities for the Mac's Fast Find DA, Command-T gives you access to a dialog box that allows you to search by type or creator—a useful feature for power users that's not mentioned in the manual.

Fast Find Faster

Although Norton Utilities' Fast Find command is extremely speedy, you can make it work even faster if you hold down the space bar while it's searching—this stops the animated sprinting-man icon.



ON LOCATION

Calling On Source-Code Collections

Using On Location is a dandy way to keep track of what's on your hard disk, and it's even dandier for programmers. For example, if you have megabytes of sample source code scattered throughout thousands of files, you can use On Location to fully index these files.

When you need an example of how to use any function, just call up On Location and search for all the references to the function from the source-code collection. This also lets you view the text in each sample source-code file and cut and paste the sample into your own program. It's fast and a great way to make your programming more efficient.

POWERMENUS

Using PowerMenus And Coach Pro Together

Coach Pro and PowerMenus can't be used at the same time when they're set to defaults. If PowerMenus (an INIT) is loaded and you launch Coach Pro, the menu bar flickers.

You can circumvent this by going to the Control Panel and telling PowerMenus not to put PowerGadgets into the menu bar. When you want to use PowerGadgets, pop them up by using the alternative activation event that you've selected in the Control Panel (for example, Command-click and triple-click).

PUBLIC FOLDER

Moving Files From One Mac To Another With Public Folder

There's a solution for transferring files between workstations on a network, aptly named Public Folder. This handy network file-transfer utility is available from most on-line services and user groups.

Public Folder is a Chooser document that allows you to designate a folder on your hard disk as public. You can't send a file anywhere, but any file you put into your public folder can be retrieved by anyone else on your network who is using Public Folder.

When people are moving a file from your Mac to theirs, you will feel a performance hit: your mouse may become twitchy and reaction time may be slower than usual. However, Public Folder moves files rapidly from one Mac to the other, the speed depending on network traffic.

It is not a replacement for AppleShare or TOPS, but for occasional transfer of files Public Folder provides an elegant answer. There is no need for Public Folder under System 7, since it has File Sharing, which is built-in AppleShare for all users on the network.

QUICKKEYS

Using QuickKeys To Print

If you program QuickKeys to scan the menus looking for "Print..." and find that it doesn't work in some applications, remember that some applications do the ellipsis after Print with three periods



and some do it with Option-semicolon. They may appear the same on the screen, but to QuickKeys they're quite different. Solution: Define an application-specific QuickKeys file for each of these applications.

QUICKKEYS 2

Recovering After A Program Upgrade

QuickKeys 2 lets you create program-specific macros that are stored according to the name of the individual application. After you upgrade a program to a newer version, you may discover that all your QuickKeys macros for that program have disappeared. You can retrieve them by opening the QuickKeys resource and changing the program names and /or version number to the new ones. Here's how:

Open the Preferences folder in your System Folder. Inside the QuickKeys folder is a QuickKeys Preferences folder, which contains a KeySets folder where all your macro sets are arranged by program name. Simply change the version number on the filename, and you're set.

READ MACWRITE

Reading MacWrite Files Without The Application

Many software developers continue to use MacWrite format as their standard for on-disk program documentation. This can be inconvenient if you don't have MacWrite. You have to open up Microsoft Word or some other word processor and import the file, even if all you want to do is take a peek at the documentation.

You can modify Word's Creator to MSWD using ResEdit. However, if you're not comfortable with ResEdit or if text files are what you're after, there's a nice shareware utility, Read MacWrite, that opens MacWrite files and scrolls through them on the screen while saving the contents as a plain text file. Now if you need to take a look at some documentation on the fly, you can just open the file with a DA such as miniWRITER (which is also shareware).

You can pause the scrolling, but Read MacWrite lacks a text buffer and elevator boxes for scrolling back over what you've read. Once the text has scrolled by, it's gone until you reopen the file and start at the beginning.

Read MacWrite's quick production of text files from MacWrite-formatted documents would also come in handy if you had several MacWrite files that you needed to get into plain-text format in a hurry.

Read MacWrite is available in the Download Library Forum on Zmac.

RESEDIT

INITs Across Your Startup Screen

If you dislike those INIT startup icons goosestepping across your startup screen and the programmers didn't see fit to give you the option of disabling the icons, there is a simple solution: You can change the icon ID number, using an icon editor such as Icon Designer or a resource editor such as ResEdit, thereby eliminating the startup icon without affecting the INIT itself.

Use a consistent pattern when you change the numbers so that you can restore them



later if you need to. For example, change ID number 128 to 12800 or change ID number -4023 to +4023.

The patterns you use don't matter — just be consistent. After you've changed the ID numbers, your startup screen will be untrodnen.

Changing The Shutdown Screen

If you want to change the Shut Down screen that says "You may now switch off your Macintosh safely", use a copy of ResEdit and follow the steps below:

1. Make a copy of the System file, using the File menu's Duplicate command.
2. Launch ResEdit, open the duplicate copy of the System file, and locate the DSAT resource.
3. Double-click on this resource, and then double-click on the ID 2 file.
4. Scroll down until you see the "You may now..." message in the narrow right column.
5. Starting with the letter Y, highlight the message through the last character, a period.
6. Carefully type in your message, using exactly 45 characters, including spaces. Save your changes.
7. Quit ResEdit, shut the Mac down, and restart from a floppy disk.
8. Save a copy of your original System file on a floppy disk. Replace the hard disk's System file with the duplicate copy, and change the copy's name to System.
9. Restart your Mac from the hard drive, and choose Shut Down from the Special menu.

10. Your message should appear the way you typed it. If you did something wrong, the Shut Down screen will flash, but that shouldn't cause any major problems. Simply trace these steps, and make sure that you typed exactly 45 characters.

Deleting Sound Resources To Save Space

Digitized-sound resources are fun but are also often very large and expendable. If you're running short of disk space or if you're looking for ways to reduce telecommunications time, you might want to use ResEdit to locate the snd resources on a copy of the application or stack. Delete the resource, save the program, and make sure the program still works. The About box or startup screen might be less entertaining, but the program will be lots leaner.

Reassigning The Shift-period Key Combo

If you've ever tried to type P.O. Box quickly on a typical Mac keyboard, you've probably wished that the Mac keyboard functioned more like a traditional typewriter, with Shift-period producing a period (instead of >) and Shift-comma producing a comma (instead of <). Here's a way to reassign these keys, using ResEdit 2.1 or later:

1. Make a copy of the System file in the System Folder by using the Duplicate command (Command-D) on the File menu. Remove the copy to a nonboot disk or partition (having two System files on your boot disk can cause problems).
2. Open the copy with ResEdit, and open the KCHR resource, which controls the mapping of ASCII characters to keyboard keys.



3. The keyboard display in the bottom third of the window changes as you press the modifier keys, in the same way as it does with the Key Caps DA. Hold down the Shift key to display the shifted keyboard map.

4. Using the mouse, drag the desired character (in this case, the period) from the palette in the top two-thirds of the window onto the key you want to represent it. Do the same with the comma. (Because this operation replaces the > and < symbols with the period and comma, you might want to assign the < and > symbols to the Option-Shift positions on their respective keys so they're still accessible.)

5. Close the KCHR resource, and save the changes to the System file. Restart the Mac from a floppy disk, store the old System file in some place other than the boot disk, and place the edited version of the System file in the System Folder. Restart the Mac. This will eject the floppy disk, and your Mac will reboot with the new System file in place.

This change affects the keyboard mapping, not the font information, so it should be font-independent.

Reducing The Amount Of Space Between Files

When you have many documents in a folder, you can use the By Name option in the View menu to see more of my documents at one time, though they still have large spaces between them. To reduce the amount of space and make more files visible, modify the Finder using ResEdit.

To do this, run ResEdit and open the Finder on the disk you want to change. Double-click on the LAYO resource. Double-click on LAYO = 128. Click

once on the gray part of the scroll bar. Change the number in Line Spacing from 16 to 11. Save the Finder and quit ResEdit. Now your documents will be listed in a tighter format.

RESEDIT 2.0BX

Turning An EPS Image Into A Startup Screen

If you want to turn your favorite EPS image into a startup screen, for example, or want to otherwise process it on a pixel level, try ResEdit. Open the EPS file with ResEdit and you'll find a resource of type PICT. Open it and click on the image and copy it to the clipboard (with Command-C). Open MacPaint (or any graphics program that can save files as startup screens), and Paste (Command-V) the image into the MacPaint window. You can do this even if the original PICT image was in color — although it will be converted to black-and-white.

SCROLL LIMIT

Controlling Scrolling

If your scroll bars are working at warp speed, there's a little cdev called Scroll Limit that can help. Scroll Limit is a free-ware program, available from Zmac and other shareware sources.

SOUND CONVERTER

Editing Sounds

When you want to turn sounds into sound resource files, the sounds are often at the wrong sampling rate. A utility called Sound Converter converts



SoundEdit, SoundWave, or SoundCap files into sound resources and lets you choose the sampling rate when you convert sounds (although it doesn't let you change the sampling rate of an existing sound resource).

Sound Manager is a sound-manipulating shareware utility that can do any type of conversion, play sounds, and let you do some light editing. But you'll also need SoundEdit (one of the applications that is included with Farallon's MacRecorder sound digitizer) if you want to change the sampling rate of the resource. Sound Manager can convert sounds to SoundEdit format; SoundEdit can save the sounds with a different sampling rate (although it can convert only from faster rates to slower rates).

STEPPING OUT II

Disabling Stepping Out II Upon Launching An Application

Stepping Out II is a useful addition to the Mac, giving the effect of a larger screen. Many people keep it on all the time. But some programs, particularly games and telecommunications software, are better off without it. To save yourself a trip to the Control Panel DA, launch your program while holding down the Option key, and Stepping Out II will automatically shut off. You should use the Control Panel to turn it back on when you Quit, though. This is an undocumented and handy reversal of Stepping Out's QuickStart feature.

Stepping Out As A Screen Shrinker

The DA Stepping Out II is a screen extender that allows the creation of large virtual

screens on the Mac. Although most people can readily see the benefit of this (particularly for the 9-inch screen of the Plus and SE), there is another benefit for those who would rather use a larger monitor while developing applications for the smaller, standard screens.

Stepping Out II also functions quite effectively as a screen shrinker. Creating a small screen size is simple. First, call up Stepping Out II from your Control Panel. Click New and enter the pixel count for the screen size you want (512 pixels wide by 342 high for the Mac SE). Then, enter a name for your screen definition (such as "Mac SE Screen") and click Save. Finally, highlight the name of your new screen setup and click Set. If you have enough memory reserved for the new screen (and assuming that Stepping Out II is active), the change takes place immediately, otherwise, you will first need to reboot.

Once all this is accomplished, you can easily switch from one screen size to the other by simply turning Stepping Out II on or off from the Control Panel.

STUFFIT

Automatically Unstuffing All Archived Files

Stuffit, which has become the industry-standard utility for archiving and compressing Macintosh files, has a hidden (and very handy) feature. After selecting the archive you wish to open (or after clicking in the About box if you opened an archive and not the program itself), hold down the Shift key and Stuffit will automatically select all the files, decompress them, and save them to disk.



Halting Stuffit Operations

Simply pressing Command-period – the usual method for halting operations on the Macintosh – doesn't stop the stuffing/unstuffing operation in Stuffit 1.5.1.

Instead, you need to hold down Command-period continuously until the operation has stopped.

Archiving Several Files

If you need to send more than 20 files via modem, you will need to send data in at least two sessions. Save yourself some time by enclosing all the files in one folder. Stuffit can archive entire folders of various sizes.

STUFFIT 1.5.1

Unstuffing Deluxe Files Using ResEdit

Users of the shareware file-compression utility Stuffit 1.5.1 by Raymond Lau may start coming across .SIT files that have been stuffed with Stuffit Deluxe, the new commercial version of this useful program. And they will quickly find that they can't use the shareware version to unstuff the files. Well, actually, in many cases they can, but they'll have to get their hands dirty with ResEdit.

Launch ResEdit, and select the .SIT file created with Stuffit Deluxe. Press Command-I (Get Info), and change the file type from SITD (the Stuffit Deluxe format) to SIT! (the type format for the shareware version).

Save the change, quit ResEdit, and unstuff the compressed file.



SUITCASE

Getting Just The Applications Under The Menu While In MultiFinder

If you use Suitcase and you don't want to scroll to the bottom of the Apple menu to see what applications have been launched, hold down the Option key while selecting the menu. The DAs are not listed, and you have easy access to the applications list.

SUITCASE II

Distinguishing Between Bitmapped And Postscript Fonts

If you can no longer remember which of your fonts are bitmapped and which are PostScript, you can use Suitcase II to find out.

Select Suitcase II from the Apple menu, and click on the Fonts radio button or type Command-F. Select any font name and click on Show, or double-click on a font name.

Above the sample text, Suitcase will list the printer font filename if the font is PostScript. If the font chosen is a bitmapped font, the message "This is a bitmapped font" will appear.

Suitcase II Grows In Patches

Suitcase II, like other popular utilities on the Mac, experiences growing pains. Version 1.2.6 had some problems with popular applications, such as QuarkXPress 3.0, and needed updating. Unfortunately, the road through subsequent updates has been rocky. As of this

writing, the latest release is Version 1.2.10, which fixes many known bugs and promises compatibility with System 7.0. If you are having problems with an older version, you should check it out — carefully. The Suitcase II Updater application can be found in on-line services; it's available in Fifth Generation's support forum on CompuServe (GO CIS:APVENA).

Suitcase Harmony In Finder 7

Finder 7 normally opens font and desk accessory suitcases when you double-click on them, giving you access to the individual items, but it stumbles on some files. Files created by the Suitcase II utilities, Font and Sound Valet and Font Harmony, may be reported as "damaged" by the System 7 Finder.

The simplest solution to these problems is Font/DA Mover 4.1. This System 7 version of the utility program is not included on the standard System 7.0 floppies, but it is available on-line from CompuServe.

Open the suitcase with Font/DA Mover 4.1 (using Option-Open to locate the file if necessary). Create a new file, select all the fonts or DAs from the old suitcase, copy them to a new one, and save it. This new file should work both with Suitcase II 1.2.10 and with Finder 7.

SWITCH-A-ROO 1.6

Switching Among More Than Two Screen Depths

Switch-a-Roo 1.6 is one of the most useful FKeys available for the Mac II. If you need to switch between more than two screen depths, however (because you have a 24-bit monitor, for instance), the FKey will come up short. If you need to switch

among 2, 16, 256, and 16 million colors often, you can modify Switch-a-Roo to allow two copies of the program to run at the same time. Here's how:

1. Make a copy of Switch-a-Roo 1.6.
2. Using ResEdit, select the copy of the FKey. First, use the Get Info command to change the ID to a number other than 9 that your system isn't using currently.
3. Next, open the file and scroll down to byte 2417. In the ASCII translation of the hex code, you will see Roo File. Change this filename to something that uses the same number of letters (for example, Row File).
4. Save the file, and install it into your system, using ResEdit, or load it with Suitcase II.

This modification will make the two copies of a Switch-a-Roo run concurrently, with each assigned to a different keystroke. You may want to make one copy switch between 2 and 256 colors and have the other switch between 16 and 16 millions colors. Even if you have to switch among only three screen depths, it's still easier to have two copies running concurrently than to go to the Monitors cdev or to call up the full screen to reconfigure Switch-a-Roo. In addition, you can assign these FKeys to the functions keys on the extended keyboard, so any screen depth is no more than one or two keystrokes away.

SYSTEM ERROR TABLE DA

Printing The Error Table

Pyro! co-author Bill Steinberg produces a



concise list of system error and bomb-code definitions on the Macintosh in the form of a DA, called System Errors DA.

You can't order it directly, but you can download it from Zmac or from CompuServe's MAUG forum (where Bill's a sysop).

You can view any error opening the DA, but you have to have a working Mac before you can use it! A good idea is to keep a printed list of codes tacked up by your desk.

Here's how to do just that, if you have a copy of ResEdit. First, make a copy of the system Errors DA. (Always work on a copy when you're using ResEdit.)

Launch ResEdit, and double-click on the System Errors DA. In the window that opens, double-click on the TEXT item. Now double-click on TEXT "SysErrorList 2.1c ID=-15392 (it may have a slightly different name if you have a different version of the DA).

Next, select all the text by either dragging from the beginning to the end or clicking just before the first character, scrolling to the end of the text, holding down the Shift key, and clicking after the very last character. Select Copy from the Edit menu. Now quit ResEdit, launch your favorite word processor, and paste. You now have a text version of the error codes.

SYSTEM PICKER

You Can Keep System 6 And 7 On Your Hard Disk

Yes, you can, although it's a little clumsy. If you have a disk that can be partitioned,

one solution is to define separate partitions for the two systems and switch partitions to switch systems.

If your disk can't be partitioned or you don't want to reformat it, the solution is a little more complex. You need to keep a separate System folder for each system and select which one you want to use with a little utility called System Picker (previously known as Blessor), available from Zmac, CompuServe and local user groups.

First, install System 7.0 (To do this without erasing System 6, select your current System folder and choose Duplicate from the File menu before installing.) You now can use System Picker to select which System folder will be used the next time you boot up. Note that you should always reboot the Mac immediately after using System Picker, otherwise your Mac can get confused.

When you're running under System 6, you'll see extra folders on your disk called Desktop and Trash. Don't erase these; they're created and maintained by System 7. When you switch back to System 7, you'll likely see it update the disk. This step is necessary to accommodate whatever changes you've made to the disk and file structure under System 6.

TATTLETALE 1.2

Great System Reporting Utility

TattleTale is a desk accessory, from John Mancino, for examining Macintosh configuration details, and it's free. Mancino asks only that you do something positive for the environment in return for using the software (it's also Ecoware).



TattleTale details all aspects of a Macintosh configuration, including NuBus cards, SCSI chain, memory, processors, ROM and operating system versions, Desktop Bus devices, fonts, system extensions, open files, and active processes.

TattleTale is also System 7 compatible, and also provides a special feature list for programmers that lists the “traps” that are available and those that are missing from the system.

TEMPO

Using The Keypad For Macros

When composing macros, avoid the use of the cursor keys. Use the keypad equivalents instead. By doing so your macros will work both in Microsoft Word’s outline mode and also in the regular text mode. Remember that Word assigns special outlining functions to the cursor keys but the keypad equivalents function the same in either mode. For example, to construct a type transposition macro, instead of Shift-Left cursor arrow, Command-X, Left cursor arrow, Command-V, Right cursor arrow – use the following: Shift-4, Command-X, 4, Command-V, 6.

TEMPO 1.2

Setting Up The Proper Path

When writing macros using Tempo 1.2 inside of an application, it can be tricky to save a file to a particular folder different than the one it was loaded from. Tempo starts at the main or root directory of the disk when doing a Save As in a macro. Although one can use mouse clicks to step

down through the folders, if you later add to or otherwise change the list of folders on your disk, this approach can land you in the wrong folder when using the macro. However, it’s possible to set up the proper path by using the Open command first, before the Save As. The Open command allows you to type the characters of the folder’s name, and the inverse selection bar will automatically jump to the matching folder in the list. You can press Return and repeat this process until you’ve reached the folder that you wish to save the file in. At this point you cancel the Open and perform your Save As to the subfolder that has now been set up. Even if you add a lot of new folders, your macro will still function correctly.

USER GROUPS

Obtaining Utilities Without A Modem

If you want to obtain many of the utilities mentioned here or elsewhere but don’t have a modem to download the stuff from on-line services, there are Macintosh user groups.

If you don’t have a local user group, you can try the BMUG (Berkeley Macintosh User Group) software library, one of the most complete in the country. It offers a catalog of programs (it cost \$8 the last time I checked) and sells disks for \$4 each, including postage and handling. You might consider joining BMUG just to get its newsletter – a semiannual 300-to-400-page extravaganza.

BMUG can be reached at 1442A Walnut St., #62, Berkeley, CA 94709-1496 (415) 549-2684.





Another user group is the BCS-Mac (Boston Computer Society Macintosh) Group. BCS-Mac also has a nice fat PD catalog and a great monthly magazine. It's located at 48 Grove St., Somerville, MA 02114; (617) 625-7080.

Of course, you can call Apple at (800) 538-9696 for the name of your local Mac user group.

WORD PROCESSING

MACWRITE

Opening MacWrite Files Without The Application

Many software developers continue to use MacWrite format as their standard for on-disk program documentation. This can be inconvenient if you don't have MacWrite. You have to open up Microsoft Word or some other word processor and import the file, even if all you want to do is take a peek at the documentation.

You could change Word's Creator to MACA, using ResEdit. However, if you're not comfortable with ResEdit or if text files are what you're after, there's a nice shareware utility, Read MacWrite, that opens MacWrite files and scrolls through them on the screen while saving the contents as a plain text file.

Now if you need to take a look at some documentation on the fly, you can just open the file with a DA such as miniWRITER (which is also shareware).

You can pause the scrolling, but Read MacWrite lacks a text buffer and elevator boxes for scrolling back over what you've

read. Once the text has scrolled by, it's gone until you reopen the file and start at the beginning.

Read MacWrite's quick production of text files from MacWrite-formatted documents would also come in handy if you had several MacWrite files that you needed to get into plain-text format in a hurry. (Read MacWrite is available in the Download Library Forum on Zmac.)

MACWRITE 4.5

Save As Text When You're Exporting Files

While there are a few word processors that can't recognize and open MacWrite files (most notably Microsoft Word), in general you'll find it easier to export data to other programs or via modems by saving it as a Text Only file. The Text format is easily transmissible over ASCII data lines, and works well when you're transferring data to other types of computers.

Numbering Pages Using The Page Icon

The page icon in the Header automatically begins numbering pages at 1. You can change this by selecting Set Page #... from the Format menu. To eliminate the number on the first page, select Title Page from the Format menu.

Decimal Tabs Override Regular Tabs

When you drag a decimal tab on to a regular tab, it automatically overrides the tab stop and turns it into a decimal tab. The tab marker may look like a regular tab, but it will behave like a decimal tab. To get a good look at which kind of tab is placed on



the ruler, click on the tab marker or move it around to reveal which tab it really is.

Command-Backspace Restores Backspaced Text

If you want to restore up to 50 characters of text that you backspaced over, press Command-Backspace. This is especially useful if you want to insert a word without taking your hands off the keyboard.

Hidden Spaces Can Affect Printouts

If your text doesn't print correctly after you've set up tabs for columns, check problem lines or columns carefully to see if any spaces were mistakenly entered there. As soon as these inadvertent spaces have been erased, your printouts should come out looking the way you meant them to.

Lack Of Disk Space Can Cause Printing Problems

You can run into trouble trying to print documents if there isn't enough space on the disk to save the document to the buffer. If your disk is too full to print, either delete some files or else transfer the document to a less-overburdened disk. In a pinch, you can print a few pages at a time.

Identifying Hookup Problems

If you're getting the message that your document can't be printed, try again, watching the dialog box while the Mac tries to print. If the Mac displays the message "Looking for the ImageWriter/LaserWriter" for longer than usual and then tells you it can't print your document, check all the connections to be sure the printer is hooked up correctly.

When MacWrite Says It Can't Print A Document

If you try to print a document from the desktop, only to be told that you can't, launch MacWrite by double-clicking it. Then, close the new file and open the one you want to print.

MACWRITE 4.6

New Keyboard Sequences

When going from MacWrite 4.5 to 4.6, there are new keyboard sequences. The most noticeable is the use of the Cursor keys.

To go to a point in a text passage, just use the Arrow keys.

To go to the beginning of a line, press **Command-Right Arrow** or **Command-Left Arrow**.

To go to the bottom or top of a page, press **Command-Up** or **Command-Down** arrow..

To go left or right a word at a time, press **Option-Right** or **Option-Left Arrow**.

Finally, to go up or down a paragraph at a time, press **Option-Up** or **Down Arrow**. You can select a paragraph, letter, word or page by combining these key combinations with the Shift key.

Numeric Keypad Commands

The asterisk (*) on the numeric keypad helps to highlight characters and words. If you select a few characters with the mouse and discover that you missed a letter or two, the asterisk key extends the selection by one character for each press.

Extend your selection rapidly by holding down the asterisk.

Command-* (using the asterisk from the numeric keypad) selects the entire line from the position of the cursor to the end of the line.

Option-* (using the asterisk from the keypad) selects one word at a time.

The + key causes the selection to be made to the left of the cursor instead of to the right.

The = and / keys highlight all of the line above or below, up to the point directly above or below the cursor.

MACWRITE 5.0

When The Spell-Checker Tells You The Clipboard Is Too Large

If your Mac doesn't have a lot of extra RAM, sometimes running MacWrite 5.0's spelling checker might result in the message, "The clipboard is too large to transfer for use by desk accessories or other applications." You won't be able to use the spelling checker again until you quit MacWrite and then reopen the program or file you want spell-checked.

Picking Up Where You Left Off

You can zip off to the insertion point you last saved at by pressing Enter on the numeric keypad when you launch the file.

MACWRITE II

Creating Flash Cards

Here is a simple way to use the Mac to make flash cards. All you need is a program that prints two columns on a page

(or you can do it the hard way and use tabs). These instructions are for using Claris' MacWrite II, but sophisticated word processors such as Word, WordPerfect, or Nisus — work just as well.

1. Create a format with two columns. Make sure that if the page were folded down the middle, the columns would be situated on either side of the crease.
2. Type in the words or phrases in your target language — let's say Spanish — in the left-hand column.
3. Do a column break. Directly across from each Spanish word or expression, type the equivalent in English. Make sure that the equivalents are directly opposite each other, on the same imaginary horizontal line.
4. Increase the space between the selections, either by double-spacing (pressing Return twice) or by increasing the line spacing. This step isn't essential, but the results look better.
5. Print out the list. You'll have a column of foreign words and phrases on the left and their equivalents in English on the right.
6. If your printer has a sheet feeder, turn the paper over and run it through the printer again, head first, printing the other side. If you have a continuous form printer, make sure the paper is rolled to exactly the same point before printing each side.
7. Cut the paper vertically up the middle. This yields two strips, each with English expressions on one side and their equivalents in the other language on the opposite side. Put one strip away to use if you make mistakes in the next step or if you



later lose some of the printed phrases and want to make a new set.

8. Trim off all the excess white paper.

9. Cut the printed words and phrases apart, and mix them up.

10. Whenever you want to test yourself, review, or learn new expressions, just pull a slip of paper out and look at one side. After you've tried the translation, turn the paper over to see if you were correct.

Nifty Smart Quote Feature

The new MacWrite II has a nifty smart-quote feature that automatically converts the typewriter-style single- and double-quote marks (like "this") to the more-professional-looking curly quotes.

What do you do if you customarily use special foreign quote marks (such as guillemets in French, Italian, and German)? You can change MacWrite II to be smart in any language by changing the SMQT resource with ResEdit. Open the resource and substitute the guillemets (both single and double) for the curly quotes. The keystrokes for < and > are Option-backslash and Shift-Option-backslash, respectively. The keystrokes for < and > are Shift-Option-3 and Shift-Option-4, respectively. Close ResEdit and save the changes you've made. Now the program will smartly insert the new types of quote marks as you type.

Simulating Side-By-Side Graphics

MacWrite II handles graphics well, but because it treats a pasted graphic as if it were a single typed character, it does not support text on the same line as the graphic.

One way around this problem involves Canvas 2.0 or 2.1. Canvas allows the

creation of three kinds of objects: draw objects (MacDraw-like), bitmapped painting objects, and text objects.

You can easily create a graphic in Canvas with several lines of text and then import it into MacWrite II, using either the Clipboard or the Scrapbook. The text in the Canvas graphic retains its text-styling attributes and, for printing purposes, is processed as text by MacWrite II (and Adobe Type Manager), including fractional character widths.

This recognition by both MacWrite II and ATM of the text attributes of text in a Canvas document even extends to popping up an alert box if the appropriate font is unavailable (text will print as a bit map if the required font is not present).

The catch is that you can edit the text object only in Canvas. Thanks to the spelling checker built into the latest version of Canvas, it is possible for you to check the spelling before the object is pasted into your MacWrite document.

This same technique may also work with other combinations of word-processing and graphics applications.

The Trick To Editing Footnotes

If you place footnotes at the end of a MacWrite II document, you will discover that the footnote page cannot be fully edited. That means that you cannot easily add a title, such as "REFERENCES," to the top of a page. Claris' technical support says that the official solution is to save the document as a text file, reopen it, and edit the final footnote page as needed.

A better solution is to create footnotes in the usual way — in this case, auto-numbered and placed on the last page. Before





you print, change your footnote preferences to disable the Auto Numbering option. Now place the insertion bar somewhere before the first footnote marker and insert a dummy footnote.

When you are prompted for the footnote marker, use a space, which will be invisible in the body of the text. For the actual footnote, type the desired title. It will be unnumbered on the footnote page and will appear before footnote 1. You can edit this title/footnote to change its size, style, and ruler configuration so it matches other titles in the document.

If you want to add other footnotes to the paper after you have created the title/footnote, do not enable auto-numbering.

Instead, when the prompt for the footnote appears, press Return, and the appropriately numbered footnote marker will appear – without disturbing the title/footnote.

TEACH TEXT

Placing Pictures In Teach Text Documents

To place pictures in Teach Text documents, type Option-space where you want the picture to appear. The pictures must be stored as resources of type PICT in the document, copied there by ResEdit. The first Option-space is drawn as picture 1000, the second as 1001, etc. Leave enough blank lines after the Option-space so the picture does not cover the following text. To make the document read-only, change the file type to “ttr.” Teach Text will display additional lines of credits while holding down Command-option and selecting About Teach Text.

NISUS 3.05

Nonbreaking Spaces

Sometimes you don't want a sequence of characters that includes spaces to break between lines at the spaces (for example, in a mathematical equation). You can avoid this in Nisus 3.05 by using an Option-space (called a nonbreaking space in other programs). To create such a space, hold the Option key down while you press the space bar.

If you want to globally change the spaces within a selection to Option-spaces, you can do so by creating the following one-line macro:

1. Choose New from the Macro submenu, on the Tools menu.
2. Type the words “Find/Replace”, followed by a space. Type a pair of straight (dumb) quotation marks with a space between them. Type a second pair of quotes, this time with an Option-space between them. Type a final set of quotes containing an “s” (this tells the macro to replace the spaces in the current selection only).

Your macro should look like this:

Find/Replace " " " "s "

3. Save the new macro, and assign a key to it. Select the text that you want to change, and invoke the macro with this key.

Doing Windows

Here's a tip that's very useful if you have several windows open simultaneously.

Press the Command key, and click on the title bar of any window (including the Catalog and Macro windows). The

Windows submenu (which you ordinarily access on the Tools menu) will pop up and show you which windows are open. You can then access any window by double-clicking on its name on the Windows submenu.

Zooming The Unzoomable

Sometimes you might position a window on the screen so that its zoom box in the right corner of the menu bar (for resizing) is off the screen. However, Nisus lets you use the zoom box – even if it's off-screen – simply by double-clicking on the window's title bar. This is true for all of your windows, including the Macro, Glossary and Catalog windows.

Making Smart Quotes Stupid

If you use smart quotation marks a lot, you should probably set up your Editing Preferences with Smart Quotes checked. Then whenever you type an ordinary quote (double or single), the correct curly quote will be substituted automatically.

Sometimes, however, you want to insert straight quotes (when using the symbols for feet or inches, for example). Rather than going to the Editing Preferences menu and changing the settings each time, all you have to do is hold the Command key down while you type the quotes. Holding down the Command-key modifier reverses the Smart Quotes setting for that entry.

TEXT FILES

Mac, DOS And Unix Text Files

Mac text files ("text with line breaks," or some such in most word processors) terminate each line with a carriage-return

character, while DOS text files use a carriage return and a line feed. Unix, of course, is different: it uses just the line-feed character. Programs that let you search for and replace non-printing characters can be used to convert text files from one of these formats to another. Two such shareware programs are Add/Strip and McSink, both available on Zmac or from your local user group.

WORD

Mail Merge With The Table Feature

One of the worst aspects of Microsoft Word's mail-merge feature is all the stupid punctuation rules you have to follow. Trying to make sure you have quotes and commas in all the right places often isn't worth the effort, and it can make inputting addresses sheer hell. If you use Word's Table feature to create the data documents for the merge, however, you can put the entire address – including commas and Return – into one cell. Not only do you avoid having to enclose fields containing punctuation with quotation marks but you also don't need to use as many fields, because all address information (company name, street, city, state and ZIP code) is contained in one cell under one field name. Unfortunately, you can't use the Table format if you want to sort your data by its parts, such as by ZIP code or city.

Fast Save Uses Disk Space

Microsoft Word has a Fast Save feature, which lets you save files relatively quickly in exchange for greater disk-space consumption. When the Fast Save option in





the Save As dialog box is checked, Microsoft Word doesn't actually delete text or graphics that you remove from a document; it just skips over them when you're displaying, editing, or printing the document. So, files don't get smaller when you delete things from them, and there is more overhead when you add new information. When you choose Save As and uncheck the Fast Save check box, Microsoft Word actually erases all the deleted information, so the file size should decrease.

Spell-Checking Without Putting The Cursor At Document Top

It's possible to run your spelling checker on a Word document without having to move all the way back to the beginning. First, select the entire document by moving the cursor to the left margin, where it changes into an arrow, and then click the mouse while pressing the Command key. When you run your spelling checker, the entire document will be checked in a single pass, without the annoying "Continue Check from beginning" message.

Re-spacing Between Letters

Word creates its own "normal" spacing between letters, based on the type and size of the font you're using. The problem is, sometimes the spacing created isn't exactly what you want.

You can fix spacing between letters by selecting the text you want to change, choosing Character on the Format menu, and then selecting Expanded when the list of options appears. The program will suggest an expansion amount in the By box. Override this suggested spacing by typing in any value from .25 to 14 points. As you experiment with different results, you'll find the re-spacing that works best for you.

Hiding Outline Headings

People who compose a lot of outlines will be vexed to find that most headings must be left out of the finished product. You can delete the outline headings manually, but in a long document this can be extremely time-consuming and can hinder your efforts to revise the file later.

A solution is to use Define Styles to create a style sheet on which all outline styles are based. Its style would be the same as Normal Text. Using Define Styles again, you can define each of the subsequent outline styles as being based on this "normal" style by entering that name in the "based on" box. Now, any changes you make to the definition of the base style will automatically be made to all outline styles.

When you've finished composing and want to hide the outline, choose Define Styles and add Hidden Text to the style definition. All outline heads will vanish, unless you select Show Hidden Text. When you print documents created with this method, be sure Print Hidden Text isn't selected in the Print Dialog Box.

"Auto-Date" Headers And Footers Can Be Copied Or Pasted Anywhere In A Document

When you paste "auto date" headers and footers anywhere you want in your document, it continues to change automatically whenever you start a new document. This is especially useful if you work from templates.

The "auto-date" can be distinguished from text by using the Show Paragraph command (press Command-Y), which displays a dotted outline around all "auto-dates."

This also works for time and page numbering. As an extra shortcut, try pasting “auto-date” into your glossary and then add it to your Work menu.

Key Strokes For Line Formatting

In Word, the Return key is used to end a paragraph, while Shift-Return is used to end a line without creating a new paragraph. Shift-Return works fine as long as it isn't used in a justified paragraph. In the latter case, the line created with Shift-Return is justified – something most people will want to avoid. And you can avoid it by pressing Shift-Option-Return.

This undocumented method of concluding a line is very useful for lines within a justified paragraph that, for example, are to contain only a mathematical equation located at a center tab. It's also the only way to create the appearance of multiple justified paragraphs within a single box. Simply apply the boxed format to the paragraph and conclude each pseudo paragraph within the box with a Shift- Option-Return. The concluding line of each “paragraph” will not be fully justified.

Incidentally, the Shift-Option-Return symbol that appears when Show is active looks just like the Return symbol.

Accessing The ImageWriter's Built-In Fonts

Word provides an easy way to access the ImageWriter's built-in fonts. In the lower-left corner of the Word window is a rectangular box that usually contains a shadowed page number. Click in this box and the word Code appears. This invites you to type a decimal (not hex) character code. Press Return to place that character in the text.

The decimal code for the escape character is 27 (this appears as a small box in your Word document). To access the variety of special fonts and font sizes built into the ImageWriter, simply add the escape codes at the beginning of your document and, if desired, at other points in your document. To do this, click in the Page box, type 27 in the place of Code, and press Return. Then in the main window, right after the small box that should now be showing, type the letter that will tell the ImageWriter what to do. Here's a partial list:

Esc n (Extended character set = 9 cpi)

Esc N (Pica = 10 cpi)

Esc E (Elite = 12 cpi)

Esc p (Pica proportional)

Esc P (Elite proportional)

Esc e (Semicondensed = 13.4 cpi)

Esc q (Condensed = 15 cpi)

Esc Q (Ultracondensed = 17 cpi)

Esc A (6 lines per inch)

Esc B (8 lines per inch)

When you're ready to print, make sure that you have Typewriter selected in the Chooser. Do not choose ImageWriter.

Condensing The Space Between Italicized Characters

Sometimes Word puts too much space between italicized words (especially if each word is capitalized, as in subheads or titles). Simply condensing italicized type usually results in squished type. But if you turn on Show from the Edit menu, you can select the space markers between the words and condense only them by using the Condense feature found in the



Character dialog box. You can condense by anything from 0 to 1.75 points. After you've highlighted the first space mark and condensed it, go on to the next space mark, highlight it, and press Command-A ("Again") so you don't have to reenter the values in the dialog box.

Dialog Box Command Keys

Word allows users to substitute command key combinations for mousing in all dialog boxes. Any dialog box can be canceled by using Command-period.

In The Save As... dialog box:

Command-S saves the file;

Command-C cancels;

In the Open... dialog box:

Command-O opens the highlighted file;

Command-C cancels;

In the OK or Cancel dialog box:

Command-O presses the OK button;

Command-C cancels the box.

In the Find... dialog box:

Command-F finds the next.

In the Change... dialog box:

Command-C selects Change Selection or Change All.

Creating Double And Triple Lines In Word

Set Below and Double borders on the Paragraph selection under the Format menu to create a double line underneath a paragraph. For a really interesting effect, go to the paragraph directly below the double-underlined one and set the borders for Double and Above. The results will be

three horizontal lines.

Changing Your Personalization Of The Master Disk

Word lets you "personalize" your master disk by entering your name and/or organization into a dialog box. Unfortunately, once you do, all future backup copies will display this information in an Info box as soon as you open the application. Even though Word's documentation states that your disk will be "permanently marked," you can change the personalized information display pretty easily using a file editor like FEdit or ResEdit.

First, display Word's data fork with FEdit. Pull down the Options menu and select SET EOF or SET END OF FILE. Then select ZERO, which eliminates Word's data fork.

The next time you run Word, it will prompt you to enter the "personal" information again, as if you had a brand-new master copy. (This also works with the personalization screen of Excel.)

Making Your Own Dictionary

To make your own dictionary for Word, all you need to do is open a new Word document and start typing your dictionary (one word per line). Then do a Sort (not necessary, but a good idea to get things in some kind of order), and save the document as Text Only. Then, using DiskTop, ResEdit or a similar utility, change the file Type from TEXT to DICT.

To have more than one dictionary open, select Spelling from the Utilities menu (or press Command-L), and get the Start Check dialog box; then choose Open from the File menu (or press Command-



0). You can then open the new dictionary plus any other DICT file you desire.

You can add new words to your new DICT by using the Add feature; or if you want to do a batch add, you can reverse the process – that is, change the file Type to TEXT, add/edit, and then change back to DICT.

Finding The Next Occurrence Of A Format

To find the next occurrence of a font or character format, put the insertion point within an example of whatever format you're searching for and type Command-Option-Q. Word will then search for the next appearance of text with the same formatting as that around the insertion point and select it.

To make using style sheets faster, you can add unique letters or numbers to your style-sheet names that let you call them up by these characters rather than the sheet's full name.

Open the Define Styles dialog box, select a style sheet, type a comma after the sheet's name, then enter the character you want to use. The next time you want to apply this style, just type the abbreviation.

Placing A Box Around Text

Here are two ways to place a box around text while in Word.

If the text isn't justified, select all but the last paragraph to be boxed and then use the Change command to replace all the paragraph markers (^p) with line returns (^n). This tricks Word into thinking it's looking at one large paragraph, so you can now apply whatever formatting you like from the Paragraph Dialog box. You can do the same thing with justified text, but

to prevent partial lines from spreading across the page, replace the normal spaces with non-breaking fixed spaces (Option-spacebar or Command-spacebar).

For paragraphs that have different margins or indents, you can use Side by Side formatting to create your boxes. Insert a graphics box in its own paragraph above the paragraphs to be boxed, making sure that its left margin lies to the left of the text you want to enclose. Size the box to the appropriate width and length, and then add whatever outline formats you wish. Select the box and the paragraphs and apply the Side by Side Paragraph format. You can check the results in Page Preview and resize the box as necessary.

Memo Magic

You can create a memo template, add it to the Work menu and have it ready to go every time you need to create a customized memo.

Word has a built-in mechanism for generating dialog boxes and collecting data from users. It's called the ASK command, and it's part of Word's Print Merge feature. The command goes like this:

<<ASK fieldname=? Message to be shown in dialog box>>.

To do this, create a memo template the same way you'd create a mail-merge document, with field names (<<RECIPIENT>>, <<REGARDING>>, and the like) representing the stuff that'll change from memo to memo. Then at the beginning of the document, just write an ASK statement for each field:

<<ASK RECIPIENT=? So who's this going to, Doc?>>





To generate a memo, open the template, select Print Merge, and click on the New Document button in the Print Merge dialog box. Word then throws dialog boxes onto the screen, asking for the info for each field and merging it into the new memo document. Move the memo template into the Work menu, and you have a customized memo at your fingertips.

If you really want to automate the custom memo, have a macro call Word. Just record a macro that selects the template from the Work menu and performs the merge commands.

Placing A Background Screen Behind A Paragraph

There are times when you may want to accent Word paragraphs with a background screen. The following PostScript command, placed before a paragraph, will do the job:

```
para. 0 0 moveto 0 1000 rlineto 1000 0
rlineto 0 -1000 rlineto closepath gsave
.97 setgray fill grestore
```

This instruction must be in PostScript style, which is one of Word's automatic styles and can be applied by entering PostScript in the Define Styles dialog box. The value 1000 will handle any paragraph up to 13 inches square, but if you want a smaller area, which will also print faster, you can pick a more realistic value by multiplying the number of inches by 72 and using that result. You can adjust the intensity of the gray scale by changing the .97 next to setgray. The closer this value is to 1, the lighter the screen. Word considers the space above and below your paragraph to be part of it, so some white space may get filled unless you use the Paragraph

command and set this space to zero.

Printing Legal-Sized Documents On The Laserwriter

You might find that trying to print legal-sized Word documents on a LaserWriter results in the top two inches of text being cut off. The solution to the problem is to select a larger printing area.

Just hold down the Shift key when you choose Page Setup. After selecting Legal Size, click the Option button. Choose Larger Print Area from the Option menu. Your documents should print without any problems.

WORD 3.0

PostScript Code To Place A Border Around A Page

Here's a PostScript sequence that places a border around an entire page:

```
page .
/wp$new [ newpath 36 36 moveto
wp$x 72 sub 0 rlineto 0 wp$y 72 sub
rlineto wp$x 72 sub neg 0 rlineto
closepath ] def 4.0 setlinewidth
wp$new stroke
```

This sequence places a box with a 4-point-wide border indented 36 points from every edge. The number 72 is simply 2 x 36. Change 36 to 72 and 72 to 144 to achieve a 1-inch border and modify the number before the word setlinewidth to suit your needs.

Marking A Document Draft

If you want to mark a draft Word document to print out on a LaserWriter as such, insert, in PostScript style, the text below in a header before the normal header information. You can also insert this

code just before the first paragraph on each page of a document, but putting this into the header saves you a lot of pasting and formatting. And in case you need reminding: to format this text in the PostScript style, select it, go to the Define Styles menu, and type PostScript.

page.

```
/TM {wp$y wp$top sub} def
/LM [wp$left] def
/RM {wp$x wp$right sub} def
/printline TM 100 sub def
/putcenter
{dup
RM LM sub
exch stringwidth pop sub
2 div LM add
3 -1 roll moveto} def
/AddToPath
{ putcenter
true charpath
} def newpath
/Times-Bold findfont 140 scalefont
setfont
printline (D)
AddToPath
printline 140 sub (R)
AddToPath
printline 280 sub (A)
AddToPath
printline 420 sub (F)
AddToPath
printline 560 sub (T)
AddToPath
gsave
0.9 setgray fill
grestore
```

When you print your document, this code will place the letters "DRAFT" centered down the page in a light gray.

Numeric Keypad Equivalents

Here are some shortcuts for working with numeric keypads:

/ repeats the last thing you did.

* scrolls down one line when pressed and released, or scrolls continuously when held down.

+ scrolls up one line when pressed and released, or scrolls up continuously when held down.

— extends the selection to the next occurrence of any item you enter, such as characters, paragraphs, number signs, bullets, etc.

= finds the next Search Item, even if you've cancelled the Find dialog box.

0 returns the cursor to its last three locations, one location for each press of the button.

5 returns to the regular screen from Page Preview.

WORD 3.0X

Shortcuts When You "Save As..."

There are a number of keyboard shortcuts you can take if you'd rather work through the keyboard than the mouse:

Command-S saves the file.

Command-E ejects the disk.

Command-C cancels the dialog box.

In the Delete dialog box, the same commands work, except that **Command-S** activates the Delete command.

Using MacDraw To Convert Typed-In Capitals To Lowercase Letters

Word can't convert text that was typed in capitals into lowercase letters. Pressing Command-Shift-K toggles between text





“as typed” and all uppercase, but it doesn’t convert text initially typed as capitals into lowercase letters. Also, the capitalizing effect can’t be used in a document saved as “Text Only.” There’s a work-around to this problem if you have a copy of MacDraw:

Text copied from Word can be pasted into MacDraw. Then, select the pasted text while in MacDraw, and choose Lowercase from the Style menu. Then, copy the text and paste it back into your Word document. The text will now be permanently saved as uppercase letters...even if you save the document as Text Only.

Using Uppercase Commands When You’re Using Capitals In A Document

If a large amount of your document is going to be typed in capital letters, use the All Caps character format (Command-Shift-K) instead of the Caps Lock key. This lets you check your text for spelling errors without deselecting the default Ignore Words in All Caps setting, and also lets you change the text back to normal lowercase format (including proper nouns, as long as you remember to Shift when you type) by removing the All Caps selection.

Creating Structured Footnotes

The footnote command may be very useful, but if you try to create scientific structures such as “...can be found in several review articles 1-12” can be a trying experience. You can work around this limitation by using Word’s hidden text feature.

While typing a manuscript, use the footnote command to enter all of the footnotes. Separate the first and second foot-

note numbers with a hyphen or an em dash, and then separate the rest of the footnotes with commas. This creates a list of reference marks that display as “...can be found in several review articles 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.”

Next, select the second through the next-to-the-last numbers, including the last comma (in this example, 2-11). Format the selection as Hidden text, using the Character command in the Format menu or by typing Command-Shift-x. The modified sentence displays and prints as “...can be found in several review articles 1-12” when the Show Hidden option in the Edit Preferences dialog box is not selected.

Creating A Solid Underline

When using Word to create a form, you can’t rely on using a series of typed underline characters to create a solid line. Some fonts show the line on-screen as being solid, but when you print them out the results will be far less even. To make a solid line that stays solid when you print it out, set Underline as your style and then type in blank characters with the space bar. If you press the Command key while typing, you’ll create “hard” spaces, which the program will keep on the same line.

How To Keep Outline Entries Intact.

When an outline is renumbered, so are entries that start with numbers. A work-around is to choose Styles from the Format menu to set the font for your various outline levels to some font that doesn’t use the square symbol (the one you get when you press Option-H). Palencia is one such font.

Every time you type a number which starts an entry in the outline mode, precede the number with the Option-H square. When you renumber and leave the outlining window, the square characters will disappear.

This allows your outline to print, and you won't lose any of the data or text you entered.

Copying Parts Of A Style Sheet

It's possible to copy one or just a few styles from one Word document's style sheet to another, without bringing in the entire style sheet. First, open the document that contains the style(s) you want to copy. Select a paragraph that's formatted in that style (to copy several different styles, copy a series of paragraphs).

Now, open the document to which you're going to copy the styles, and paste the paragraphs into the style sheet. The new styles are now a part of the old style sheet. Now you can delete the text you pasted in, and the styles will remain in the document.

Spell-Checking Around Ligatures

If you use a lot of fi and fl ligatures in long documents, you'll save time running the spelling checker by replacing the character pairs "fi" and "fl" with the ligatures AFTER the spell-checking is completed.

The spelling checker can't recognize ligatures as alphabetic characters, and you can't add words that contain them to your dictionary. So, if you put the ligatures in before running the spelling checker, the program regards any remainder of a ligature word to be misspelled — unless the remainder happens to match a word in the Main dictionary.

After the spelling checker has finished running, go to the start of the document (Command-Keypad 9), open the Change dialog box (Command-H), set the replacement parameters, select Match Upper/Lowercase, and click Change All.

Avoiding Disk-Swapping Hassles

A lot of people use several different document disks during a single work session. If you do, and you work on a floppy disk-based system, you can avoid a lot of disk-swapping by double-clicking on the Word application, instead of a document, when you start working.

Correcting Pagination Problems With Serial Printer Drivers

When you use the serial printer driver with either a 12- or 15-pitch printer, you must first set the line spacing for all paragraphs, or the pagination will be incorrect. When you create a new document, first go to the Paragraph dialog box under the Format menu and set the line spacing to 12 points instead of the default spacing, "auto."

If you are having problems printing an existing document, select the entire text and then go to the Paragraph dialog box and do the procedure described above.

Twelve is the proper setting to emulate a single-spaced typewriter which produces 6 lines per inch. To emulate other spacing, set a value of 72 divided by the number of lines per inch.

Pasting Some Graphics Can Cause Problems

When pasting a graphic from an object-oriented program (such as MacDraw), you might experience some problems if



the graphic's rightmost element is a vertical line. To get the line to appear, place a non-printing character, like a space, just to the right of the line. The character won't show up when you print the document, but Word will no longer think that the line is the rightmost object on the screen, so it will allow the entire drawing to be pasted in.

Speeding Up The Graphic Redrawing Routine

Word can take what seems like forever to redraw a complex graphic, especially one that has had smoothing activated for its curves. You can avoid this by creating a special Graphics style for each graphic, and including Hidden as one of its characteristics. Make sure that your Preferences setting has Show Hidden Text set to Off. Now, you'll be able to quickly scroll through and edit text in the document, without having to wait forever for graphics to redraw.

Just remember to redefine your Graphics style by cancelling the Hidden characteristic before you print or repaginate.

Printing Long Documents With Page Numbers

The Word manual describes a rather involved procedure for people who need to print long documents (meaning documents composed of several Word files) that have page numbers. One particularly annoying hoop you have to jump through is having to repaginate each part of your document, finding out what its last page number is, and then having to set up the next file so that it starts with the next page number.

There is a work-around to this situation. Choose Page Setup for each file, and type the file name of the next file, as the manual says. Then, **WITH THE EXCEPTION OF THE FIRST FILE** of the set of files composing the document, blank out the Start Page Numbers At box. That is, leave a 1 in the Start Page Numbers At box for the first file, and erase the 1 in that box for all the other files. Now, reopen the first file of the document and tell the Mac to print.

The entire document will print out with the right pagination, without your having had to repaginate each file.

This only works if you begin printing with the first file of the series. If you print a file that appears in the middle or end of the set of document files, you'll have to follow the instructions in the Word manual.

Cleaning Up Returns In Print-Merge Documents

When creating a list of names or addresses, for example, for print-merging in Word, making sure you have appropriately "Commanded" and "Shift-Returned" each and every set of data can be unnerving. (Remember a Return is only entered at the end of each record, while a Shift-Return may be used for arranging the data more logically.) To eliminate most of the problem, you can use the Document Renummer command to number each set of data which isolates the entries with just a Return instead of the desired Shift-Return. Where you find the erroneous Return, put the cursor in front of the entry and press the Delete key, then press Shift-Return. Using the Document Renummer command also lets you know just exactly how many names or addresses you have.



Changing The Length Of Word's Menu Titles

You can't change Word's menu titles to something less verbose with a utility such as ResEdit, because Microsoft doesn't use menu resources. So, use a file editor such as FEdit and perform an ASCII Search for the capitalized word "Document." This reveals the program area where the names of menu titles are stored. Each title is preceded by the length of the title. For example, change the 8 in front of "Document" to 3, then issue the command WRITE SECTOR. That's it. Using this technique, you can completely rename or shorten Word's menu titles. If you rename titles, make sure your new titles are no longer than Word's old ones.

When You Get The "Missing Comma In Data Record" Error Message

Word's Print Merge capability requires that you separate field names with commas or tabs. Unfortunately, when you accidentally omit one, the program simply puts up an error message, without telling you where your comma might be missing. Instead of going through each and every record you're working with, you can use this shortcut:

Count the number of commas in the header record, and then use the Change command to systematically isolate the record that's missing a comma. You do this by entering a comma into both the Find What box and the Change To box. Then select sections of records and start searching.

Word counts the number of changes that it makes, and puts that number into the

lower left corner. If the number of changes is not evenly divisible by the number of commas in the header record, you know that the defective record is somewhere in the records you just selected. If the number is evenly divisible, you can move on and select another section.

Continue this process until you narrow down the data records sufficiently to isolate the one or more records with missing commas.

Finding The Missing Comma in A Data Record

The easiest way to find a missing comma in a data record, while doing a Print Merge, is to select the New Document button in the Print Merge window. This creates a document on the screen. When you come across the "Missing Comma in Data Record" dialog box, quit the Merge and scroll the document to the last record. The next record in your data file is the one with the problem. Once you have a successful Merge to the screen document, select Print and you are assured of printing the entire batch successfully.

One Way To Count Words

Here's one way to count words in Word 3.0 and 3.01.

Make a copy of your document and use that, as this procedure will change the document. Select Change from the Search menu. Enter w (the white spaces) in the Find What box and n (end-of-line marks) in the Change To box, then choose Change All. When this operation is complete, you'll find the number of changes (which is very nearly the number of words) in the lower left corner.



If, by mistake, you do this on your original document, all the words will be arranged in a column. Save the situation by closing the document and clicking No when the dialog box asks if you want to save the changes.

How To See The Size Of A File Without Returning To The Finder

Here's a good way to see how big (in K) your Word 3.0x files are. This method works without having to return to the Finder.

Start by saving the document. Then close its window and choose Delete from the File menu (if you don't see Delete, that means you're in Short menus and must change to Full or Normal menus). Select the document you wish to see the size of from the list. The size will be shown under the buttons. This size is rounded down to the nearest kilobyte. (That's different from the Finder, which displays the size to the nearest K rounded up; and Get Info, which shows the exact size in bytes. Here's an example: The file is actually 9728 bytes long. Get Info will show that number or 9.5K; the View option of the Finder will show 10K; and the Delete dialog will show 9K.)

Remember to hit the Cancel button after you check the size.

Accessing Help Fast

You don't have to dig out your manual every time you need help, if you have Apple's Extended Keyboard. The key, labeled "Help," is right under the F13 key. When you press it, you'll see a question mark appear. This is your cursor. Move it to whatever you want explained, including menu choices, and then just click the mouse for the help you need.

If you don't have the Extended Keyboard, press the Command key and the ? key to get the question cursor.

WORD 3.01

Word Features Not Appearing In The Menus

Word 3.01 has several features that are only accessible through the use of special key combinations. These features normally never appear in menus. Yet, working with the program would often be simpler if they did.

Let's take the example of Insert PageBreak. The only way (normally) to access this feature is to type Shift-Enter. Here's how to make this feature a menu choice. Start with a blank document. Be sure you are in Full Menus mode. Type Shift-Enter to produce a forced page break. Select the dotted line that results by clicking in the Selection Bar (the column at the left of the screen where the cursor points northeast instead of northwest). Then choose Glossary from the Edit menu. Type in a descriptive name, such as "PageBreak," and click on the Define button. Next, press Option-Command-+ (plus sign) and click on the name Pagebreak in the glossary list. A Work menu will be created (or added to, if you already have one), in which the new glossary entry will be found. Now whenever you want to insert a page break, just go to the Work menu and select one.

This method will work with the other key combinations Word forces you to memorize. These include: Section Mark (Command Enter), End-of-Line Mark



(Shift-Return), Optional Hyphen (Command-hyphen), Non-breaking Hyphen (Command-~).

WORD 3.02

Repaginating Without Crashing Using Word 3.02 And The Laserwriter II SC

Opening a document in Word 3.02 and then doing any procedure which repaginates the text causes a Bomb message and a crash.

To correct this, select the LaserWriter II SC driver using the Chooser every time you open Word. Do this even if the LaserWriter II SC driver is the only one in the System folder, and it's already been chosen while you were in the Finder or another application. Once you've chosen the LaserWriter II SC while in Word 3.02, you'll be able to switch applications and print with no further problems.

Swapping Adjacent Paragraphs

Want to swap the positions of two adjacent paragraphs quickly, without using multiple executions of Cut, Copy, and Paste?

Highlight the paragraphs and check the alphanumeric position of the first word in each paragraph. Then use the Sort command (Word will sort in ascending order) or Shift-Sort (descending order) according to the alphanumerics. With a little forethought, you can figure out how to move two paragraphs around a third paragraph that separates them.

You can also install markers at the heads of as many paragraphs as you wish to rearrange. Use Sort, and remove the

markers when you're finished. The variations of Sort are endless once you get the hang of this useful and underused tool.

Bonus Disk

Word 3.02 and above come with a Bonus Disk, with a DA called Word-Finder (it may not work with System 7). The thesaurus only works with Word or the Finder – it only functions if the information in the About... box of the active application says "About Microsoft Word...", "About MS Word...", "About Word...", "About Finder...", or "About DAs..."

Using ResEdit, you can customize WordFinder to work with any application that has a MENU resource. First, open ResEdit and then open the desired application. Open the application's MENU resource and open MENU ID=1. Change the first menu item to "About Word..." (with three periods!) and save your changes. WordFinder can now provide you its riches in the modified program.

Using The ASCII Code Search-And-Replace Capability

Microsoft Word 3.02 and above have an ASCII code search-and-replace capability that can come in handy when using Word to edit and reformat text files created on an IBM PC or PC clone. To find a particular ASCII code within a Word document, type a caret (Shift-6) followed by the decimal value of the ASCII code in the Find What dialog box. Here's how to use this feature to fix a typical PC text file imported into the Mac environment (always work on a backup copy of the file you wish to convert):

1. Select Change from the Search Menu (Command-H).





2. Replace the double carriage-Return / line-feed (CR/LF) pairs at the end of each PC text paragraph with a special Mac character as follows: click the I-beam to the left of the first character in the file. In the Find What box, type `^13^10^13^10^` (13 is the decimal value of the ASCII carriage-return code; 10 is the decimal value of an ASCII line feed).

3. In the Change To box, type Option-8 for a bullet (•) or another special Mac character not used in the file. Click Start Search or Change All to make the changes.

4. Now, replace the CR/LF codes at the end of each line within paragraphs with a space: with your insertion point at the top of the document enter `^13^10` in the Find What box; in the Change To box, type one space; and then click Start Search or Change All.

5. Finally, go back and replace the special Mac characters (used to mark the end of PC text file paragraphs) with a Return. First click the I-beam at the top of the file. In the Find What box, type a bullet (or whatever special character you used). In the Change To box, type `^p` (a caret followed by a lowercase p represents a Word Return character). Click Start Search or Change All as before.

You can also use this ASCII code search feature to fix PC word-processing documents within Word. For example, some PC documents contain normal text with only occasional ASCII control codes (such as decimal value 12 for form feeds or 9 for tabs). Use FEdit Plus or another Mac file-editing utility program to examine the codes in the PC document, and then use this technique to search for and delete

these codes within Word. For a complete list of the decimal values for all ASCII codes, see the Appendix in the Microsoft Word manual.

By the way, the reverse of this process works as well. You can replace return characters in a Word text file with ASCII CR/LF codes. This allows you to create readable text files for your PC friends and customers without leaving your Mac.

WORD 4.0

Slow Save In Word

Other applications, such as Correct Grammar and PageMaker, seem to hate documents saved with Word's Fast Save feature. If you want to eliminate the Fast Save feature in Microsoft Word, add the Fast Save Enabled option to the File menu using Word's Commands feature and then un-check it.

To accomplish this, choose Commands from the Edit menu. Scroll until you see Fast Save Enabled, and place this item in the File menu. Then select the Fast Save Enabled item under the menu you placed it in so that it does not have a checkmark next to it.

Fitting Long Entries In Mail Merge Fields

As you're creating the data file, you might well find that some of your entries are too long or that they just don't fit the pattern you've established in the header information. You can get around this problem by breaking the field entry into two or more lines with a soft Return (Shift-Return).

If you enter a soft Return, the mail-merge will bring that onto the next line without



disrupting the field order. Be sure to save the data file as a normal Word document — soft Returns are stripped out of ASCII documents. To see the difference in a Word data file, just be sure that Show Paragraphs is on.

Spacing Paragraphs In Styles

One useful aspect of Word's style-sheet feature is its ability to assign a space before and/or after a paragraph to a style. A space before and after in a style definition lets you maintain consistent spacing between elements such as body text and section titles throughout a document.

If you assign Space Before to a style, however, and a paragraph with that style begins at the top of a page, Word adds the extra space at the top of the page, leaving a gap. As a result, the top margin for that page appears to be shifted down, making it inconsistent with the other pages. Unfortunately, the only way to avoid this unwanted result requires manual labor:

1. Place the cursor in the paragraph with the unwanted space.
2. With the Paragraph command, change Space Before to 0 points.

Word removes the extra space at the top of the page.

Note: Because page breaks can change while you're editing a document, it's wise to wait to make this correction until you're ready to print a final draft.

Boxing In Text

Just about any currently available word processor offers a variety of ways to format words to make them stand out from the main body of the document. But

what do you do when underlining or boldface or even something as exotic as a shadow doesn't fit the bill? Try a box! Here's how:

1. Select and format the text to be boxed. (Note: After it's been boxed, the text itself can't be reformatted.)
2. Use Command-Option-D to copy the selection to the Clipboard as a graphic.
3. While the text is still highlighted, use Command-V to replace it with the graphic image of the copied selection.
4. Click on the graphic to select it, and box it in by choosing the Outline style from the Format menu (Command-Shift-D).

You can also add shadow or boldface format to the outline style for extra emphasis. The secret here is that the style commands don't work just with text — which is what most people assume — they also work with graphics.

If the boxed text is on a line with other text, it will sit higher, because the bottom of the box sits even with the baseline of the text on that line. To correct this, select the graphic, choose the Character command from the Format menu (Command-D), select subscript, and offset the text as needed (the larger the font size, the greater the offset required).

Using PostScript Code To Shade A Cell

You can use PostScript code to shade a cell in a Word 4.0 table by typing: `cell. .75 setgray wp$box fill` and pressing Enter. Then select the text, and format it with the PostScript style by pressing the Shift key and selecting Define All Styles from the Format menu. You can replace the number .75 with

whatever number you choose. Make sure that you have deselected Print Hidden Text in the Print dialog box.

Adding Words To A Dictionary

Here's a relatively easy way to add large groups of words to Word's dictionary. Create a file containing the words you want to enter. Then select Spelling from the Utilities menu in Full Menus. Select the dictionary to which you want to add the words. When the first word is queried, create a macro (with your macro program of choice) that clicks on the + button and then on the Continue button. Assign a keystroke for the macro, and press it as necessary as you continue to check spelling in the document.

You'll find that this also makes your regular spell-checking go faster, because you don't need to reach for the mouse when you add words to the dictionary.

Viewing Landscape Tables

Here's a tip for creating full-page landscape-oriented (horizontal, not vertical) tables in Microsoft Word when using a small-screen Mac. This tip avoids the constant (and painfully slow!) screen redrawing that occurs when the cursor moves past the edge of the currently visible portion of the table.

1. Create your table. After you've created the column headings and table layout, use the Insert Row command to specify the number of rows.
2. Resize the window you're working in so that it fills the entire screen horizontally but only half of the screen vertically. Place the window at the top of the screen.

3. Now open a second window for the table; don't split the window you're working in — open a new one. Resize the new window so that it fits just underneath the original one.

4. Use the horizontal scroll bar to shift the view in the new window so that you can see the right edge of the table.

Now you can see your whole table — the top window shows the left edge of the table and several of the columns toward the middle; the bottom window shows the right edge of the table and some of the same middle columns.

Enter the table information. When you've finished with the last fully visible column in the top window, use the mouse to move to the column following it in the bottom window. When you get to the right edge of the table, use the mouse to move back up to the next row in the top window.

This is a much quicker and more accurate method of creating a table — you never have to wait for the screen to redraw while you're typing, and you never lose your place because you can't see the row headers at the left edge of the table.

Sorting A Mail Merge

Do you want to sort a mail merge data file by zip code when the first field is LAST-NAME and ZIPCODE is somewhere in the middle of the record? You can try using Option-drag to select just the ZIP-CODE column. You need to set your tabs so that all the zip codes are left-aligned in a column. Hold down the Option key as you drag the mouse to highlight the desired column of text.

Once you've selected a column of text, using the Sort command sorts the records





based on the first word of each line in the selected column rather than on the first word of each paragraph in the data document. And remember not to select the field name at the top of the document.

Using Outlining To Navigate

Word 4.0's outline feature is frequently underused, probably because most people don't make outlines. But this feature can be helpful for more than outlining.

Here is a way to jump quickly to a specified place in a long document:

1. Select Outlining mode (Command-U) from the Document menu.
2. Click on the line of paragraph you want to go to (collapsing or expanding as needed). In effect, you're creating a kind of bookmark by entering an insertion point.
3. Choose Outlining again to go back to normal editing mode. Now your cursor is at the right spot, but it's probably off-screen.
4. Press the right- or left-arrow key to scroll the document to the cursor's location.

Printing Screens In Word

Here's a tip for printing screened areas in Microsoft Word with a LaserWriter IIsc or other non-PostScript printer for use as table headers, highlighted table rows, and so on.

Use Word's Insert Table command to set up the text or table in which you wish the shaded area to appear. Once you have the text formatted as you desire, add a column at the left of the existing table. If this column has any borders, remove them. Use the ruler to determine the approximate width of

the screen area you want (you can figure out the row height with the Cells command).

Use SuperPaint (shipped with Microsoft Word) to create a box of the size and screen density you desire. Then choose one of the 36 predefined gray-scale patterns included with SuperPaint. Paste the box into the appropriate cell in the column at the left of your table, and set the left margin of the screen paragraph to correspond with the desired screen position. Make sure the right margin of the paragraph is far enough to the right that the entire screen box fits within the paragraph, or Word will add space under the paragraph that will expand the vertical space of the table row.

You won't be able to see the effect in Page View, but when you use Print Preview, you will see the screen over the text.

When you print, your text will overlay the screen. You may need to adjust the screen placement or size slightly to achieve the desired effect.

Managing Data With The Table Feature

An easy and straightforward solution to manage data in Word is to keep data in Word 4.0 tables.

From scratch, simply type your merge field names on a single line, separating them with tabs. Select the line by pointing in the left area of the window and clicking once. Now, from the Document menu, select Insert Table, and accept the defaults presented to you. Your data are now in an easy-to-manage grid, one that changes height as you enter data.

To enter data, click on the last cell in the row and press Return – a new row is started, and you can start entering your merge data.

If you don't like the column widths, you can change them: click on the Ruler icon in the ruler, and T markers appear; shift these markers around until the table suits you. You can also change the page setup to landscape instead of portrait, because only the characters in your table – not their format – will be merged.

If you're merging from a database such as one produced in FileMaker, the process is even easier: Select the entire document you've exported from your database (Command-click in the selection bar or press Command-Option-M), and choose Insert Table from the Document menu. FileMaker can output data in the exact format Word needs to produce a merge document, and the Table feature organizes the information so that you can see what you have without having to wade around in all those defaulted tabs.

Using The NEC Daisywheel Printer

If you use Word 4.0 and a NEC daisy-wheel printer, you may find that the 12th line of text on a page often prints over the 11th line. This didn't occur with versions 1.5 or 3.1.

You can count down 11 lines and then insert a blank line to overcome the problem, but there is a better solution. The NEC printer uses a pitch of 12, so if you choose the Paragraph command from the Format menu (Command-M) and replace Auto in the Line Spacing box with-12, the overlapping stops.

Time-saving Indexing

To use Word's indexing feature, you must mark each word that you want to index with i. in front of the word and ; after it. This is extremely time-consuming, especially if you want to index a word every time it appears in a document. Here's an easy way to add hidden i. and ; characters around all occurrences of a given word in an open document:

1. Index the first instance of the word as you normally would. Choose Save As from the File menu.
2. In the Save As dialog box, click on File Format and choose Interchange Format (RTF). Click on OK.
3. Give the RTF document a name, and save it. You'll see a new version of the file with all kinds of strange control codes embedded in it.
4. Find the first instance of the word that you indexed normally. It will be surrounded by codes that might look something like this: {\v {\xe\pard\plain\s240 Indexwork}}).
5. Select the word and all of this index code – which always starts with {\v and ends with }} – and copy the selection to the Clipboard. Next place your insertion point after this word and all the code that surrounds it.
6. Choose Change (Command-H) from the Utilities menu. Type the word you want to index into the Find What: box, and then paste the contents of the Clipboard into the Change To: box.
7. Click on Start Search (choose No when Word asks you if you want to continue the search from the beginning of the document). This will add the correct index



codes at the beginning and end of each occurrence of the word you want to index. Repeat this process for all words you want to index.

When you've finished, save and close the RTF document. When you reopen the document, Word will ask, "Interpret RTF text?": click on Yes. The document will then appear in normal format with all the relevant entries properly indexed. You can verify that all the words have been correctly labeled by choosing Preferences from the Edit menu and toggling the Show Hidden Text button on. You can then create an index for the document as normal, using the Index command, on the Utilities menu.

The Word Screen Saver

Ordinary screen savers may dim your screen or offer fireworks and clock displays, but in Word 4.0, there's an animated display that is quite beautiful in color. Select Commands from the Edit menu and choose Screen Test from the list of commands in the dialog box. Click on the Do button. If you click once while the images are dancing across the screen, a dialog box will let you customize the display or cancel it.

Smoothing The Transition From Word 3.0 To Word 4.0

1. Word 3 and Word 4 can coexist on the same hard disk, each with its individual preferences file in the System folder, but we recommend against keeping the old version on-line. Documents have the same creator and type IDs in Word 4 and Word 3, so keeping track of document versions can get very confusing.

(If your Word 4 is sensitive to errors in its preferences files), however, it might be a good idea to erase the "Word Settings (4)" file in the System folder and redefine your preferences (if the application is bombing).

2. It's easy to move your personal style definitions from Word 3 to Word 4. Simply go into Word 4 and select Define Styles. Then use the Open menu item to open a Word 3 file, which makes all its styles available. Any styles you want to keep in Word 4 can be saved with the Set Default button.

3. Word 4 retains the ability to deal with any ASCII characters, invisible or otherwise, by specifying their numeric equivalents. In the older version, you could find the value for a selected character by clicking on the page number at the lower left corner of the screen. In the new version, Command-Option-Q is the only way to show the numeric equivalent.

4. Word documents that are "fast-saved" cause problems for Working Software's Spellswell spelling checker and may be troublesome for other applications that try to convert them. There is a clever work-around, however, that allows you to change Word's default format from Fast Save to normal. Use Word 4's Commands menu to add Fast Save Enabled to a menu such as the Edit menu. Once it is on a menu, you can select it to un-check it, and it will remain off until you specifically turn it on again.

5. Finally, for a little fun, select About Microsoft Word ..., then click on the Word icon while holding down the Command key.



Formatting Fields From A Database Using The Mail Merge Function

Most database programs can export to PageMaker (and other desktop publishing programs), but formatting text with anything but paragraph-based styles is difficult. (For example, you might want one field to come out in bold, one in italic, and one in a different font than the rest). The answer is to use Word's mail-merge function. Format the main document as desired, using the field names from your database; for example, you could boldface the name field and italicize the phone field, as shown here:

```
<<DATA Data document>>  
<<Name>> tab <<Address>> tab  
<<Phone no>>
```

Export your database to a tab-delimited ASCII file, and set this exported file up in Word as a data document. Then you can enter the field names in the data document. Make sure that no commas appear within the fields (you can search for commas to be certain).

Go to the main document, choose Print Merge from the File menu, produce a new document, and use the Change command to get rid of the page breaks between entries. You can now import the formatted Word document into PageMaker or any other page-layout application.

Creating Tables With Varying Column Widths

The Insert Table command in Word 4.0 only lets you create tables with columns of equal width. Ordinarily, you have to struggle with the column markers across the ruler to vary the column widths, but there is a shortcut that makes it easy:

1. Say you're creating a three-column table with one narrow column on the left for labels and two wide columns to the right for entries. As you create the table, enter 5 in the Number of Columns box.

2. Select all the cells in the second and third columns by holding down the Option key while dragging the mouse over these columns.

3. Choose Table from the Edit menu and select the option for merging the two columns. Repeat this procedure with columns 4 and 5.

You now have a three-column table. To get a narrower first column and wider entry columns, just increase the number of columns in the table by a factor of 2.

Creating An On-line Hints Menu

Word users have been inundated with documentation, help files, and third-party books discussing all the program's intricate features. Trying to keep track of all this information in its present state is mind-boggling but worth the effort.

To have this information literally at your fingertips, create a file named Hints in which you store a personalized set of commands, shortcuts, and tricks that you want to keep at your fingertips. Give this Hints file menu-bar status by adding it to the Work menu. Press Command-Option-+ (plus symbol). When the cursor turns into the plus symbol, click on your Hints document, either in the Open dialog box or in its title bar (if it is the active document).

Word will create a Work menu on the right-hand side of your menu bar or add your Hints document to an existing Work menu.



Launching MacWrite Documents With Word

Whenever you double-click on a plain-text MacWrite document (such as the documentation files you download frequently from bulletin boards), it won't open unless you have MacWrite on your disk. As a lot more people use Word 4.0 than MacWrite, here's a way to make Word 4.0 automatically open those MacWrite documents in its own format when you double-click on them.

First, make a backup copy of MacWrite (if you have it installed) on a floppy and then delete it from your hard drive.

Next, make a duplicate copy of Word 4.0 on the hard drive and rename it MacWord.

By using ResEdit, you can change the Creator of MacWord from MSWD to MACA (highlight MacWord and choose Get Info from the File menu). Make the changes in the Creator box.

Now, when you double-click on a MacWrite document, MacWord will launch and the document will be converted automatically.

Quickly Adding Fonts To Word's Font Menu

If you need to add font names to Word 4.0's Font menu, pressing Command-Option-+ each time can get tedious in a hurry. Here's a fast, undocumented way to add all the currently installed fonts to your menu.

Choose Commands from Word's Edit menu, and choose List All Fonts from the list of commands. Then click on the Do button.

The menu bar will flash as Word adds suitcase fonts one at a time to the Font menu.

A Patch For Fractional Font Widths On ImageWriters

If you do not own Adobe Type Manager, and you are using Microsoft Word, there is a patch – a set of modifications to Word – that allows for fractional font widths on ImageWriters. It's called WORD4MOD.SIT. It should be available from the usual shareware outlets such as user-group libraries, BBSs, and so on. On CompuServe it's called WORDMO.BIN in the Macintosh Productivity Forum's word-processing library.

Installing the patch requires familiarity with ResEdit (available from the same outlets). Obligatory ResEdit warning: Never use ResEdit on an original or master of anything. Always work on a copy. And don't forget to lock your master disks. That way, if you happen to make a mistake and damage something, you can always make a fresh copy from the master disk.

Recovering Word Temp Files

Before you save a Word document, Word sets up a temporary file and places it in the System Folder. If your system has crashed and you want to try recovering a Word Temp file, you can try opening it by holding down the Shift key and choosing Open Any File from Word's File menu. That should enable you to open the Temp file (try the one with the highest number). If you want to, you can add the Open Any File command to your menu permanently by using Word's command option, which you'll find on the Edit menu.



Kerning With The Displace Command

Microsoft doesn't mention kerning anywhere in the Word manuals, but you can do rudimentary kerning with two characters:

1. Choose Show from the Edit menu.
2. Place the cursor between the two characters you want to kern.
3. Press Option-Command-backslash and then type the letter D (the formula code for Displace).
4. Press Option-Command-backslash again, and then type the letters BA (the formula code for Backward).
5. Enter the number of points to kern (in whole points).
6. Follow this with both open and close parentheses to end the formula. The code you see on-screen should look like this: `\Dba3 ()` (using 3 points as an example).
7. Choose Show again or print your text, to see the difference in spacing. If you save this formula as a Glossary item, you'll have to enter it only once.

Inserting The Date Into Documents

Word lets you insert the date into documents through its Commands dialog box, but you're stuck with its date formats, which include the day of the week (except for the short format – for example, 3/31/89). If you want a date such as March 31, 1989, you'll have to suppress the weekday in the System file with ResEdit 1.2. (Try this on a copy of your System file before you change your working System file.)

1. Open the System file and scroll down to it11.

2. Open it11. Select it11 US" ID=0 and open it.

3. Next, click on the Suppress Day box (see Figure 2).

4. Close ResEdit and save the changes. Open a Word document. To get the date, make sure you're using Full Menus and select Glossary from the Edit menu. You'll see the following date entries: date – now – abbreviated, date – now – long, and date – now – short.

Select either the long or the abbreviated format and click on Insert. The date will appear either as March 31, 1989, or as Mar. 31, 1989, respectively.

Using Insert Graphic To Speed Printing Time

Inserting a graphic in a word-processing document can significantly increase printing time. Here's a trick for trimming your printing time on working drafts and proofs.

Measure the illustration's height (many object-oriented draw programs have a Show Size option). Insert the graphic into a Word document. With the graphic selected, choose Paragraph from the Format menu. Type a minus sign in the Line Spacing box and then enter the graphic's measurement. The minus sign adjusts the paragraph's height to match the size of the graphic.

Select the graphic again, choose Character from the Format menu, and format the graphic as hidden text. When you print draft documents, be sure Print Hidden Text in the Print dialog box is not selected. The illustrations will be replaced by





an appropriate amount of white space, and you'll know where your page breaks are. When you're ready for the final version, recheck Print Hidden Text, and the graphics will print properly.

Inserting PostScript Code In A Word Document

Placing bits of PostScript code (or even lengthy routines) into a Word document is simple. But Word requires that you first clearly define what part of the page will be affected by the PostScript code. Is it going to affect the entire page (for example, a box enclosing the page) or just a paragraph or inserted graphic?

You define the boundaries by inserting a group command immediately before the page element it will affect. In Word 3.02, you could use three such commands: `.page.`, `.para.`, or `.pic.` (referring to the entire page, the next paragraph, or the next graphic insertion). Version 4.0 has added `.cell.` and `.row.` to facilitate PostScript manipulation of tabular material.

1. Group Commands—Group commands create a drawing rectangle that specifies the overall size of a PostScript graphic. The actual dimensions of the graphic never have to be entered, because the command gathers this information from Word itself. The drawing rectangle created by `.page.`, for example, is determined by the page size you've specified with the Page Setup command. If your page is 5 x 7 inches, the drawing rectangle mirrors those measurements exactly. Most other group commands, such as `.para.` and `.pic.`, let you focus on increasingly smaller or more precise areas of the page—a paragraph, or a graphic frame within a paragraph.

After the group command is entered, you can enter a PostScript code you've written or copied from another source. Here's a simple example that places a 5x7-inch box on a page. At the top of the page, type the following:

```
page.  
newpath  
.25 setlinewidth  
126 144 moveto  
360 0 rlineto  
0 504 rlineto  
-360 0 rlineto  
closepath  
stroke
```

Anyone with PostScript savvy will notice some peculiarities here. The primary one is that the PostScript inclusion hasn't been bracketed by a `save /restore` or `gsave/grestore` pair, which prevents certain PostScript operators (Rotate, for example) from changing the graphics environment of the entire page. Why this apparent breach of PostScript etiquette? Because the group commands automatically bracket each grouping of PostScript code with a `save/restore` couplet.

You might also notice that the origin point (0 0) in Word's version of the PostScript coordinate system corresponds exactly to that found in PostScript itself. This means that the origin point (0 0) is found at the lower left corner of the current drawing rectangle, whether it is a page, paragraph, or graphic frame.

2. Creating Global Commands—When PostScript requires specific measures or positions that can't be referred to through the built-in variables, the dimensions are expressed in points. If you feel more comfortable working in inches, simply place the following code after a group com-

mand such as .para. or .page. (and, of course, format it in Word's PostScript Style):

`/inch (72 mul) def`

Then you can use code such as `1 inch 1 inch moveto` instead of `72 72 moveto`. The routine you've inserted automatically multiplies the inch units by 72, converting them into PostScript's point system.

Ordinarily, such a routine applies only to the drawing rectangle indicated by the group command. So if you had a .page. and several .para. PostScript groups on the same page, you would have to insert `/inch 172 mul def` in each group. When Word scans the page for PostScript, it does each group in turn and discards the variables or routines of that group as soon as it has been processed. Even routines or variables placed after the .page. command can't be used by other groups on the same page.

3. Executing The Postscript Code—If you print the document now, you won't magically have a PostScript-generated box on the page. The code prints as ordinary text. To have it executed, you must do several things.

First, select the PostScript code (including any group command). Then hold down the Shift key and pull down the Format menu. You'll see that Styles has been replaced by the All Styles command. All Styles has several predefined styles, including one called PostScript. Select it and click on OK. The PostScript code has now been changed into a form that will be interpreted rather than printed. To see the code after this point, make sure that Show Hidden Text is selected in the Preferences dialog box (Edit menu). You can't see the results of your tinkering by using the

Print Preview command; you must print the document on a LaserWriter.

When you print, make sure that Print Hidden Text isn't selected in the Print dialog box and check the Chooser to make certain that Background Printing is turned off. If Background Printing is left on, the PostScript effects will be shifted down and to the right from where you want them on the first page of the document. Subsequent pages will print correctly.

4. Modifying Word's PostScript Code Style—The on-screen appearance of Word's native PostScript style leaves something to be desired.

Fortunately, you can easily modify most of the attributes. While holding down the Shift key, select Define All Styles from the Format menu. Select PostScript. The description box defines the style as "Normal + Font: 10 point, Bold Hidden." The main culprit here is Bold, which makes the type hard to read. So just pull down the Format menu while the dialog box is showing and turn off Bold. You can safely change anything in the Postscript style other than the Hidden attribute.

Zapf Dingbat Check Mark With Drop Shadow

Here's how to put a Zapf Dingbat check mark into a box with a drop shadow:

1. Press Command-Y to see the symbols for paragraphs, spaces, and tabs.
2. Press Command-Option-Backslash, and then type O(o,4).
3. Select the text (including the backslash), and choose Zapf Dingbats from the Font menu. Press Command-Y again to hide the paragraph and space symbols,



You now see a box containing a check mark. You can experiment with the various boxes and check marks in Zapf Dingbats until you have a combination you like.

Printing Grey Text

Microsoft Word 4 lets you assign one of eight basic colors to text. Most users don't have access to color output devices, and if they do they probably don't want to print those overripe colors anyway.

But there's a clever application of this feature that almost everyone can use. If you color text and then print to a laser printer with Version 6.0 or later of the LaserWriter driver, the text is halftoned. The order of grey-scales, increasing in darkness, is Yellow, Cyan, Green, Magenta, Red, Blue.

Using PostScript To Place Screen And Crop Marks

1. Screen Marks—If you want to place, say, a gray screen behind a single paragraph, you do not need to know the precise location and size of the paragraph.

First, remember that the group command `.para.` creates a drawing rectangle that corresponds to the size and position of the paragraph it precedes. And Word has another card up its sleeve — built-in PostScript variables. There are 22 variables, which will aid you as you develop code. For a list of the variables and their descriptions, see pages 285 and 286 of the User's Guide.

To make a screened paragraph, we need the variable called `wp$box`. Here's what you need to type in front of the paragraph and then format in Word's PostScript style by holding down the Shift key and selecting All Styles:

```
.para.  
.9 setgray wp$box fill
```

By the way, you don't have to use carriage returns, although they make the code more legible. You could simply type:

```
para. .9 setgray wp$box fill
```

In any case, the variable `wp$box` is equivalent to defining a drawing rectangle the same size as the paragraph. Without it, you'd have to determine the coordinates of the paragraph (with a ruler on a printout) and type something like

```
12 6 14 4 moveto  
360 0 rlineto  
0 504 rlineto  
-360 0 rlineto  
closepath  
fi11
```

These are hypothetical coordinates, but you can see the advantages of having the variables. You save a lot of typing, and you don't need to figure out specific positions or dimensions.

2. Crop Marks—An even clearer example is crop marks, one of six routines included in the PostScript Glossary that accompanies Word 4.0. After the actual crop marks are defined, the routine places them at the corners of the page. Ordinarily, you would have to know or calculate exact positions for the marks, a painstakingly bothersome task. But with judicious use of some of Word's variables, you can avoid the hassle:

```
wp$left markl sub whitel sub wp$y  
wp$top sub moveto markl 0 rlineto  
stroke
```

The variables `wp$left`, `wp$y` and `wp$top` refer to the left margin, the drawing rectangle's height and the top margin respectively. You don't need to get the dimen-



sions from the Page Setup dialog box. Word fills in the appropriate numbers when the file is interpreted and sent to the printer. And if you change the page size, you don't have to go back to the code and insert new dimensions.

Customizing Word To Open The Ruler Automatically

You can make your documents open with the ruler automatically displayed by using Commands from the Edit menu. Here is how to do it:

1. Open any Word 4.0 document. Make sure Full Menus is selected.
2. Choose Commands from the Edit menu.
3. Make sure the dialog box says "Configuration: Word Settings (4)" in the lower left corner. This tells you the name of the file you are customizing.
4. Scroll down the command list until Open Documents With Ruler shows up. (Shortcut: Press the O key to jump to the beginning of the O listings.) Click on the command name to select it.
5. Click on the Add button.
6. Click on Cancel.

The Open Documents With Ruler command will now be listed on the Format menu. It will not be checked, though, so you will have to activate it. Highlight the new menu command to select it. Every document you open from now on will automatically show the ruler.

It's worth looking through the entire list of commands in the Commands dialog box, since many useful items are tucked away in there, and some of them are not documented in the Word 4 manual.

Accessing The Macron Character

In most Adobe laser fonts, you can access a plain macron character by pressing Shift-Option-comma (although the macron may not show on-screen if you do not have the appropriate screen font).

Microsoft Word's formula language allows you to over-strike one character with another, placing a macron over long vowels.

To put a macron over the desired vowel, type the Formula character, Command-Option-\ (it may not be visible if the paragraph markers are hidden). If you get a beep instead of the Formula character, select Full Menus from the Edit menu.

Next type an O, for Overstrike, and then type (and the character you want to have the macron. Finally type a comma, the macron and).

A Macro For Changing Italics To Underline Using AutoMac III

There is an alternative to using Word's search-and-replace operations for type styles.

Here is an AutoMac III macro for changing italics to underline. (AutoMac III comes bundled with Word 4.0. If you have not installed it, place the file AutoMac III in your System Folder and restart your machine. The AutoMac III icon appears to the left of the Apple menu.)

First, use Command-9 (9 on the numeric keypad) to get to the very beginning of the document. Now type a word in the type style you wish to change from – for example, type italic in italic – and select that word. Then type or perform the following steps:



1. Click on the AutoMac III icon and assign a keystroke to run the macro, such as Command-Option-U for underline. Click on record.
2. Type Command-Option-R, which finds the next occurring instance of the selected type style.
3. Click on the AutoMac III icon, and add a time delay of five seconds.
4. Type Command-Shift-I. This toggles the italic style, in this case to off.
5. Type Command-Shift-U. This toggles the underline style, in this case to on.
6. Type Command-9 (numeric-keypad 9), which returns you to the beginning of the document.
7. Type Command-Shift-6 (numeric-keypad 6), which selects the word italic again.
8. Click on the AutoMac II icon. Click on Misc. Click on J (Jump to a Macro). Jump the macro back to itself by typing its name (Command-Option-U, which causes the macro to repeat until all italicized words are converted to underline.
9. Click on OK. Click on Stop.

To run the macro, make sure you have put a word at the very beginning of the document in the style you want to change from and select that word. Then type Command-Option-U (or whatever keystroke you have assigned to the macro).

Your macro will repeat until all italics are converted to underlines. When a dialog box asks, "Continue checking from beginning of document?" type Option-period to stop the macro, then click on Cancel. Otherwise your macro will change your underlines back to italics and back to underlines in an endless loop.

This macro can be adapted to interchange any fonts or character formats. For example, to change random occurrences of Venice to Zapf Chancery, put a word in the Venice font at the very beginning of your document. Then, instead of using the two toggle commands described, record into your macro the selection of Zapf Chancery from the Font menu.

A Macro For Transposed Characters

You can design a macro for Microsoft Word that transposes two letters accidentally typed in the wrong order, a common typing error. There may be a drawback to this method if the macro uses the standard Cut and Paste commands, because it empties the Clipboard. Here's a macro that does the job without using the Clipboard.

First be sure that Num Lock (toggled by the Clear key) is off – the status box in the lower left corner of the active window should not read Num. Lock. Now begin recording your macro. (The macro assumes that you've placed the insertion point just after the second mistyped letter.) Press Shift-keypad-4, which highlights the second letter. Next press Command-Option-X (the status box will now read Move To), and then press the keypad 4 twice, which moves a flashing gray vertical line to the spot just before the first letter. Now press Return, and then move the insertion point back to its original spot by pressing the keypad 6 once. Stop recording and assign a keystroke.

Globally Replacing Formats

There are two indirect ways to globally find and replace fonts or formats in Word,



for example if you want to be able to change underlined text in a file to italicized text.

The first is to convert the document into RTF (Rich Text Format). To do this, choose **Save As** from the **File** menu, click on the **File Format** button, and choose **Interchange format (RTF)**. When you save the document, it appears on-screen complete with the formatting code. Because the code for underlined text is `\u` and the code for italicized text is `\i`, you can globally change the formatting by using the **Change** command (**Command-H**). In the **Find What** box, type `\u`; in the **Change To** box, type `\i`; and then close the document and save your changes. When you reopen the document and Word asks if you want to interpret RTF text, click on **OK**. All underlined text is now italicized in the new (untitled) document.

The other way to do this is to use the obscure **Find Format** command, described in the Word manual. It lets you search for underlined text, but you have to change it to italic manually.

Here's how it works: To find each occurrence of underlined text, first select an underlined character. Invoke **Find Formats** by pressing **Command-Option-R**, and the program finds and selects the next occurrence of underlined text. Change it to italic by choosing **Italic** from the **Format** menu (or type **Command-Shift-I**). To find the next occurrence of underlined text, choose **Find Again** from the **Utilities** menu (or type **Command-Option-A**).

This procedure isn't global; however, it does what you want fairly easily. If global-format changing is important to you, you

should know that other word processors do it faster and more easily. MacWrite II, for example, does it with a few simple selections in its **Find/ Change** dialog box, and Nisus and FullWrite Professional work similarly.

Ask yourself how much pain Word's lack of a **Change By Style** feature causes you; if it's really affecting your quality of life, think about changing word-processing programs.

Speeding Table Scroll

When you're working with a table-laden document in Word, it can take forever to scroll through the table sections. If you frequently use tables in your work, here's a trick that can eliminate scroll crawl:

1. Select the entire table, and choose **Copy as Picture** from **Commands** in the **Edit** menu (and while you're at it, place this command on your **Edit** menu). Click on **Do**.
2. With the table still selected, perform a **Paste** (**Command-V**). The text table will be replaced by a graphic version of the same table. Now that the table has been changed to a graphic, you can scroll it much faster.
3. Go back to the **Commands** menu and choose **Use Picture Placeholders** (you can add this to the **Edit** menu as well). Click on **Do**.

Caution: If you ever expect to revise the table, you should first save a copy of the text version in a separate file. Once you have replaced a table with its graphic image, you can no longer edit it, with one exception: you can cut rows from the bottom up and columns from right to left if **Show Paragraph** (**Command-Y**) and **Use**





Picture Placeholders are off. Just grab one of the handles on the graphic and drag to crop it.

Add The Fast Save Enabled Command To The File Menu

The Fast Save command increases the speed of the Save command, thereby making it less painful to save your files frequently. When you use the Fast Save Enabled command, Word saves files in a special file format that's fine for saving work in progress. Fast Save isn't suitable for final versions, though. If files saved in this format are damaged, it's much harder, if not impossible, to recover them.

Placing Fast Save Enabled on the File menu makes it easy for you to select or deselect the command before you save. Word's default option is to add this command to the Edit menu, but it makes more sense to add it here.

To add the Fast Save command, choose Commands under the Edit menu and look for the Fast Save Enabled option in the scrolling field on the left. Highlight it, and choose the File menu and click the Add button. (You may have to remove the command from another menu before adding it to the File menu.)

Add The Make Backup Files Command To The File Menu

Normally, each time you save your work, the new version of your file overwrites the previous version. When you select the Make Backup Files command, however, Word makes a copy of the previous version of your file and names it Backup of Filename before executing the save. As a result, you always have the last two saved versions of your file on-disk. This means that you can go back to the previous ver-

sion of your file, and you also have a backup in case something happens to the current version of your file.

To add the Make Backup Files command, choose Commands under the Edit menu and look for the Make Backup Files option in the scrolling field on the left. Highlight it, and choose the File menu and click the Add button.

Add The Load File Into Memory Command To The Utilities Menu

This command, which is normally in the Preferences dialog box, causes Word to keep the current document in RAM rather than keep only the currently displayed portion of the file in RAM and read the rest from disk as you scroll the file. If you're going to be scrolling up and down within your file frequently or executing commands that require Word to access the whole document (such as Spelling, Hyphenate, Repaginate Now or Print), keeping the file in RAM can speed up Word's performance.

If you always work on files for long periods, you may be better off checking the Always Load File into Memory option in the Preferences dialog box rather than adding this command to your menu. However, if you sometimes open and close files without performing extensive editing, using this option as a command is more efficient.

Exporting Tables

Microsoft Word is a great tool for making tables to export into page-layout and drawing programs. To capture the table's border and cell relationships, you must use Word's Copy as Picture command (Command-Option-D), but this com-

mand doesn't work properly when you want to include text that is not part of the table with the table (as a title or caption, for instance). Here's a work-around:

First, move the table away from the header or caption to another part of the document. Select the table, choose Copy as Picture, and paste the picture where the table was before you moved it. Select the picture you just pasted, along with the accompanying title or caption, and choose Copy as Picture again. The whole thing can now be pasted into the DTP or drawing program, and you still have a copy that's suitable for editing in your Word document.

At first glance, it may seem easier just to make the caption or header part of the table by putting the text into a table cell, but because this involves deleting columns, repositioning cell boundaries, removing cell borders and applying styles, it's generally quicker and easier to use the two-step Copy as Picture solution.

Add The Load Program Into Memory Command To The Utilities Menu

Like the Load File into Memory command, this command can also be set in the Preferences dialog box, but executing it as a preference means you have to wait for Word to be read into memory each time you launch it.

If you ever use Word only to browse through a file or two, or to perform minor editing, the time needed to load it into memory doesn't justify the speed increase, so you wouldn't want this as a default preference. Keeping the command in the Utilities menu, though, lets you load Word into memory only when it pays off

in performance. A good rule of thumb is to load Word into memory if you intend to use it for more than 15 minutes.

Add The Move To Commands To The Utilities Menu

Word provides an exhaustive array of cursor-movement commands that most users never discover. If you use the arrow keys to scroll across your files, learning to use these commands can give you a whole new perspective on word processing.

Once you are familiar with the commands, learn the keyboard command equivalents for real efficiency. You can also use these commands to select text; just add the Shift key to any of the keyboard command equivalents, and text is selected as you move the cursor.

To add any of the Move To command, choose Commands under the Edit menu and look in the scrolling field on the left.

Add The Select Whole Document Command To The Edit Menu

People often want to select an entire Word document, but it's hard to remember the keyboard command equivalent (Command-Option-M) or inconvenient to use the mouse-click method (Command-click with the arrow tool at the far left edge of the window). With the Select Whole Document command in the Edit menu, selecting an entire document is no longer a brain-teaser. Interface purists will also want to assign it the Option-A keyboard equivalent.

Underlining Equations

Underlining equations with subscripts or superscripts can be hard in Word 4.0. The underline style (Command-Shift-U) places separate underlines under the sub-



scripted or superscripted numbers. Here's how to get a solid underline under equations, whether the format is displaced or in-line:

1. Choose the Show Paragraph command from the Edit menu (or type Command-Y).
2. Press Command-Option-/. This is the preparatory command for doing mathematical typesetting.
3. Enter the letter-typesetting code – in this case, X (for the Box command).
4. Press Command-Option-/ again, followed by BO for the bottom border of the box.
5. Type in the arguments, and enclose them in parentheses. Apply superscript and subscript formatting where necessary.
6. To view the formula, select Hide Paragraphs. Word's typesetting code draws a solid line under the equation and won't interfere with the rest of the paragraph's formatting.

WRITENOW

Setting Up Informal Style Sheets

You can set up informal style sheets, using the dummy formats that you frequently use, in a document template that is kept open whenever you're working in WriteNow.

When you need a style, just switch windows, click on the paragraph containing the format you need, and copy the ruler (Command-1). Then switch back to the document window and paste the ruler in (Command-2). Although this method only copies ruler settings (not font or style

changes, for instance), it can still be a real time-saver. It also helps ensure that your documents all have a uniform style.

Later, if you want to change a particular format, you can use WriteNow's identical ruler feature. Just select the text from the first occurrence of the format to the end of the document and then hold down the Shift key while making the change in its ruler.

WRITENOW 2.0

Opening RTF Formatted Files

You might have problems when trying to open files with WriteNow 2.0 that were originally saved in the RTF (Rich Text Format) format by Word 4.0. Specifically, WriteNow displays the error message "Bad RTF number" and then refuses to translate the file.

WriteNow 2.0 has "filters" that are supposed to translate a RTF file to the WriteNow format. All RTF files start with the symbols {\rtf followed by a number.

For earlier versions of Word (Word 3.01, for example) the number was 0, so you see {\rtf0. However, Word 4.0 RTF files begin with {\rtf1. Apparently, the WriteNow 2.0 translator checks this number, and if it is not what it expects, it refuses to translate the file.

The fix is easy: Open the RTF file in Word (you must make sure that you click on the Do Not Interpret button), and change the 1 to a 0; follow this procedure with a Save command. WriteNow 2.0 can then translate the file without difficulty.



WRITENOW 2.2

Generating Endnotes

WriteNow 2.2 does not automatically generate endnotes, but you can use the footnote feature and some editing to generate them.

Create the document as you normally would, inserting footnotes into the text as needed (they'll appear at the bottom of the page). When the document is finished, create endnotes as follows:

1. Choose Show Markers (Command-Y) from the View menu.
2. Choose Footnote View (Command-K) from the View menu.
3. Choose Select All (Command-A) from the Edit menu, and then choose Copy (Command-C).
4. Choose Page View (Command-D) from the View menu. Go to the end of the document, and click to place the insertion point.
5. Choose the Insert Page Break command (Command-Shift-B) from the Format menu, Type the word Endnotes (or whatever you want), and press Return.

6. Use the Paste command (Command-V) to place the footnotes at the end of the document. The footnotes are unnumbered, but there's a footnote marker at the beginning of each note.

7. Now go to the beginning of the document, and click to place the insertion point.

8. Choose Footnote View, or press Command-K.

9. Choose Page View (Command-D). The insertion point will now be after the first footnote marker.

10. Press the Delete key to delete the marker.

11. Type Command-H (Superscript style) and then the endnote number.

Repeat steps 8 through 11 until you've finished numbering all the notes in the text.

12. Number all the actual endnotes at the end of the document.

You can create a macro to do much of this for you. Just have the macro stop after step 11. Then simply run the macro and type the note numbers.



INDEX BY APPLICATION

Adobe Illustrator

- Creating A Smooth Graduated Fill With
The Blend Tool60
- Layering Graphics Higher , But Not
At The Top.....60
- Moving Or Copying Objects In
The Preview Mode.....60
- Undoing A Move Even After Disabling
Undo Move”59

Adobe Illustrator 88

- Avoid Cycling Through Layers61
- Create Distortion-Free Leaders With
A Dashed Line62
- Extracting Illustrator 88 Graphics From
PageMaker Files.....61
- Importing Illustrator 88 Files Into
QuarkXPress63
- Incorporating Bitmapped Images63
- Making All Your Lines Thicker
Or Thinner63
- Quickly Cancelling Preview Illustration
Saves Time.....61
- Working Around Text Elements.....61

Adobe Illustrator 3.0

- Accessing Some Elusive Symbol
Characters.....64
- Creating Embossed Text64

Adobe TypeAlign

- Highlighting Text Screens.....19
- Undocumented Type Manager Tip20

Adobe Type Manager

- Eliminate TrueType Fonts20
- Installing ATM Under System 720
- Storing Fonts Outside
The System Folder21
- The Font Cache.....21

Add/Strip

- Powerful File Filter And Converter.....173

After Dark 2.0

- Editing The MultiModule.....173

Alarm Clock DA

- Why Your Menu Bar Or Apple
Is Flashing141

AltWDEF

- Shrinking Finder Windows.....174

Appleshare

- Access Server Files with Timbuktu2
- Finding A “Lost Printer”.....2
- Keeping Users From Trashing
Database Files.....2
- Passwords are Case Sensitive2
- Prevent Server Virus Infection.....2

Appletalk

- Close the Chooser2

Appletalk Phase 2

- Mixing Phase 1 and Phase 2.....3

Apple Desktop Bus (ADB)

- Power Down First.....141

Apple File Exchange

- Fooling The SuperDrive141
- Recovering Files From A
Damaged Disk.....141

Apple Installer

- Reducing Disk Swapping.....142

Audio Output

- Connecting A Stereo To The Mac87

Broderbund TypeStyler

- Converting Fonts To Smooth Fonts64

Canvas

- Creating An Accurate Display Of
Proportional Rectangle Resizing.....65
- Creating Filled Text65

Canvas 2.0

- Accessing An Undocumented Search-
And-Replace Feature65
- Displaying Small-Scale Fractions
On-Screen.....65
- Getting Rid Of The Frame Around
Each Bitmap66
- More Realistic Tracing66
- Switching Windows Without Using
The Windows Menu.....66

Canvas 2.1	
Organizing And Storing Object-Oriented Clip Art	67
Using Separator To Keep Graphics Straight	66
Capture	
Capture Your Thumbnails	174
CD-ROM	
Software For Apple CD SC Under System 7	88
Claris CAD 2.0	
Little Known And Free Upgrade	67
Clip Art	
Recycled Clip Art	67
Clipboard	
Creating A Macro To Edit Clipboard Items	142
Color	
Color Windows on a Mac	143
Cycling 24-Bit Color On And Off	144
Compuserve	
Cutting Noise on Compuserve	3
ConcertWare	
Keep Instrument Files In The Same Folder As The Player	122
Control Panel	
Controlling The Happy Mac At Startup	144
Cricket Draw	
Creating A Partly-Dotted, Partly-Solid Element	68
Printing Is Faster When You Ungroup Objects	68
Use Align Objects To Control Object Placement Permanently	68
Cricket Draw 1.1	
A Bug	68
DA Handler	
Disabling The DA Handler	144
DaisyWheel Printers	
Connecting Daisywheel Printers To The Mac	88
Dark Castle	
Express Route To The Trouble Room	57
How To Walk On Air	57
Keeping Your Shield Activated	57
Tracking How Many Times You've Won In A Session	57
Deluxe Music Construction Set	
Don't Modify The Program's System Fonts	122
Hard Disks Incompatible With Earlier Versions	122
Hooking Older Mac Models Up To Your Stereo	122
Save Only When You Have Enough Room On Your Disk	122
Desktop Manager	
Substituting The Desktop Manager For The Finder Under System 6	144
DesignStudio	
Adjusting Type Using Style Sheets	21
Creating An Anchored Rule	22
Examining A Portion Of Text	21
Dialog Box Shortcuts	
Switching Drives In The Dialog Boxes In System 6	144
4th Dimension	
Bringing Up The Coordinates Box	12
Formatting Numbers	11
Getting From Runtime To User Mode	12
Getting To The Debugger Window	12
Outlining an Object Or Group	12
Seeing Scripts	12
Shortcut To Call Up A Layout	11
Using The Arrow Keys To Move Objects	12
Directory Dialog Box	
Press On The Drive Name	145
Three Ways To Search the Directory Dialog Box	145
Disks	
Magnets Are Lethal To Disks	88
X Rays and Your Disks	89
DiskFit 2.0	
Managing MultiFinder Memory For DiskFit 2.0	174
DOS Emulation	
Running DOS Programs On A The	

Old Mac SE.....	145	Copying A Spreadsheet As A	
SoftPC or Mac286, 386?.....	145	Graphic Image.....	125
Double Helix		Copying Cell Groups For Page Layout	
Advance Planning Helps.....	18	Applications	126
Avoiding Icon Confusion	18	Cursor Key Movement	125
Moving A Single Tile	19	Customizing Chart Formats	123
Moving Groups Of Segments Or Tiles ...	19	Deleting Formulas While	
Running Two Collections		Maintaining Values	129
Simultaneously	18	Displaying Formulas	129
Save Time: Copy Old Calculations,		Displaying/Printing Columns Starting	
Then Modify Them	18	With Zero	125
Save Time While Setting Up A		Enter Some Text Strings As Formulas.....	126
New Relation	18	Error Message "Extract Range is	
Viewing Entire Complex Calculations....	18	not valid"	127
Easy Access		Excel Quick-reverse.....	124
A Frozen Screen May Really Be		Extra-Long Text In Headers Or Footers ...	127
Easy Access	146	Formatting Commands In Headers	
Sticky Fingers Feature Of Easy Access	146	And Footers	127
Using Easy Access	145	For The ImageWriter Page	
Using Easy Access For Fine		Setup Dialog.....	126
Tuning Graphics	147	For The ImageWriter Print Dialog.....	127
E-Mail		For The LaserWriter Page Setup Dialog..	127
Disabling Internal Modem Speaker	4	For The LaserWriter Print Dialog..	127
Discourage E-Mail Printing.....	3	Hiding Sensitive Data From View	130
It's all in the Title.....	3	Highlighting Multiple Cells	125
Getting Cheap Practice	4	Insert New Row/Column Without	
Getting Your Program to Wait		Using File Menu	124
Longer to Redial.....	4	Inserting Cells Without The	
Telephone Noise Can Interrupt		Dialog Box.....	128
Transmissions.....	4	Inserting Lines Into A Chart Label.....	128
Telexing with a Mac	4	Line Up Numbers With Mixed	
When Call-Waiting Disconnects		Formats	128
Transmissions.....	4	Linking Data With Word 4.0 For	
Error Tones		Auto-Update	130
Diagnosing The Tones.....	89	Loading A Work Space By Default	128
Excel		Manipulating The Insertion Bar	
Avoiding Update Prompts	130	With Arrow Keys	130
Automatic Dates In Column Heads	124	More Than A Megabyte's Wasted.....	123
Bringing A Color Excel Chart		Naming Cells In Columns Easily.....	125
Into Word	129	Protecting Sensitive Information	
"Can't Save" Message.....	127	While Working On It	130
Centering Tables With Borders.....	125	Rearranging Linked Data	129
Creating An x-y Chart?.....	129	Remove Formulas To Trim	
Command Key Combinations To		Document Space	125
Select Page Setup Options.....	126	Reopen Macro Sheet To Recompute	
		Macro Functions	126
		Selecting The Entire Worksheet.....	124
		Show Or Print All Worksheet	
		Formulas.....	124
		Single-Letter Command Selection	124

Using The SUM Function To Add Up Time	128
Using XMODEM To Import Lotus 1-2-3 From MS-DOS Machines	126
Working With Several Work Areas	123
Excel 1.5	
Quickly Returning To Where You Left Off	131
Excel 2.2	
The Thick Border Trick	131
Using Excel To Simplify Word's Mail Merge	131
Excel 3.0	
Aligning Number Formats	132
Microsoft Excel Has A Special Look That Says System 7	133
Fax Modems	
ATM Type For Fax-Modems	23
Choosing a Typeface	23
Don't Do Photos Without Gray-Scale Ability	22
Graphic Mistakes	23
No Letterhead	23
Reverse Type To Emphasize	22
Sending Postscript Illustration	22
Truncated Type	23
Find Feature	
Take Your Time When Using System 7's Find; Extra RAM Won't Hurt	147
Finder	
An Inherent Organization Tool	147
Activating A New System Folder	152
Changing The Application Memory Size	153
Changing Close In The File Menu	149
Cleaning Up Windows In The Finder	151
Clicking And Dragging Files And Folders	149
Closing All Open Windows With The Close Box	152
Closing All Windows After Quitting An Application	152
Copying Disks From The Finder	152
Drag-Selecting In list View	151
Easy Editing Of Filename	147
Ejecting Disks	148
Ejecting Floppy Disks Without Ghosting	148
Keeping Get Info Comments Using ResEdit	154
Keep Folders Small	149
Moving Windows Without Activating Them	151
Neatness Counts	150
Organizing Applications	150
Organizing Icon Alphabetically	150
Opening An Older Document With The Current Application Version	160
Opening Applications Easily	151
Preventing Pirating Of Applications From Your Hard Disk Or Network	152
Preventing Switch-Launching	152
Printing Under The Finder	148
Problems Trashing Files	152
Quick Disk Erase	152
RAM Caching	149
Rebuilding The Desktop Of A Disk	148
Speed Up Folder Copying	151
Switching Drives In The Dialog Boxes	160
Tab Stop Assignments In The Finder	151
Use Special Characters To Arrange Files	148
Virus Protection	152
Why Isn't My Memory Freed When I Quit?	149
Finder 6	
A Pre-Trash Folder	154
Locking A File	155
Vivid Color Icons	154
Finder 7	
Adding Keyboard Commands Without ResEdit	156
Background Copying	159
Color Screen Shots	158
Closing/Hiding Windows In Finder 7	159
Desktop Manager Is Part Of Finder 7	157
Editing Icons On Folders	157
Emptying The Trash	158
Keyboard Short-Cuts In Finder Windows Under System 7	158
Locating The Original File For An Alias In Finder 7	159
Opening Documents In Finder 7	159
Rebuilding The Desktop	158
Renaming Files Faster Under Finder 7	158
Saving Desktop Patterns Under Finder 7	158
Sorting Icons In Finder 7	159

The Invisible Desktop File Is Not Needed Under Finder 7	157
Using Put Away To Eject Disks	158
FKEYS	
Testing fkeys With Resedit	159
Filemaker	
Entering Copies Of A Record	13
Entering Multi-Word Phrases As Search Identifiers	12
Selecting Records Without A Common Field	13
Filemaker II	
Upgrading Filemaker II Files To Filemaker Pro	13
Filemaker Pro	
Adding Predefined Lists	14
Avoid Printing Duplicates	16
Concatenate Fields To Ensure Proper "slide left" and "slide up" Operation ..	14
Exporting To Spreadsheets	14
Fitting Templates For Any Monitor	17
Give Filemaker Pro Sufficient Memory ..	16
Hold Down The Option Key To Customize The Position Of Part Boundaries	16
Missing Fields When Exporting	13
Preform the Find Command In One Layout And View Data In Another ...	15
Printing Commas Between Fields	14
Producing Columnar Reports With Repeating Fields	17
Putting A Better Font Forward In FileMaker Pro	17
Replace One Field With Another In Layouts Without Deleting	17
Take Advantage Of The Replace Command	15
Time Files With Filemaker On Big Networks	17
Use A Subsummary Part To Create Running Page Totals	16
Use Page Setup To Adjust The Layout Marker	15
Floppy Disks	
Noisy Disks Signal Trouble	89
Troubleshooting Problems	89
Fonts	
Generating Special Characters	24
FreeHand	
Adding Variety To Lines With Zapf Dingbats	69
Cropping Imported Graphics	70
Opening Adobe Illustrator 88 Files With Freehand	69
Placing Text Around The Outside Of A Circle	68
Simulating Filled, Outlined Text	70
Wrapping Text Inside A Circle	69
Wrapping Text Above And Below A Circle	69
Using Zapf Dingbats As A Fill Pattern	70
FreeHand 2.0	
Archiving Lines, Fills, and Color Styles	71
Centering Text Along The Outside Of A Circle	73
Cheap, Editable Outline Fonts	74
Compatibility Problems With Older Systems And LaserWriter Drivers	72
Creating A Three-Dimensional Box	73
Creating An Outlined Pattern Effect	72
Drag A Small Object Without Grabbing Its Resize Handle	70
Express Route To The Edit Dialog	71
Faster Printing Of PostScript Fills	72
Faster Printing Of TIFF Files	72
Faster Screen Redraws	71
Fixing Improperly Printed Strokes	73
Getting More Control Over FreeHand Tracing	71
Getting The Most Out Of Tracing Gray-Scale TIFF Images	71
Getting The Smoothest Graduated And Radial Fills	73
Having Trouble Printing Custom PostScript Line And Fill Effects?	72
If You Print A Lot Of Fonts With FreeHand	72
Make Sure All The Pieces Of Your File Fit On A Printed Area	72
Opening MacPaint Files Without Loading FreeHand	71
Starting With Your Own Defaults	74

When You See "PostScript Error: Undefined, Offending Command"	73
Quickly Deselect All Items In An Illustration	70
FreeHand 2.02	
A Quick Way To Create Repeating Elements	74
Full Impact 2.0	
Under System 7.0, Full Impact Just Won't Quit.....	1323
Grids	
A Fixed Zero Point Is An Absolute Reference Point	25
Construct A Grid For Both Right- And -Left Hand Master Pages.....	25
Keeping Grid Lines Visible In QuarkXpress	26
Matching Page-Layout And Prepress System Measurements	26
Optimum Viewing Precision	26
Re-Creating A Traditionally Existing Grid	25
Securing Page Elements	26
Using White Space Effectively	25
Varying Columns For Easy Reading.....	26
What Is A Page Grid?	25
Hard Drives	
Data Errors Caused By RFI	90
Does Defragmenting Improve Performance?	90
Interleave Factor And Hard Disk Performance	92
Old Apple Serial Still Works	92
Resetting SCSI ID Clears Up Mac Boot-up Knot.....	90
Troubleshooting Hard Disk Problems.....	91
HD Backup	
No Longer Supported Under System 7	160
High-Density Drive	
Adding A SuperDrive (FDHD) To A Mac Plus	93
HP DeskWriter	
Fooling The DeskWriter When Printing On Letter-Size Paper	93
HyperCard	
Adding A Phone Hang-Up Script	113
Adding The Time In Any Stack.....	114
Adjusting The Find Command	112
Attaching FONT Resources To Stacks	115
Blind Typing Out Of A Jam.....	115
Changing The Default Font In HyperCard	115
Compacting HyperCard Stacks With Hypertalk.....	114
Creating A Scrapbook Of Buttons	116
Dialing With A Prometheus Modem	113
Easy User Level Setting.....	118
Expanding The Cursors In HyperCard.....	113
Getting The Name Of A Tool With Hypertalk	114
Loading Fonts Into HyperCard Stacks With The Font/DA Mover.....	117
Moving To The End Of A Scrolling Field	118
Opening A Card To The Current Date	112
Outlining Hidden Buttons.....	111
Printing A Card With Better Quality.....	114
Printing A Range Of Cards	112
Putting HyperCard Into MacroMaker Macros	1167
Reports.....	112
Returning To The Finder Instead Of HyperCard.....	116
Seeing All Hidden And Transparent Buttons	116
Setting Control-Key Combinations To Set The User Level	117
Simulating A Toggle Switch	118
Speeding Up The Performance Of HyperCard And SuperCard By Turning Off Color	117
Working With The Tools Menu On A 9-inch Classic-style Screen.....	111
Uninterrupted Keying While Refreshing Settings.....	114
Using Alphanumeric Keys To Set Polygon Shapes	115
Using Font/DA Juggler To Minimize Disk Space.....	111
HyperCard 1 And 2	
Compacting 1.2 Stacks With Hypertalk	119
Finding Missing Text	120
HyperCard 1 And 2 Co-existing On Your Disk	118
Sound Problems	120
Vision Problems	119

HyperCard 2.x	
Crippled HyperCard.....	120
ImageWriter	
How To Access The Self-Test Mode.....	93
Modifying The Default Paper Sizes.....	94
What You See Isn't Always What You Print.....	93
ImageWriter II	
How To Obtain Best Print Quality Fast	94
Producing Near-Letter Quality Printouts From The ImageWriter Without Editing Codes	94
Using The ImageWriter And The HP PaintJet Film To Produce A Transparency	94
ImageWriter LQ	
A Quick Tuneup	95
Extending The Life Of ImageWriter LQ Ribbons	94
Seating The ImageWriter LQ Ribbon Properly	94
Inbox	
Setting the Time on The Message Serve	5
Init's	
Loading INIT's At Startup Time.....	161
The Scoop On Init's	160
Too Many INIT Icons.....	160
Trashing Active Init's.....	161
Interrupt And Reset Switch	
Where Are The Macintosh II's Switches?	161
Interrupt Switch	
A Crash Recovery Trick.....	161
Internet Router	
Clear Out the Old Before Hanging Zone Names	5
Inter•Poll	
Upgrading Inter•Poll to System 7	5
Just Click	
Just Click Under System 7 To Switch Between Applications.....	175
Keyboard	
Cheap Keyboard Protection.....	96
Curing Keys With WD-40	96
Having A Numeric Keypads With The Pre-Mac Plus Keyboards	96
Keyboard Secrets!	162
Running A Mac With A Copilot	96
The Keyboard Remembers What You Type	96
There Are Three Apple Keyboard Options.....	95
Using The Key Caps DA During Keyboard Failure	95
KiwiEnvelopes! 3	
Bar Coding With Dot Matrix Printers.....	175
Large Files	
Transportation Of Files Larger Than 800K or 1440K (High Density Disk)	162
LaserWriter Driver	
Using Different Versions Of The LaserWriter Printer Driver On A Network.....	162
Using ResEdit To Place The PostScript File Option in the Print Dialog Box ...	163
LaserWriter Driver 6.01	
Changing LaserWriter Defaults.....	1643
LaserWriter	
A Manual Fix For Envelope Jamming.....	99
Avoiding The Startup Page Using The Paper Tray	98
Feeding Label Sheets.....	97
Jamming With Envelopes	100
Keeping A Laserwriter Running.....	99
No Toner Is Forever	99
Paper Trays For Legal And Letter Size Paper	100
Preprinted Paper And The LaserWriter	98
Printer Care and Feeding	97
Printing The Screen.....	97
Printing With Ligatures	26
Using Word 4.0 To Disable The LaserWriter Test Page	99
LaunchInit 2.0	
Logging Mac Activity	175
Layout	
Lengthening The Document Name.....	175
Doesn't Work With System 7	176

LifeGuard		
Eye and Body Saver.....	176	
Mac Classic, LC And IIsi		
Expanding The Single ADB Port	100	
MacDraft		
Create Original Patterns Easily	75	
Producing Laser-Printable Diagonal		
Dotted Lines	75	
The Same Name Can Spell Trouble	75	
MacDraw		
Always Use The Same System To Create,		
Display, and Print.....	77	
An Easy Way To Create Perfect		
Hollow Lines	78	
Automatically Selecting Objects	77	
Avoiding Text Default To The		
Geneva Font.....	77	
Centering Items Perfectly In The Middle		
Of A Page	76	
Creating An Accurate Display Of		
Proportional Rectangle Resizing.....	75	
Creating New Font Sizes.....	77	
Creating Proportionally-		
Spaced Text Lines.....	76	
Computerizing Your Autograph	78	
Duplicating Objects Easily	77	
Editing MacDraw's Cursors For Greater		
Precision.....	75	
Enlarging Or Reducing Can		
Clip Text	78	
Grabbing Tiny Resizing Handles	76	
If You Can't Complete The Print		
Command.....	78	
Laser Printing Small, White Type	78	
Previewing Horizontal Layouts	78	
Proportional Enlarging And Reducing	76	
Quickly Selecting The Last Tool		
You Used.....	76	
Redrawing The Most Recently-		
Created Object.....	77	
Selecting Multiple Objects At Once	77	
Selecting All Text Within A Block.....	77	
See The Graphics, Not The Rectangle.....	78	
Toggling To The Grid Option	77	
Using Maintaining Fill Patterns When		
Exporting To Bitmap Programs.....	76	
MacDraw II		
Creating A Pixel Ruler	78	
Trimming File Space	78	
MacGolf		
Putt Like A Pro.....	57	
MacPaint		
Adding New Patterns To Your Palette	82	
Avoiding Pattern Distortion In		
Multiple Copies	80	
Changing Fonts Without		
Creating A New Entry Point.....	80	
Changing The Font Size Of		
Entered Text.....	80	
Changing The Font Of Entered Text	80	
Controlling Spacing With		
Multiple Copies	80	
Creating Multiple Copies		
In A Straight Line.....	80	
Creating Special Effects With Fonts.....	81	
Creating UltraBold Letters	81	
Customizing Your Eraser	81	
Edit Brush Shapes With A Font Or		
Resource Editor	81	
Erasing Large Portions Of The Screen	81	
Getting Where You Want		
In FatBits, Fast	79	
Grid Option Assists Text Entry	81	
Hints For Saving Disk Space.....	79	
Keeping Patterns Intact		
While Stretching.....	80	
Keeping Rectangle Patterns Intact		
When Resizing.....	80	
Lasso Tool Doesn't Have To		
Close Its Loop	82	
Leave Enough Disk Room To Work.....	79	
Moving The Page While In FatBits.....	79	
Merging Patterns In Shapes	82	
Multiple Copies Of An Image.....	79	
Restraining Works Throughout		
The Program	79	
Shadowing Images	82	
Stretching Images	80	
Stretching And Shrinking Rectangle		
Proportionately.....	80	
The Easy Way To Make Straight Lines	79	
The Fast Way To Edit Brush Shapes.....	81	
Using The Flip Horizontal Option		
To Create Gantt Charts	82	
MacPaint 2.0		
Using ResEdit To Change Default To		
Pixel Measurement	82	
Mac Plus		
A Faster Plus	100	

Esc for Old Keyboards	99	MacWrite 4.5	
The Vents On The Top Of A		Command-Backspace Restores	
Mac Plus	99	Backspaced Text	187
When The Calendar And Clock Aren't		Decimal Tabs Override Regular Tabs	186
Working On A Mac Plus	99	Hidden Spaces Can Affect Printouts	187
Mac Portable		Identifying Hookup Problems	187
Avoid The Control Panel	100	Lack Of Disk Space Can Cause	
Create A Startup RAM Disk	101	Printing Problems	187
Don't Save As Often	102	Numbering Pages Using The	
Don't Shut Down	100	Page Icon	186
Force The Hard Drive To Sleep	102	Save As Text When You're	
Load Entire Applications Into Memory	101	Exporting Files	186
Open Files In Batches	101	When MacWrite Says It Can't Print	
Turning Off The Power		A Document	187
Conservation Feature	100	MacWrite 4.6	
Use A RAM Cache	101	New Keyboard Sequences	187
Use Any Desktop Pattern You Want	101	Numeric Keypad Commands	187
Using A Screen-saver Program		MacWrite 5.0	
On The Mac Portable	100	When The Spell-Checker Tells You	
Turn Off The Speaker	101	The Clipboard Is Too Large	188
Quit Telcom Apps When Not In Use	102	Picking Up Where You Left Off	188
Macintosh II		MacWrite II	
The Upgrade Path To An IIfx	102	Creating Flash Cards	188
Using The Latest With The Oldest		Nifty Smart Quote Feature	189
And Not So Greatest	102	Simulating Side-By-Side Graphics	189
Vertical Or Horizontal?	102	The Trick To Editing Footnotes	189
MacroMaker		Map CDEV	
Fixing Transposed Letters		Magnifying The Map Control Panel	
With A Keystroke	163	Device (CDEV)	164
Launching Applications	163	Changing The Map Figure	164
No Longer Supported By Apple		Mapping Utilities	
Under System 7	162	What's My Contour Line?	176
MacroMind Director		MCI	
Aligning Onstage	121	Transfer Of Files And Other Tips	5
Drawing Concentric Circle	120	Modem	
Joining Endpoints	121	Dedicated Phone Line?	5
Macterminal		If You Can't Connect, Tell Your	
Avoiding System Hang	5	Modem To Wait Longer	6
Command Key Combinations	4	Quiet Dialing	5
Create Replacement Mac-To-Mac		More	
Document	5	Centering Bullet Charts	
How to Use Cursor Keys Instead Of		For Printing	26
The Mouse	4	Displaying More Than One Level Of	
Use Hard Backspace When Correcting		Headline	25
Mainframe Data	5	Dollar Figure Takes Precedence	
MacWrite		Over Other Figures	26
Opening MacWrite Files Without			
The Application	186		

Fast Access To Tree Size Dialog	26
Hide A Headline While Reorganizing	
Outline	26
Hiding Numbers From Calculation	26
Indicating Where Sum Total	
Should Go	26
Personalizing Your Startup Screen	25
Quickly Opening Tree Options	
Dialog	26

More 1.1

Entering Into Headlines	27
Key Equivalents Work In Dialog	27
Reversing Text Entry Point	27
Toggle Between Headlines And	
Document Window	27
Quickly Cancelling Dialogs	27

Monitor

Monitor Annoyances	103
Monitor Resolution	103
Two Or More Monitors,	
Simultaneously	103

Mouse

Making Your Mouse A Tracing Tool	104
Solving Mouse Ball Sticking	103
The Frozen Mouse Syndrome	103

MultiFinder (System 6)

Getting Info When Busy	165
Hidden Humor	165
Loading Desk Accessories Into The	
Finder's Application Heap	164
Reinserting Disks To Find Disk Icons	164
Starting MultiFinder Temporarily	
When In The Finder	164

Multiplan

An Easy Way To Unprotect Protected	
Spreadsheets	133
Copying Rows and Columns Into	
Word Processor	132
Extra-Long Header Or Footer Text	132
Fixed Numbers Act Like Text	132
Highlighting Sections With A	
Graphics Program	133
Putting Titles At The Top Of Lists	
After Sorting	133
Quick Column Additions	132
Recalculating New Values Or	
Formula Entries	132
Rounding Off Half-Pennies	132

Showing Cells That Need Alteration	133
Simulating Freeze Titles Option	
On Printout	133
Sorting A Series Of Rows	132
Squeezing More Data On A Page	132
Tall Adjusted Print Option Looks	
Good, Takes Longer	133
Use Forced Page Breaks When	
Printing Large Sheets	132
You Can Print More Columns Than	
You Think	133

Navigator 3.0.4

Finding Names And Addresses	6
-----------------------------------	---

Network Bridges

IBM Token Ring To Ethernet Bridge	
And AppleTalk Packets	105

Network Management

The Hit-or-Miss Method	6
------------------------------	---

Network Printing

Printing Large Documents Off-Hours	8
Using The Appleshare Print Spooler	
With A Router	8

Nisus 3.05

Doing Windows	190
Making Smart Quotes Stupid	191
Nonbreaking Spaces	190
Zooming The Unzoomable	191

Norton Utilities

Using The Fast Find DA	176
Fast Find Faster	176

NSCA Telnet

Version 2.4 For Unix Host	
Communication	8

OmniPage

Edit With Applescan To Help OmniPage	
Differentiate Pictures And Words	27

OmniPage 2.0

Scanning Screened Or Colored Text	27
---	----

On Location

Calling On Source-Code Collections	177
--	-----

Pagemaker

Creating Evenly-spaced Lines In	
Difficult Places	30
Correct Underscoring Problems	29
Disabling "Snap To Guides"	29

Getting Pagemaker To Remember Page Setup Alterations	29	Switching Between Drivers	35
Getting The Most Accurate Size Display	29	Using Pyro! To Force Pagemaker To Update The Screen Automatically	34
Improving Grey Shade Printing	28	Use Easy Access To Nudge Graphics Or Text A Short Distance	34
Keeping The Laserwriter Up To Speed	29	Working With Word's Style Sheets	33
Printing A Publication From Page One, With A Title	30	Wrapping Text Around A Graphic, Then Captioning The Graphic	32
Repeating Items	27	Vertically Justifying Columns	35
Resetting The Page Numbering For Forms	28	PageMaker 3.02	
Save Time When Switching Printer Drivers	30	Getting The Proper Spacing When Dividing Horizontal Or Vertical Space	35
Setting Consistent Spacing Between Elements	28	Typing Numbers Using The Keypad	36
Solution For Imported Graphics "Clipping"	30	PageMaker 3.0 And 4.0	
Toggling Between "Full Page" And "Fit To Window" Views	30	Scanning Tabbing With Dot Leaders	36
Toggling To A Macpaint-Style Hand Tool	29	PageMaker 4.0	
Pagemaker 2.0		Conversion Of MacWrite II To Pagemaker 4.0	38
Selecting Closely-Packed Objects	30	Pagemaker 4.0 Tries To Forget Its Past	36
"Guide Lock" Aids In Object Selection ..	30	Pagemaker Graphics Dropouts	37
Pagemaker 3.0		Professional-Looking Fractions	37
An Easy Way To Track Hours Spent Working	35	Saving Documents Created With Older Versions Of Pagemaker	36
Changing The Default Settings When Laser Printing	32	Panorama	
Flowing Text Around Irregularly Shaped Objects	31	Creating More Than 256 Fields	18
Hide The Guides And Rulers To Gain Some Screen Space On Plus And SE Screens	34	Partitioning Software	
How To Save Revised Print Parameters	33	Organizing Your Hard Disk	176
Keyboard Command Shortcuts For Extended Keyboard Users	31	Parameter RAM	
Keeping Colors In Order For Strippers And Pressmen	34	Resetting The PRAM In The Mac	165
Laying Out 2 Pages On An 8.5 x 11 Inch Sheet Of Paper	33	PRAM And System 7	166
Opening More Than One Publication	35	Persuasion	
Printing Two Pages On A Single 8.5 x 11 Sheet	31	Assigning Different Type Style, Style And Color To Body Text Levels On A Master	41
Printing Through The Manual-Feed Tray Of The Varityper-600	31	Changing The Arrowheads	38
Saving Money When Going To Print Or Film	32	Change The Master For Some But Not All Of Its Associated Slides	38
		Changing Body Text On The Slide Master	41
		Create An Entire Presentation Without The Outliner, But With AutoTemplate	41
		Create One Or More Preview Slides Automatically	40

Create Slide Builds (or Layers)	
Automatically.....	40
Edit Text In Grouped Objects Such As	
Charts And Tables Without	
Ungrouping	40
Highlight Key Data Points By Enhancing	
Individual Chart Elements.....	42
Improve A Resized Chart Using	
The Redraw Command.....	42
7 Keyboard Shortcuts.....	42
Let Persuasion Keep Text Blocks And	
Charts Centered On The Slide	40
Let Your Chart Data Go	
Through The Roof.....	43
Mixing Tall And Wide Overheads In	
The Same Presentation	41
Persuasion Does Animation	42
Reformat All Slides Simultaneously	
By Making Changes To The	
Slide Master.....	41
Replacing The Default AutoTemplate	
Without Reinstalling	
The Program	41
Restore Master Formatting To An	
Individual Slide Element	39
Restore Master Formatting To An	
Entire Slide	39
Spice Up Your Charts With	
Some Variety	42
Switch AutoTemplates To Give	
Your Slides A New Look	38
Take Advantage Of The Temporary And	
Permanent Defaults For	
Drawing Tools	39
Use Chart Placeholders	39
Use "Selective" Select All To Choose All	
Objects Of A Given Type	39
Use AutoTemplates As More Than	
Just A Collection Of	
Coordinated Masters.....	40
Use "Warm" Link To Quickly Replot	
Charts Linked To External	
Spreadsheets	42

PhotoShop

Comparing Original And	
Adjusted Images	82
Creating A Montage With The	
Alpha Channel.....	83
Creating A Textured Mask Using	
The Alpha Channel	82

Creating A Vignette With The	
Alpha Channel	83
Fine-tuning Palette Tools.....	82
Ghosting With The Alpha Channel	82

PixelPaint

"Animating" Drawings With	
Color Cycles.....	81

Print Monitor

Making Print Monitor 7 A Little	
Less Pushy	166

Professional Composer

Place Ties And Articulations After	
Transposing Parts	122
Workaround For Ignored	
Rehearsal Marks.....	122

PostScript Files

Printer Dialog Boxes-Selecting	
Specific Printers.....	44
Printing PostScript to Disk Under	
Multifinder.....	44
PostScript File From Laserwriter 7.0	44
Sending A PostScript File	
To The Printer.....	44
Using ResEdit To Add A PostScript File	
Option To The Print Dialog.....	43

PowerMenus

Using PowerMenus And Coach	
Pro Together.....	177

Power Switch

Troubleshooting Power-On Problems	105
---	-----

Prepress

Printing Spot-Color Components.....	45
-------------------------------------	----

Public Folder

Moving Files From One Mac To	
Another With Public Folder.....	177

Publish/Subscribe

Publisher/subscriber Options In	
System 7	166

QuarkXPress

Applying Two Style Sheets To	
A Paragraph.....	46
Booting With MacQuerty.....	45

QuarkXPress 2.0

Improving The Printed Look Of	
AppleScanned Art	46

Wrapping Text Around AppleScanned Images	47
QuarkXPress 2.1	
Circumventing Quarks 500-Point Font-Size Limit.....	47
Recovering The Text From A Corrupted Document.....	47
QuarkXPress 3.0	
Accessing The Environment Box	48
Creating A Large Letter With Nested Text.....	49
Creating Crop Marks For Consolidated Jobs	48
Creating Real Fractions.....	49
Importing Word's Fast Saved Documents	48
QuickDraw	
Color Icons For Some	166
QuickKeys	
Using QuickKeys To Print	177
QuickKeys 2	
Recovering After A Program Upgrade	178
Quickmail	
An Easy Way To Force Names To The Top Of The List.....	9
Backing Up Carefully	8
Bug Crops Up With Ethernet And An SE Server.....	9
Checking To See If Your Message Has Been Read	9
Reading A Message Without Logging In	9
Sending A Timed Message To Yourself	9
Speeding Things Up	9
Un-Sending A Message	9
RAM	
Memory-Upgrade Options	106
Whose RAM Should You Buy?	105
Read MacWrite	
Reading MacWrite Files Without The Application	178
Ready, Set, Go! 3.0	
Bypassing The Get Picture Routine With The Clipboard	50
Link Text Blocks In Exact Order, Page By Page	50
Use The Program's Drawing Tools To Save Printing Time.....	50
Using ResEdit To Recover A Lost Application Icon.....	50
Viewing A Page At The Text Block Insertion Point.....	50
Wrapping Text Around Text.....	50
You Can Only Import 32K Documents Or Smaller	50
Ready, Set, Go! 4.0	
Stretching Text Easily	51
Wrapping Text Within Two Graphics	51
Ready, Set, Go! 4.5	
Getting Rid Of Unwanted Characters In Imported Text Files	52
Increasing And Decreasing Text Point Size From The Keyboard	52
Shortcut When Jumping Around View Levels Underlining Text Selected As Italic	52
Using Ready,Set,Go! To Produce Gray-Scale Characters	52
ResEdit	
Changing The Shutdown Screen.....	179
Deleting Sound Resources To Save Space.....	179
INITs Across Your Startup Screen	178
Reassigning The Shift-period Key Combo.....	179
Reducing The Amount Of Space Between Files.....	180
ResEdit 2.0bX	
Turning An EPS Image Into A Startup Screen.....	180
Reflex Plus	
Sorting Concatenated Fields.....	18
The Responder	
Built Into System 7.....	9
Scroll Limit	
Controlling Scrolling.....	180
SCSI	
SCSI Devices Powered Off.....	107
SCSI Device Setup	106

Server Volume	
Maximum Single-volume Size	
Is 2 Gbytes	101
Shadowgate	
Don't Ignite Torches Without	
Examining Them	56
Let Randomization Work In	
Your Favor	57
Surviving The Dragon Room	57
Use The Note Pad To Keep Track	
Of Clues	56
Shanghai	
Remove Tiles When You Can See	
All Four Of Them	57
SIMMS	
Troubleshooting SIMM Problems	106
Slides	
Avoid Side-to-Side Or	
Diagonal Blends	53
Keep It Simple When In A Rush	53
Select The Printer Driver Before	
Creating Slides	53
Test Your Files Before Running	
An Important Job	53
What Printer Driver To Use?	54
SimCity	
Bringing A Village To	
Metropolis Status	57
SimCity 1.0	
Collecting All The Taxes	
You're Owed	57
Printing Cities With The LaserWriter	58
Smartcom II	
Capture Routine Saves Only	
Selected Text	10
Forcing Smartcom To Use	
Text Protocol	10
Put Your Work Files At Root Level	
On Disk	10
Saving Text From The Capture	
Buffer	10
Save And Save As...Don't Save	
What's In The Capture Buffer	10
SmartForm Designer And Assistant	
Creating U.S. Government Forms	53
Smart Art 1.0.1	
Smart Art Can View Old	
LaserFX Files Through Desktop	
Publishing Program	83
Using Smart Art To Preview	
EPSF Files	83
Viewing AutoCAD (PC) Drawings	84
Sound Converter	
Editing Sounds	180
Startup Screens	
Creating Custom Startup Screens	166
Stepping Out II	
Disabling Stepping Out II Upon	
Launching An Application	181
Stepping Out As A Screen Shrinker	181
Strategic Conquest Plus	
Attack On Each Move	58
Keeping Fighters Out Of Combat	58
Regaining Full Naval Strength	58
Stealth Bombers On The Cheap	58
When To Build Bombers	58
Studio Session	
Note Entry Shortcut	122
Stuffit	
Archiving Several Files	182
Automatically Unstuffing All	
Archived Files	181
Halting Stuffit Operations	182
Stuffit 1.5.1	
Unstuffing Deluxe Files Using ResEdit	182
Suitcase	
Getting Just The Applications Under	
The Menu While In MultiFinder	182
Suitcase II	
Distinguishing Between Bitmapped	
And Postscript Fonts	182
Suitcase II Grows In Patches	182
Suitcase Harmony In Finder 7	183
SuperCard 1.5	
Using Stand-Alone Files Without	
The Application	120
SuperPaint	
Adjusting Length On Imported	
MacDraw Graphics	86
Creating A "Screening" Effect	86

Creating A Spattered Effect	86
Closing All Open Windows At Once	85
Crosshairs Can Help You Paint From A Centered Point	85
Enlarging Any Selection	85
Lower Detail Level Speeds Smoothing	86
Making Shadowed Text	84
Moving Tiny Items Easily	85
“Nudging” Selected Graphics By A Single Pixel	85
Reversing The Pattern	85
Smoothing Bitmapped Images For Laser Printing	86
Turn Smoothing Off To Speed Up Printing	86
Using The Lasso While The Marquee Is Selected	85
Surge Protectors	
What’ The Best Kind Of Surge Protector For Your Mac?	108
StyleWriter	
Reducing Printing Time	107
Switch-a-Roo 1.6	
Switching Among More Than Two Screen Depths	183
System	
Creating a Finder-less Startup Disk	168
Opening An Application From A Floppy Disk Without Switch Launching	167
Selecting A New Active System Folder	167
Slimming the System Folder	167
Ten Basic, Good-Natured Tips	168
Turning The Color Off Of Color Monitors To Speed Application Performance	167
Virus Checker Says “Encountered FCB Expansion”	167
System 7	
Aliases Multiply File-Sharing Options	170
Clicking On Installer Scripts	171
Crash Recovery Under System 7	169
Disabling Extensions	170
Getting Desk Accessories To Open In The Application Heap Under System 7	169
Hidden Viewing Options In Finder 7	169
Invisible Applications Under System 7	170
No Need To Initialize Your Hard Disk For System 7!	170
Software No Longer Needed Under System 7	170
Stay At Phase 1?	170
With Virtual Memory, Is There Any Reason To Buy More Real RAM?	169
System Errors	
How To Avoid Restarting The Macintosh During A System Error	171
System Error Table DA	
Printing The Error Table	183
System Picker	
You Can Keep System 6 And 7 On Your Hard Disk	184
System 7 Utilities	
System Utilities Upgraded For System 7 .	171
TattleTale 1.2	
Great System Reporting Utility	184
Teach Text	
Placing Pictures In Teach Text Documents	190
Tempo	
Using The Keypad For Macros	185
Tempo 1.2	
Setting Up The Proper Path	185
Tetris	
When It Gets Tight, Shift To The Right	58
Text Files	
Mac, DOS And Unix Text Files	191
ThunderScan	
Adjusting Lines In A ThunderScan Image	109
Solving Distortion With Acetate	108
ThunderScan 2.0/4.0 Running Under MultiFinder	108
TrueType	
Between True And Timbuktu	54
Type 1 Fonts	
What’s The Difference Between Type 1 And Type 3 PostScript Fonts	54
User Groups	
Obtaining Utilities Without A Modem	185

Video	
Care and Maintenance Of The Screen.....	109
Cleaning The Screen	109
Video Cards	
8•24GC Display Card And The 12-inch Monitor	109
Troubleshooting Video Card Problems	109
Viruses	
Recurring WDEF Infection.....	171
Virus Protection Across A Network	172
Wingz	
A Goodies Menu.....	135
Improved Date Formats.....	134
Restoring Row Height And Column Width.....	134
Setting Row Height And Column Width	134
Time Made Simple	135
Using HyperScript To Add Hide And Show Commands	134
Word	
Accessing The ImageWriter's Built-In Fonts.....	193
"Auto-Date" Headers And Footers Can Be Copied Or Pasted Anywhere In A Document.....	192
Changing Your Personalization Of The Master Disk	194
Creating Double And Triple Lines In Word.....	194
Condensing The Space Between Italicized Characters.....	193
Dialog Box Command Keys	194
Fast Save Uses Disk Space	191
Finding The Next Occurrence Of A Format	195
Hiding Outline Headings	192
Key Strokes For Line Formatting	193
Mail Merge With The Table Feature	191
Making Your Own Dictionary	194
Memo Magic	195
Placing A Box Around Text	195
Placing A Background Screen Behind A Paragraph.....	196
Printing Legal-Sized Documents On The Laserwriter	196
Re-spacing Between Letters.....	192
Spell-Checking Without Putting The Cursor At Document Top	192
Word 3.0	
Marking A Document Draft.....	196
Numeric Keypad Equivalents.....	197
PostScript Code To Place A Border Around A Page	196
Word 3.0x	
Accessing Help Fast	202
Avoiding Disk-Swapping Hassles	199
Changing The Length Of Word's Menu Titles	201
Cleaning Up Returns In Print Merge Documents	200
Copying Parts Of A Style Sheet	199
Correcting Pagination Problems With Serial Printer Drivers.....	199
Creating A Solid Underline	198
Creating Structured Footnotes.....	198
Finding The Missing Comma in Data Record.....	201
How To Keep Outline Entries Intact.....	198
How To See The Size Of A File Without Returning To The Finder.....	202
One Way To Count Words	201
Pasting Some Graphics Can Cause Problems	199
Printing Long Documents With Page Numbers	200
Shortcuts When You "Save As..."	197
Speeding Up The Graphic Redrawing Routine	200
Spell-Checking Around Ligatures	199
Using MacDraw To Convert Typed-In Capitals To Lowercase Letters	197
Using Uppercase Commands When You're Using Capitals In A Document	198
When You Get The "Missing Comma In Data Record" Error Message	201
Word 3.01	
Word Features Not Appearing In The Menus.....	202
Word 3.02	
Bonus Disk.....	203
Repaginating Without Crashing Using Word 3.02 And The Laserwriter II SC	203
Swapping Adjacent Paragraphs	203

Using The ASCII Code Search-And-Replace Capability	203
Word 4.0	
A Macro For Changing Italics To Underline Using AutoMac III.....	216
A Macro For Transposed Characters	217
A Patch For Fractional Font Widths On ImageWriters	211
Accessing The Macron Character	216
Add The Fast Save Enabled Command To The File Menu	219
Add The Make Backup Files Command To The File Menu	219
Add The Load File Into Memory Command To The Utilities Menu.....	219
Add The Load Program Into Memory Command To The Utilities Menu.....	220
Add The Move To Commands To The Utilities Menu	220
Add The Select Whole Document Command To The Edit Menu	220
Adding Words To A Dictionary	206
Boxing In Text	205
Creating An On-line Hints Menu.....	210
Creating Tables With Varying Column Widths	210
Customizing Word To Open The Ruler Automatically	216
Exporting Tables	219
Fitting Long Entries In Mail Merge Fields	204
Formatting Fields From A Database Using The Mail Merge Function.....	210
Globally Replacing Formats	217
Kerning With The Displace Command.....	212
Inserting PostScript Code In A Word Document	213
Inserting The Date Into Documents	212
Launching MacWrite Documents With Word	211
Managing Data With The Table Feature	207
Printing Grey Text	215
Printing Screens In Word	207
Quickly Adding Fonts To Word's Font Menu	211
Recovering Word Temp Files.....	211
Slow Save in Word.....	204
Smoothering The Transition From Word 3.0 To Word 4.0.....	209
Sorting A Mail Merge.....	206
Spacing Paragraphs In Styles	205
Speeding Table Scroll	218
The Word Screen Saver	209
Time-saving Indexing	208
Using Insert Graphic To Speed Printing Time.....	212
Using The NEC Daisywheel Printer.....	208
Using PostScript To Place Screen And Crop Marks	215
Using Postscript Code to Shade A Cell	205
Underlining Equations.....	220
Using Outlining To Navigate	207
Viewing Landscape Tables.....	206
Zapf Dingbat Check Mark With Drop Shadow	214
Works	
Better-Looking Charts.....	137
Bringing The Bottom-most Window To The Front	139
Date and Time Shortcuts	137
Desktop Publishing	136
Entering Page Breaks From The Keyboard	139
Hanging Up Fast In Telecommunications Mode.....	139
Make Works Desktop.....	137
Microscrolling.....	138
Moving A Selected Range Of Cells In The Spreadsheet.....	137
Pasting In Data Without Field Names	139
Presentation Spreadsheets.....	137
Quickly Accessing Graph Specifications Dialog.....	139
Saving Files With Return At End Of Each Line	139
Sorting Columns	138
Spreading Text With The Draw Module.....	136
Spreadsheet Cell Notes	138
Taking Advantage Of The Draw Module.....	136
Telecommunications Sessions.....	138
Using A Word Processor To Change Fonts	138
Works 2.0a	
Going From Works 1.1 to 2.0a.....	139
Navigation Commands When Without The Extended Keyboard	139
Rounding Off Numbers	139

WriteNow
 Setting Up Informal Style Sheets221

WriteNow 2.0
 Opening RTF Formatted Files221

WriteNow 2.2
 Generating Endnotes.....222

Zapf Dingbats
 Breaking Away From Bullets54
 Creating A Plain, Empty Box55
 Creating A Simple Square With
 Zapf Dingbats54
 Drawing A Dingbat Yourself.....55
 Left Out54
 Missing In Action55
 Untypeables55

ATTENTION MACINTOSH USERS!

**Just having Macintosh's
System 7.0 isn't enough.
Here's Crabb with everything
you need to master it.**

MacWEEK Guide to System 7

"Crabb has a special way with the technical prose required to tell someone how, when, and why to do something." *Apple Library, "Observations of a Mac Fan," guide*



Don Crabb
Foreword by Chris Espinosa, Apple Computer, Inc.

Macintosh expert and MacWEEK columnist Don Crabb comes to the heart of System 7 and reveals little-known tricks, tips, and strategies that will get you the most out of your Mac.

This 336-page guide to Macintosh's hot, new operating system delivers every resource a Mac user needs to truly exploit the new technology and push the outer limits. **MacWEEK Guide to System 7**, covers it all, from memory management to working across networks. It explains how to run software applications simultaneously with the new 32-bit virtual memory, improve the quality of type both on-screen and in printouts, and retrieve information from several sources with the Data Access Managers. Plus, this unique guide book is designed with special margin annotations for quick reference.

Written by Don Crabb, senior lecturer at the University of Chicago, whose popular "Crabb on Computers" column is syndicated throughout North America and Europe.

MacWEEK

Guide to System 7 ORDER FORM

Send me _____ copies of
MacWEEK Guide to System 7
(029-7) for only \$24.95 each,
plus \$3.00 per book for shipping
and handling.

Order your copy of **MacWEEK
Guide to System 7** today. CALL
TOLL-FREE: 1-800-688-0448 or
FAX: (510) 601-2099

☐ Please send me a FREE
Ziff-Davis Press Catalog.

Please add \$15 for airmail postage outside the U.S.,
U.S. currency only. Prices subject to change without
notice. Please allow 3-4 weeks for delivery. California
residents please add 8.25% sales tax.

Name _____
(Please Print)

Company _____

Address _____

City _____

State _____ Zip _____

Telephone # _____

Payment by: ☐ Visa ☐ MasterCard ☐ Amex ☐ Check/M.O.

Card # _____ Exp. Date: _____

Signature _____

Order your copy today!

**The first book on the hot,
new operating system...
from the most respected,
and entertaining, writer
on the Macintosh.**

CONTENTS AT A GLANCE

Foreword xvii
Observations of a Mac Fan xix
Introduction xxv

- Chapter 1** System 7: A better Operating Environment for the Macintosh **1**
Chapter 2 Using the New Finder **33**
Chapter 3 Modifying the System 7 Environment **65**
Chapter 4 Using TrueType Fonts and Printing under System 7 **99**
Chapter 5 Networking and the Virtual Desktop **127**
Chapter 6 Improving Your Memory **161**
Chapter 7 Maintaining Your Macintosh Hardware **185**
Chapter 8 Managing the People Who Use Your Macs **205**
Chapter 9 Training and Supporting Your Users **229**
Chapter 10 The Art and Science of Troubleshooting System 7 **245**

Appendix A Determining Software Compatibility with System 7 **257**

Appendix B Evaluating QuickTime **280**

Index 287

MacWEEK Guide to System 7

"Crabb has a splendid way with the technical prose required to tell someone how, when, and why to do something."

Edgar Ebert, "Observations of a Mac Fan," Inside.



Don Crabb

Foreword by Chris Espinosa, Apple Computer, Inc.

Macintosh expert and MacWEEK columnist Don Crabb cuts to the heart of System 7 and reveals little-known hints, tips, and strategies that will put its power in your hands.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 1612 OAKLAND, CA

POSTAGE WILL BE PAID BY ADDRESSEE



5903 Christie Avenue
Emeryville, CA 94608-9838



A one in a million opportunity... To get almost a thousand hints & tips...FREE!

Make your Macintosh soar with MacUser — subscribe to get the all-new "Hints & Tips for the Macintosh" on disk — FREE — and save up to 50%!

MacUser delivers the information you need to increase your performance and productivity on your Mac. Every issue brings you these important sections:

NEW ON THE MENU

Check out all the newest products and technological breakthroughs.

MACUSER LABS

Get comprehensive product reviews complete with impartial benchmark test results so you can buy smart.

DESKTOP PUBLISHING

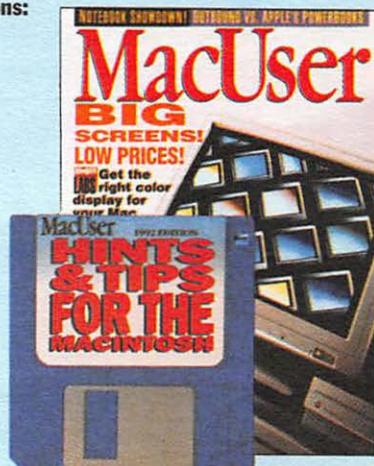
Learn how to maximize your publishing productivity.

POWER TOOLS

Power up with the latest hints, tips and undocumented features guaranteed to increase your speed and flexibility.

BRIDGES

Get the most timely, insightful information on the newest in network building, maintenance and management.



And much more!

Subscribe now and get the all-new '92 edition of "Hints & Tips for the Macintosh" Disk — **FREE!**

MACUSER SAVINGS OPPORTUNITY CARD

SAVE UP TO 50% • GET FREE SOFTWARE

YES! I want to take this golden opportunity to subscribe to MacUser at up to 50% savings. And I want the all-new "Hints & Tips for the Macintosh" Disk — FREE with my paid order.

Start my subscription for:

☐ One year (12 issues) for \$19.97.
44% SAVINGS!

☐ Two years for \$35.40.
50% SAVINGS!

Name _____ (Please Print) 8S5H6

Company _____

Address _____

City _____

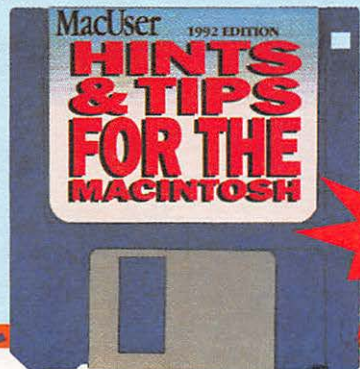
State _____ Zip _____

☐ Payment enclosed.

☐ Bill me later.

Full one-year subscription price is \$27.00. Please add \$16 per year for postage outside the U.S., U.S. currency only. Canadian GST included. Please allow up to 30 days for delivery. Disk will be shipped upon payment.

YOUR FREE GIFT:



ALL NEW
FOR
'92!

The brand new
"Hints & Tips for
the Macintosh"
— on disk!

Unleash the power of your Mac with the amazing Macintosh secrets you've seen in this book — with your **FREE DISK!**

All new for '92, this exclusive collection of tips, tricks and undocumented features puts you in charge of your Mac's incredible power. Loaded with over 1,000 insider shortcuts, it covers 13 major categories, including DTP, System 7, Graphics, Word Processing, and Games.

This amazing software gives you:

- Life-saving (and life-prolonging) secrets for your Mac
- Tips for winning your favorite games...from Tetris to Dark Castle
- Quick fixes for your newest software
- And much more!

All this pops up on your screen at the touch of a key...and it's **YOURS FREE** if you subscribe today.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 66 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

MacUser

P.O. Box 52461
Boulder, CO 80321-2461



MacUser

Ziff-Davis Publishing Company
One Park Avenue
New York, NY 10016

BULK RATE
U.S. POSTAGE
PAID
Ziff-Davis
Publishing Co.

**NEW
EDITION!**

The most
comprehensive
compilation of
hints, tips and
trouble-shooting
routines for
the Macintosh
ever published!

