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BOOST YOUR GS' POWER

Make the Switch To System 6

INVESTIGATING HARD DRIVES

SYSTEM

REVIEWS

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- Bank Street Writer Mac

inCider/A+ reviews
a class act: The GS'
System 6 hits the big
time with a souped-up
Finder, new media
controllers, simplified
network access,
performance-boosting
desk accessories, and
plenty of power tools
for programmers
and musicians.

By CYNTHIA E. FIELD, Ph.D. *
CONTRIBUTING EDITOR

SMOO

Sometimes, it's the little things that make all the difference — like that extra hour of sunshine after you turn the clocks ahead, heralding the end of a long New England winter. Or, if you're a computer buff, any new product that saves you a few keystrokes, or a few minutes of precious productivity time here and there, may catch your eye.

Take Apple's new IIGS operating system, **GS/OS 6.0**, with its unique brand of clock control, for example. The first weekend in April probably found you grumbling through the house adjusting all your timepieces to play catchup with Daylight Savings. This year, though, if you had System 6, you didn't have to bother booting up your machine and fiddling with your computer clock. All you had to do was remember to click on the *Auto daylight savings* check box in System 6's new **Time** control panel sometime during the previous few weeks. (See **Figure 1** for details.)

Okay, so dealing with Daylight Savings Time isn't a great dilemma. But this enhancement is just one of dozens of enticing new features that raise the level of convenience for GS users. Among other System 6 enhancements you'll enjoy are a performance-boosting Finder, restyled control panels, handy desk accessories, time- and money-saving

applications, and powerful programmer's tools. Probably no other software for the GS offers so much value. (See the accompanying sidebar, "On the Horizon," for an in-depth look at System 6's developer's tools.)

So what's the catch? There is none. You can obtain a copy of System 6 for as little as $15 from authorized mail-order distributors such as those listed in the accompanying "Sources" box.

Faster delivery requires a modem and a subscription to a computerized information service such as **America Online**, from which you can download System 6 for the cost of a phone call and some connect time.

If you don't own a modem or you don't want to part with $15, any computer club that's authorized by Apple to distribute System 6 can give you a copy *gratis*. (You may have to supply the half-dozen 3.5-inch disks to hold the new system software and its copious extras.) Apple's own **User Group Connection** can put you in touch with organizations in your area.

JUST DO IT

Banish any misgivings you may have about installing System 6 — it couldn't be easier. The system software's essential

TH OPERATOR

components still fit on a single 3.5-inch disk, and you can use the new system on a GS with only 1 megabyte of random-access memory. If you have a hard-disk drive and additional RAM, though, the extra room pays off when you want to soup up your GS.

Whatever your hardware configuration, start up your GS with the System 6 **Install** disk. Next, launch the **Installer** utility that's included. Click on the *Easy Update* button. Then sit back while System 6 modernizes your start-up disk automatically.
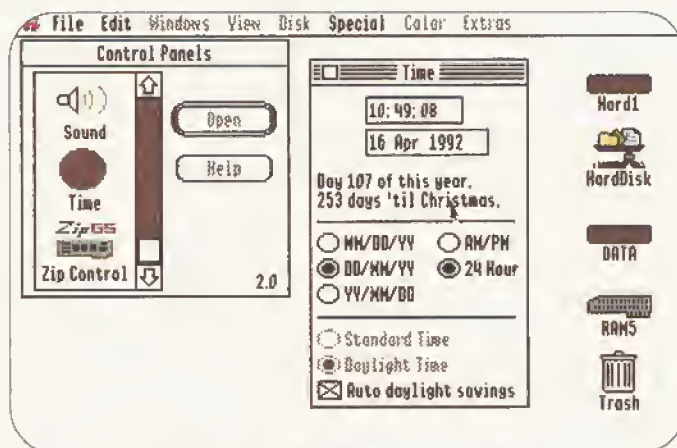
Installer prompts you to insert other

Figure 1. Time control panel adjusts your GS' clock automatically to accommodate Daylight Savings Time. An "Easter egg" also tells you how many days there are until Christmas — just click on the "days left in this year" area.

System 6 disks — including **System .Disk**, **SystemTools1**, and **SystemTools2** — as needed. Almost immediately, you'll be impressed by the software's smarts. For one thing, System 6 senses when you insert a requested 3.5-inch disk into a drive. No

longer must you click on *OK* with the mouse or lift a finger to press the return key. And when you slip a blank disk into a drive while using a standard 16-bit GS program, System 6 responds by asking if you'd like to format the disk.

Looking for even more convenience? To activate an array of file-system translators (FSTs), control panels (formerly called *CDEVs*, or *Control Panel devices*), desk accessories (DAs), and applications, just install the appropriate "scripts" by clicking on Installer's *Customize* button. If you install the appropriate FSTs, for example, your GS will be able to read files stored on disks formatted with the Pascal operating system or with DOS 3.3, an original Apple II disk-operating system. Perhaps best of all, System 6 includes an **HFS** (*hierarchical file structure*) **FST**. Once installed, this capability lets your Apple IIGS read, write, and even format Macintosh disks.

ON THE HORIZON

SOFTWARE DEVELOPMENT UNDER SYSTEM 6

While some software developers may be taking immediate advantage of System 6, the good news is that many others won't have to. System 6 for the Apple IIGS, unlike the Macintosh's System 7, is a mostly transparent upgrade that won't cause compatibility problems or require vendors to rewrite software.

System 6's HFS FST (hierarchical file structure file-system translator) is probably the most obvious transparent improvement: All your GS applications will find and read Mac files without even trying.

Notes Roger Wagner, creator of the premier GS multimedia authoring system, "Both our **Graphics Exchange** and **Hyper-Studio** will benefit immediately from System 6. Apple IIGS users of Graphics Exchange will be able to interconvert all sorts of graphics between the GS and the Mac, even if they don't have Macs. In a classroom, students creating a stack with HyperStudio will be able to share text information with other students working on Macs."

"I'm especially pleased that the Macintosh and DOS 3.3 FSTs were included," comments Dave Hecker, vice president of research and development at Seven Hills Software, "so that we can import text, fonts, and graphics directly into **Graphic-Writer III**, **Font Factory GS**, and **SuperConvert**."

In addition, System 6's improved file loading and saving menus work without modification in all your programs, as do the new control panels and the **Media Control** desk accessory.

And System 6 opens up the GS to people with physical and visual disabilities, as well, thanks to its revamped **Universal Access** suite: **CloseView**, which magnifies the screen; **Sticky Keys**, which handles key combinations by letting you press Command, Shift, Option, and Control in sequence (instead of holding them down); **MouseKeys**, which duplicates mouse action via the numeric keypad; and **Video Keyboard**, which lets you use a mouse or an alternative input device to access a graphics depiction of a keyboard on screen.

The bad news is that we've heard of only a couple of brand-new applications that utilize some of the other enhanced powers of System 6. The application program that takes fullest advantage of System 6 immediately is Apple's own **HyperCard IIGS**. (See "Tools of the HyperTrade," May 1992, p. 34, for details.) Version 1.1 contains several features specific to the System 6 environment. (If you run it under System 5.0.4, these features won't be available.) For example, version 1.1 will now detect disk insertions and respond appropriately at idle time. If the disk is unreadable, a dialog box will ask you whether you want to format it. The application now won't drop out of the super-hi-res screen while launching, executing another GS/OS application, or quitting to the Finder.

This latest edition of HyperCard for the GS also includes Finder "info" resources containing icon, version, and copyright data as well as document types and paths. And, of course, HyperCard's partnership with System 6 lets you format data disks on the fly, compose self-scripting musical tunes with the mouse, and operate multimedia hardware devices, including the Apple II Video Overlay Card, CD-ROM drives, and laser-disc players.

Foundation, a resource editor from Lunar Productions, was

Among other files you'll want to add to your working system disk (space permitting) are the 23 large typefaces supplied on the fifth System 6 disk, **Fonts**. If big bit-mapped GS fonts — such as Courier.30, Helvetica.42, and Times.96, to name just a few — are available, programs such as AppleWorks GS can generate improved-quality text on non-PostScript dot-matrix printers such as the ImageWriter II or ink-jet models such as the Apple **StyleWriter**, the driver for which is now included in System 6. According to the literature, the StyleWriter can generate text at a resolution of 360 dpi (dots per inch). By contrast, mainstream laser printers support 300 dpi.

GETTING TO KNOW YOU

When you restart your computer after System 6 installation (and customization, if desired) you'll immediately notice some changes for the better in your GS'
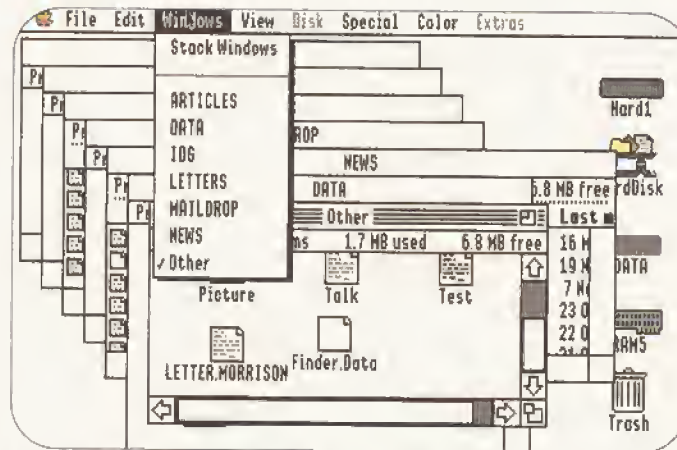

Figure 2. Windows menu helps you negotiate a cluttered desktop more easily. Stack Windows command keeps all windows accessible.

appearance and operation. For instance, the so-called "splash screen" (the cool-blue startup screen with thermometer) displays the system version — for the first time in GS history. An *About the Finder* option (*Apple* menu) tracks memory usage and avail-

ability. The Finder's new *Windows* menu lists the names of open volumes and folders (**Figure 2**). You can make a window active by choosing it from the menu in lieu of clicking on it the "old" way. In addition, a *Stack Windows* feature prevents some windows from hiding behind others.

Other window-dressing capabilities help neaten the crowded desktop. Choose a window, press the option key, pull down the *Special* menu, and select *Clean Up*. The Finder alphabetizes the window's contents quickly as it aligns them along an invisible grid. A

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also written specifically for System 6. (A resource editor is a utility that lets you alter various aspects of an application's resource fork, the area that defines the look and feel of icons, menus, windows, and so on.) Foundation should be of special interest to developers — but, like ResEdit for the Mac, it may also inspire a cult following among fanatic GS aficionados who want to make their machines unique. Foundation lets you edit as many as four resource files at a time, and features "intelligent" clipboard support for resources to simplify copying from one program to another. You can also write "scripts," as with ResEdit on the Mac, to create a number of similar resources.

Foundation's basic set of WYSIWYG (what you see is what you get) editors includes Window/Control, Icon, Bundle, Sound, and Strings. A programmer's toolkit lets you create your own custom editors, as well. Foundation works in both 640 and 320 video modes, and has hooks in place for future expansion — Mac resource importation, for example.

Other mini programs are also in the works. Adds Seven Hills' Hecker, "Initially we'll be revising some existing software to take better advantage of System 6, yet still function with earlier systems. But in the future we expect to produce software written specifically for System 6 that will require it to operate. Actually we've already written one program that requires System 6: **QuickLaunch**, a Finder extension we're giving away free to celebrate the release of GS/OS 6.0."

Not only Finder extensions, but control panels (formerly called Control Panel devices, or CDEVs) should also prove to be fertile ground for GS developers. Because the new **Control Panel 2.0** software in System 6 is more compact, and because it no longer limits the number of control panels open

on the desktop or the width of a control panel, these utilities are no longer just for peripheral tasks. Look for larger, more powerful control panels that will do the kind of work that used to require a dedicated application. In fact, under System 6 each control panel is an application, which you run by double-clicking.

You probably used System 6's new **Installer 2.0** program to put the operating system into your GS — but you may not know that Apple has also published a **Developer Version** of Installer. It simplifies the rather complicated job of putting all resources, control panels, fonts, icons, and you-don't-need-to-know-what-all-else into the proper folders. A programmer who puts the Developer Version of Installer 2.0 to work guarantees that no user will be missing an icon or a font.

Another great time saver for developers should be the **Media Control** suite, combining software tools and drivers for external devices such as videodisc players, plus the aforementioned control panel and desk accessory that give users control over all kinds of multimedia. No longer will every developer of a multimedia product have to "re-invent the wheel" for media control. The similarity of the Media Control toolset to its Mac counterpart, and the functional similarity of the Mac and GS versions of HyperCard, should inspire many developers of Mac multimedia products to make the easy switch to the GS.

Perhaps System 6 offers the best of both worlds: It could keep the GS development community busy for months to come, but it's comforting to know that thanks to GS/OS' comprehensive enhancements, your current programs won't really need to change a thing to still stay up to date.

— **Paul Statt, Senior Editor**

Preferences dialog box (*Special* menu) lets you customize file information and icon coloring. A *Preferences* checkbox option tells the GS to ignore 5.25-inch disk drives upon startup.

And for the first time on the GS, two Macintosh System 7 features — "tunneling" and "reverse tunneling" — can also help reduce window clutter by letting you open and close folders along a path selectively. When it's time to shut down (or simply regroup), you can close all open windows by option-clicking on a close box.

The new Finder supports a host of other time-saving keyboard commands, as well. For speedy desktop management, for example, press the command (open apple) key while you click on the title bar of an active window. A pop-up menu appears listing the sequence of open folders that includes the currently active window.

At-your-service convenience is a pre-eminent feature of System 6 — and the **SetStart** control panel is just one more example that's especially valuable if you use a particular application extensively. When your GS boots, SetStart proceeds without hesitation to the desired program. To return to the Finder, quit the application as you usually do — pressing Command-Q or choosing *Quit* from the *File* menu.

Individual conveniences such as these can save a lot of time, but System 6 is also inherently faster than previous versions of the operating system. A quick look at *inCider/A+*'s benchmark test results is proof. (See the accompanying **Table.**) For
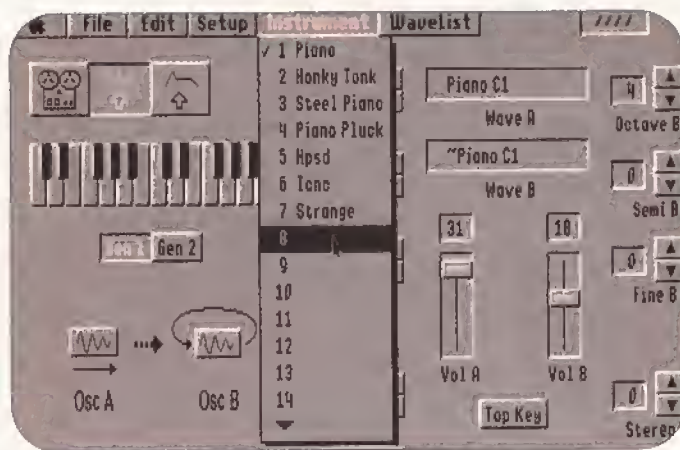

Figure 3. SynthLab music creation/editing application works with new MIDI control panel and MIDI Synth toolset. Wave-List Edit page (click on middle button on first SynthLab screen after title) includes piano keyboard you can play with the mouse.

Figure 4. System 6 puts a colorful four-function calculator desk accessory at your fingertips. Click on zoom box for hexadecimal conversions.

example, the time elapsed between start-up and the appearance of the Finder screen shows an eight-second difference between System 6 and System 5.0.4.

THAT'S ENTERTAINMENT

Thanks to System 6's **Media Control** suite you can operate multimedia hardware devices such as laser-disc players and CD-ROM drives from the comfort of your GS. The Media Control DA (which works like a universal remote control), control panel, toolset, and stack (included with HyperCard IIGS 1.1) make for a powerful collection of tools for multimedia developers, computer hobbyists and gadgeteers, and classroom teachers alike.

Adding sound effects to your GS is easier than ever before with the new **Sound** control panel. This nifty System 6

enhancement lets you assign sound effects such as *Doorbell*, *Frog*, and *Sosumi* to the *System Beep* and 22 other "events." Start up the Finder with a trumpet voluntary. Make the *Whoosh* sound play when you insert a disk — and the *hsoohW* sound play when you eject one.

Clicking on a special check box in the Sound control panel makes the screen border flash whenever a sound effect plays. This visual indicator is handy not only for hearing-impaired users, but for those of us who like to fiddle with the GS in the wee hours or in quiet places such as the school library. Just reduce the GS' volume — a tug on the volume slider in the Sound control panel does the trick.

Still another System 6 control panel is the **MIDI** (*musical-instrument digital interface*) program that helps both amateur and professional musicians configure and use MIDI keyboards and other instruments with the GS. Team up the MIDI control panel with the **MIDI Synth** toolset and the impressive **SynthLab** application (provided on the sixth System 6 disk) and you can compose, record, edit, and play GS music to beat the band (**Figure 3**).

SynthLab supports eight audio channels and includes ready-made instrument sounds (some traditional, some electronic) as well as a handful of familiar musical selections for your listening pleasure. Just click on SynthLab's *Play* button — it looks a lot like a pushbutton on a stereo. Whether or not you plan to use Synth-Lab's music-editing and instrument-design features, you can have fun using the mouse to tickle the ivories on the program's graphics piano. The user's guide is stored in the *Reference* file on the SynthLab disk.

PRODUCTIVITY BOOSTERS

Printing the SynthLab manual — or similar *ReadMe* files that accompany other applications — is a snap thanks to **Teach**, a mini word-processing program included in your System 6 treasure trove. Besides reading, printing, and saving text files, Teach can import files from AppleWorks 3.0, AppleWorks GS, and MacWrite 5.0 if you have the Mac HFS FST installed. Although Teach supports GS fonts in the customary sizes and styles and offers find/replace options, this handy note

maker doesn't feature formatting rulers or a spell checker.

Archiver, a third application provided free with System 6, backs up and restores important files in compressed format on floppy disks or on Apple Tape Drive cassettes. If you have a hard-disk drive and you're not backing up your data regularly, you're playing with fire. Suffice it to say that Archiver is an economical alternative to costlier backup utilities.

System 6 also includes a special productivity booster, **EasyMount**, for AppleTalk users — still another feature borrowed from the Mac's System 7. EasyMount lets you create *aliases* — duplicate icons — of your network's file-server volumes on your GS' Finder, thus automating network access by eliminating several steps in the log-on process. (For details, see "Round 6," this month's Bridging the Gap, p. 18.)

Among System 6's handy new desk accessories is a colorful four-function calculator— just click on its keys with the mouse (**Figure 4**). Click on its zoom box, and the calculator widens to accommodate hexadecimal/decimal conversions.

The **Find File** DA, also included with System 6, is well named. It can locate a document, drawing, or database on a big, stuffed hard drive faster than you can say, "Where the heck . . . ?" Keeping DAs well organized is a System 6 talent, too. A new check-box option in the *General* control panel alphabetizes them for you.

A collection of **Universal Access** enhancements for the GS mimics a similar set of functions available on the Mac. Visually impaired users can install the **CloseView** DA to magnify the GS screen. **MouseKeys** lets disabled users duplicate mouse actions with the keys on the GS' numeric keypad. Invoke **Sticky Keys** and any GS user (earlier incarnations excluded ROM 01 users from this function) can press modifier keys such as Command, Control, and Option in sequence instead of simultaneously. The **Video Keyboard** DA lets you "type" characters without ever touching the physical keyboard. Instead, use the mouse or an alternative input device to press the keys on a graphics keyboard appearing on screen.

RUN, DON'T WALK

Want to learn more? The System 6 **Tips and Shortcuts** file (included on the

	System 6.0	System 5.0.4
Start up GS to Finder	50	58
Start up GS, launch HyperCard IIgs 1.1 manually	79	84
Start up GS, launch HyperCard IIgs 1.1 automatically via SetStart	60	n/a
Open folder containing 59 items	3	5
Close three nested windows by clicking on each close box in sequence	7	7
Close three nested windows by option-clicking on close box	5	n/a

Table. Speed tests: System 6 versus System 5.0.4 (all times in seconds; n/a = not applicable). Unaccelerated 4MB ROM 01 Apple IIgs connected to SCSI hard drive with Apple II High-Speed SCSI Card. All tests repeated three times using stopwatch; results rounded to nearest second.

SystemTools2 disk) provides additional information. In addition, the Finder offers on-line help describing eight important new functions, including "Pop-ups in Window Titles" and "Moving Inactive Windows." An "Odds & Ends, Hints & Tips" selection contains still more information. A second document file on the SystemTools2 disk lists dozens of people who helped bring System 6 to fruition. Among them is a programmer named Greg Branche, who updated **AppleBowl**, a hi-res-graphics bowling game included in a *Goodies* folder on the Fonts disk.

GS users who are comfortable with the "Columbus" approach to personal computing may find these electronic resources adequate for discovering System 6's

innumerable new features — and Easter eggs (surprises). But if you're as manual dependent as I am, consider purchasing the *System 6.0 User's Reference* when you acquire the software. Resource Central sells the disk/manual package for $39; other sources may offer a similar bundle. For more information, be sure to call Apple's **Customer Assistance Center**.

Whether adjusting the clocks twice a year messes with your biorhythm or gives you a head start on a brand-new season, you should run, not walk, to your phone and order (or download) GS/OS 6.0 today. An abundant assortment of new Finder tricks, pop-up DAs, fonts, control panels, device drivers, speedy processing enhancements, and freebie applications make System 6 a "best buy" for any GS user. You may not need that *Auto daylight savings* feature that gave me such a kick, but you'll have the time of your life customizing your GS the 6.0 way. ❑

SOURCES

America Online
8619 Westwood
Center Drive
Vienna, VA 22182
(800) 827-6364

Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
(408) 996-1010
(800) 538-9696 x500
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