SoftSwitch™

## Program Switcher for the Apple IIGS
by Ken Kashmarek
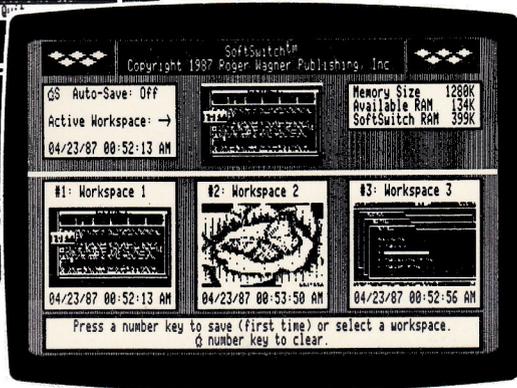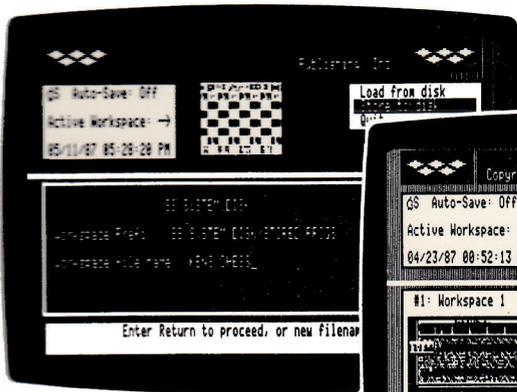
SoftSwitch™
A Program Switcher for the Apple® IIGS

by Ken Kashmarek

Program Design by Roger Wagner

Manual by Tom Burns

With special thanks to David Sparks and Steve Cochard

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Chapter 1: Introduction

Welcome to SoftSwitch, a program designed specifically to take advantage of the extra memory in your Apple IIGS. Imagine being able to switch between 3 running programs with just a keystroke. Imagine being able to revert to a previous state of a given program. Imagine interrupting a program at any instant, saving the program to disk in its current state, and then returning to that exact point weeks later. Imagine all this and more, and you're beginning to understand the power of SoftSwitch.

SoftSwitch is implemented as a Classic Desk Accessory on the Apple IIGS. This means that it is available at any time by pressing the Control-Open-Apple-Escape sequence that is used to access the IIGS Desk Accessory Menu.

When SoftSwitch is put on your System Disk, it is automatically installed when ProDOS 16 is started, and the name "SoftSwitch" will appear in the Desk Accessory Menu along with "Control Panel, Alternate Display Mode," and whatever other Desk Accessories may be present in the GS.

The primary purpose of SoftSwitch is to allow you to install up to three separate, but concurrent, programs, and to be able to switch between these applications as simply and quickly as possible.

To load or switch applications, and to perform other SoftSwitch functions, you must be able to access the Desk Accessory Menu by pressing Control-Open-Apple-Escape while you are using your program. If the program does not allow access to the Desk Accessory Menu, then it cannot be used with SoftSwitch.

The SoftSwitch Display Screen

When SoftSwitch is first activated by selecting it from the Desk Accessory Menu, the SoftSwitch Display Screen appears. The display is made up of the following elements:

Mini-Screen image of Suspended Program   Memory Status Box

Auto-Save Status

Time of Current Program Suspension

Stored Workspace #s

Time of Program Suspensions

```
                    SoftSwitchᵗᵐ
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 ⌂S  Auto-Save: Off                          Memory Size    1280K
                                             Available RAM    59K
 Active Workspace: →                         SoftSwitch RAM  399K

 06/01/87 04:08:14 PM


 #1: Workspace 1          #2: Workspace 2          #3: Workspace 3




 06/01/87 04:06:56 PM    06/01/87 04:08:14 PM     06/01/87 04:07:41 PM

      Press a number key to save (first time) or select a workspace.
                      ⌂ number key to clear.
```

An Overview

The general overview of SoftSwitch, and the purpose of the various displays is as follows:

When SoftSwitch is first entered, the program that has just been interrupted is indicated by a Mini-Screen in the upper center of the SoftSwitch screen display. The Mini-Screen is a compressed rendition of the display that was active at the moment the program's operation was suspended.

To the left, the date and time of the exact moment of suspension is indicated.

To the right, the Memory Status Box shows the total memory available in your Apple IIGS, how much is currently available for use, and how much memory is currently in use storing programs suspended by SoftSwitch.

The three boxes labeled "Workspace 1, 2 & 3" are like storage bins for the image of a suspended program. Right now, these storage areas hold nothing, but in a moment, we'll explain how to load each one with a program that can be switched by SoftSwitch.

To use SoftSwitch, programs must first be run, and then interrupted. Then an image of that program must be stored in one of the Workspaces. The process is then repeated for each successive program until the desired number of Workspaces have been assigned stored programs. Once SoftSwitch has stored the programs, you can switch between programs at will.

SoftSwitch has very few command keys. The primary commands use the number keys 1, 2 and 3. SoftSwitch is "context sensitive," which means that it can tell what you want to do by the context of when a command key is pressed. For example, if you enter SoftSwitch and press the corresponding key number for an empty Workspace, SoftSwitch assumes you want to store a copy of the program in that Workspace. However, if the Workspace you choose is not empty, SoftSwitch assumes you want to switch to the program already stored in that Workspace.

While the SoftSwitch display screen is visible, a Workspace area can be cleared at any time by pressing the Open-Apple key and the corresponding number key.

Uses For SoftSwitch

There are many different ways of using SoftSwitch. The four main categories are:

1) Program switching is the most obvious use. You can quickly go from one program to another and back at will, eliminating any wasted time quitting one program and waiting for the next to load.

2) SoftSwitch has a provision for copying any program display screen or stored graphic image from one program to another. For example, this "copy & paste" feature lets you transfer a Hi-Res graphics picture from one program where it was created, to another for printing, editing, or saving to disk. The two programs can be protected or not, and the transfer takes only seconds. Best of all, the two programs don't even need to run under the same disk operating system. Thus you can quickly transfer a ProDOS Hi-Res picture to a DOS 3.3 program, or vice versa.

3) You can use SoftSwitch to "revert" to the state of an application, or the entire computer, at some previous point in time.

The simplest application of this idea is with the Apple DeskTop program. Ordinarily, it takes quite some time to return to the DeskTop when you quit a program started from it. By storing it in one of the Workspaces, you can switch back instantly to the DeskTop environment, ready to run the next program.

The second variation on this theme is to revert a specific application to where it was at an earlier point in time. For example, most drawing programs with an "undo" feature limit you to only cancelling the very last action. With SoftSwitch, you could revert to the the way the drawing was some minutes before.

4) You can use Keepsake, a separate program supplied on the SoftSwitch diskette, to save one or more of the currently switching applications to disk. Thus, you can suspend a program's operation over any period of time, and then resume the program exactly where you left off many days later.

The design of SoftSwitch has created an almost endless variety of possible uses:

a) **Applications Extensions:** Do you sometimes wish that the program you're running had the functions of some other program? For example, if you're using MousePaint, you may wish you could format a disk, or copy files as you can with the Apple II DeskTop program. With SoftSwitch, the DeskTop could be stored in a Workspace, and then you could switch whenever you needed to use any of the disk operations not available in MousePaint. This principle applies to any combination of complementary programs that you can imagine.

b) **Multiple Users on a Single Machine**: In an office equipped with only one IIGS, occasionally you're forced to save what you're working on and quit your program because another person has to use the IIGS for a more urgent task. With SoftSwitch, you can save your application in a Workspace, and then let the other person run another application. When the other person is finished, your application is restored instantly, and at the exact point where it was interrupted.

c) **Adventure games**: Many games take quite a long time to get to a certain point in the program. If your "character" should then perish, you have to start over. With SoftSwitch, you can save the state of an adventure game just prior to any hazardous encounter. Then, if your character succeeds, you can update the stored game with SoftSwitch. However, if your character perishes, you can revert to the state of the game just prior to the hazard, and try again, without having to re-run the entire program. SoftSwitch's Keepsake program also saves the suspended state of the game to disk. This is particularly handy for those programs that do not offer a save option.

d) **Arcade games**: Similar to the benefits to Adventure games, arcade games can be saved with Keepsake whenever you attain various high score situations. Thus you can always return to a level of success for another try without replaying the entire game. For example, in F15 Strike Eagle, you can make unlimited tries at landings and other maneuvers without repeating the beginning of the flight. Since not all entertainment programs let you save the current state of the game to disk, you may find Keepsake's save-to-disk feature handy for these as well.

e) **Debugging**: As a programming utility, SoftSwitch lets you freeze the program state at any point. Then the problem area of the program can be repeated over and over without a fatal system crash, because the "good" system can always be restored. Utilities may also be developed for SoftSwitch in the future that will allow programmers to compare programs at different times of operation, examine memory "snapshots," and more.

f) **Documentation illustrations**: Because SoftSwitch can "capture" any Hi-Res, Double Hi-Res, 40 or 80 column screen, it can be used to copy and print any screen from a running program without disturbing it. Thus anyone who creates written explanations of any software package (authors, teachers, consultants, etc.) can use SoftSwitch to put perfect "screen shots" in any printed material. Appendix E has more information about this.

g) **Software demonstrations**: Anyone who demonstrates software to others (teachers, consultants, user group presenters, dealers, technical support personnel, etc.) can use SoftSwitch to quickly switch between several different programs without having to restart the machine. A great time-saver.

SoftSwitch Requirements

SoftSwitch requires an Apple IIGS, a RAM Expansion Card with a minimum of 512K on it, and a 3.5" disk drive.

SoftSwitch stores and switches applications under ProDOS 8, DOS 3.3, and other modifications of these operating systems as long as the Desk Accessory Menu has not been disabled by the application.

SoftSwitch does not switch ProDOS 16 applications. Most current ProDOS 16 applications such as PaintWorks Plus, Music Studio and others, require a RAM Expansion Card of at least 512K. Thus, there is not enough room in memory to have two or more of these applications and SoftSwitch in the IIGS at the same time. It is possible that, as larger RAM Expansion Cards become available, a version of SoftSwitch will be designed to switch between these programs also.

Programs which use ProDOS 1.1.1 present a different problem. ProDOS 1.1.1 turns off interrupts, and thus prevents access to the Desk Accessory Menu. Fortunately, most programs operating under ProDOS 1.1.1 can be started from a Program Selector such as the DeskTop. Using the DeskTop causes these programs to be started with ProDOS 8 instead, thus bypassing the ProDOS 1.1.1 that may be on the program disk. You can also use the DeskTop to replace the older ProDOS 1.1.1 on the disk with ProDOS 8. In addition, programs under ProDOS 1.1.1 that use the mouse (such as Dazzle Draw) automatically enable interrupts, and thus allow access to the Desk Accessory Menu. Most mouse-based programs will work with SoftSwitch, regardless of which DOS they use.

Chapter 2: Installation

Setting the RAM Disk

Before installing SoftSwitch, make sure that your Control Panel setting for the RAM Disk provides enough memory for SoftSwitch. As mentioned before, you must have at least 512K RAM on your RAM Expansion Card in addition to the 256K standard memory in the Apple IIGS to use SoftSwitch.

When setting the RAM Disk values in the Control Panel on your Apple IIGS, it is important to understand that you are dividing up a fixed amount of memory between two distinct systems that use the memory.

```
┌────────────────────────────────────────────┐
│  Memory Manager  ◄──  ──►   RAM Disk        │
│  System Memory              Memory          │
└────────────────────────────────────────────┘
```
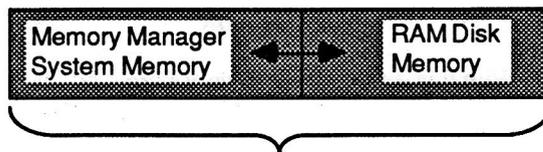
Total Memory = 256K + RAM Card Size

As you make your RAM Disk size larger, the amount of memory available for SoftSwitch, and any other program that uses the system memory for programs, as opposed to a RAM Disk device, gets smaller. Likewise, as you make the RAM Disk smaller, the amount of system memory increases.

If you do not have any programs which require the RAM Expansion Card configured as a RAM Disk, you may just set the RAM Disk size to 0K. If you are using a program such as MouseWrite that can use a RAM Disk, you will have to decide how you want to partition memory.

If you are not sure how to use the Control Panel to change the RAM disk settings, see Appendix A, "The Control Panel Program," in the Apple IIGS Owner's Guide.

Here are some suggested settings for different RAM Expansion Card sizes and program use:

RAM Expansion Card Size	Minimum Setting	Maximum Setting	Memory Available for SoftSwitch
0K	0K	0K	0K

IMPORTANT: This is not large enough to use either SoftSwitch or a RAM Disk.

RAM Expansion Card Size	Minimum Setting	Maximum Setting	Memory Available for SoftSwitch
256K	0K	0K	256K

With this setting, you can only store 1 program in a SoftSwitch Workspace for reverting. True switching is not possible with this setting.

If you want to use the RAM Disk for some specific purpose later on, you can re-configure the Control Panel temporarily for the task, and then set the RAM Disk back to 0K when you're done.

If you only have 256K Expansion RAM, we recommend you set your RAM Disk to 0K for the time being, and think seriously about buying more RAM to expand your RAM card.

RAM Expansion Card Size	Minimum Setting	Maximum Setting	Memory Available for SoftSwitch
512K	0K	0K	512K

If you're using the DeskTop to start programs, 512K is the minimum amount of RAM Expansion memory needed to switch three programs.

If you're using the Program Launcher with a 512K RAM Expansion Card, you'll only be able to store and switch two programs. This is because the Program Launcher uses much more memory than the DeskTop. In order to switch three programs with the Program Launcher, you need a minimum of 768K on the RAM Expansion Card.

RAM Expansion Card Size	Minimum Setting	Maximum Setting	Memory Available for SoftSwitch
1Mb	512K	512K	512K
1.5Mb	512K	512K	1Mb

Remember that after you have made the appropriate changes to the RAM Disk settings, and you have pressed Return to accept the settings, you still must Quit the Control Panel and turn the power completely off on the IIGS. Then, when you turn the power back on, the new RAM Disk settings will be in effect.

We recommend that you set both the maximum and minimum values for the RAM Disk to the same value. The ability to use a minimum and maximum value implies that there is some usefulness to doing it. The reality is that some Apple IIGS programs will simply crash when they starting fighting over the use of the undefined area created by differing minimum/maximum values. This is not the fault of the software, but an inherent problem in the implementation of the minimum/maximum design. We recommend you always keep the values the same.

Installing SoftSwitch

SoftSwitch may be installed on other diskettes in addition to the disk
included in the SoftSwitch package. This section describes how to put
SoftSwitch on other diskettes. If you would like to go directly to the next
Chapter, "Starting With SoftSwitch", and try the examples on using
SoftSwitch, you may skip this section for the time being. This section is
only required if you should want to start up your Apple IIGS from another
disk, such as a hard disk, or other ProDOS 16 System Disk.

*   *   *   *   *   *

The SS.SYSTEM.DISK includes a program to transfer SoftSwitch to any
ProDOS disk that contains the usual SYSTEM files, such as the
SYSTEM.DISK that came with your Apple IIGS, or any ProDOS 16 disk
with a SYSTEM folder, including hard disks.

Eventually, you may want to install SoftSwitch on another diskette for your
daily use, and keep the SS.SYSTEM.DISK in a safe place for future use.

SoftSwitch can only be installed on disks that start up in ProDOS 16. It can
not be installed on a ProDOS 8, ProDOS 1.1.1, or DOS 3.3 diskette. If
you are unsure of a particular diskette, just start it and see if the very first
screen that appears says "ProDOS 16."

During the installation of SoftSwitch, you must know the volume name of
the disk you want to put SoftSwitch on. This can be determined by just
looking at the name of the disk icon on the Apple II DeskTop before you run
the Install program. For this example you will be installing SoftSwitch on
the SS.SYSTEM DISK first.

To install SoftSwitch on the SS.SYSTEM.DISK:

1) Start up on the disk from a cold start as you would any 3.5 disk. When
the SoftSwitch title screen appears, press Return to go to the DeskTop.

2) When the DeskTop and menu bar at the top of the screen appears, use
the mouse pointer to select the "Selector" menu, and choose "Install SS"
from the menu list.

3) After a moment, the Install display screen will appear:

```
┌─────────────────────────────────────────────────────────────┐
│  ◆◆◆   ▌Install▐  SoftSwitch™   ▌Program▐   ◆◆◆              │
│        Copyright 1987 Roger Wagner Publishing, Inc.          │
│ ╔═══════════════════════════════════════════════════════════╗│
│  1.  Install    Copy SoftSwitch to ProDOS 16 disk.          │
│                                                              │
│  2.  Remove     Delete SoftSwitch from ProDOS 16 disk.      │
│                                                              │
│  3.  Quit       Exit the installation program.              │
│ ╚═══════════════════════════════════════════════════════════╝│
│ ┌─────────────┐  ┌─────────────┐  ┌─────────────┐            │
│ │#1: Workspace 1│ │#2: Workspace 2│ │#3: Workspace 3│         │
│ │             │  │             │  │             │            │
│ │             │  │             │  │             │            │
│ └─────────────┘  └─────────────┘  └─────────────┘            │
│              Press # key for your choice.                   │
│                 Escape or Q to quit.                        │
└─────────────────────────────────────────────────────────────┘
```
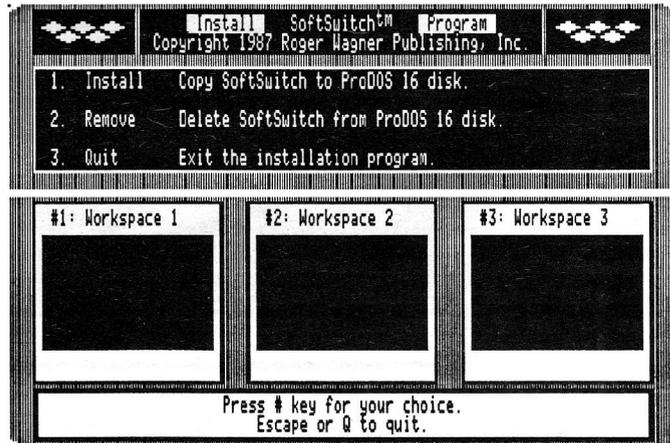
The dialog box at the bottom prompts "Press number key for your choice."

4) Press 1 to begin the installation.

"Install" is highlighted and the prompt "Enter target volume name for SoftSwitch" appears in the dialog box at the bottom.

5) Type SS.SYSTEM.DISK and press Return at the "New Disk Prefix:" prompt. If you were using a different disk, you would type its volume name here, for example "HARD1" for a hard disk.

The dialog box then prompts "Insert target disk volume, then press Return to continue or Escape to cancel." Since the SS.SYSTEM.DISK is already in the drive, press Return to begin the installation. If you had a different disk, you would insert it at this point, and press Return.

```
        ◆◆◆  ┃Install┃ SoftSwitch^tm ┃Program┃  ◆◆◆
                Copyright 1987 Roger Wagner Publishing, Inc.
        1.  ┃Install┃  Copy SoftSwitch to ProDOS 16 disk.
        2.   Remove    Delete SoftSwitch from ProDOS 16 disk.
        3.   Quit      Exit the installation program.



        New Disk Prefix:  SS.SYSTEM.DISK_



            Enter target volume name for SoftSwitch.
```
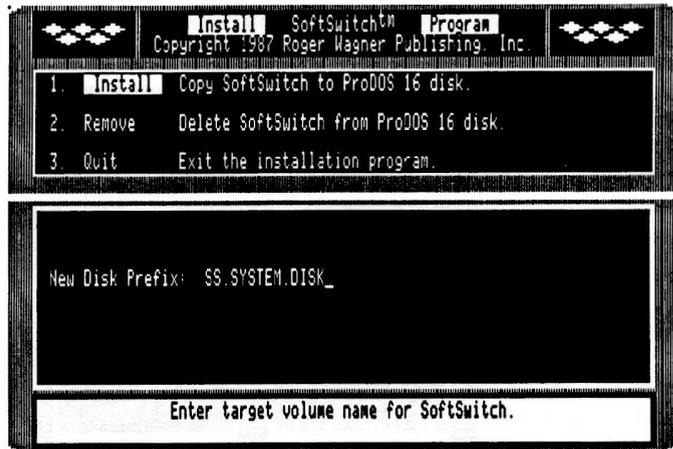
The hourglass then appears for a few moments. Finally, the original Install display screen appears.

That's all there is to it! SoftSwitch is now properly installed on the supplied SS.SYSTEM.DISK.

To return to the DeskTop, press "3" (to Quit). This will quit the Install program and go back to the DeskTop.

At this point you may wish to check your new disk installation by doing a cold startup of the disk, and verifying that SoftSwitch appears in the Desk Accessory Menu. When the disk has started, press Control-Open-Apple-Escape to go to the Desk Accessory Menu. You should see "SoftSwitch" in the Desk Accessory Menu (see illustration, page 18). If it is not there, return to step 1 in the Installation procedures and carefully repeat the process.

Once SoftSwitch appears in the Desk Accessory Menu, you do not have to repeat the Installation process unless you want to add SoftSwitch to a new diskette.

Additional Installations

You can use the SS.SYSTEM.DISK to put SoftSwitch on any ProDOS 16 formatted diskette.

You should not attempt to install SoftSwitch on copy-protected disks, regardless of their operating systems. Instead, start up your SS.SYSTEM.DISK first, and then run the .SYSTEM file for the desired program. This should not be a problem since any disk that can be "opened" on the DeskTop can be run directly from there, without having to start the disk itself.

If you cannot "open" a DOS 3.3 or protected ProDOS disk, you can use the Startup menu in the DeskTop. These DeskTop techniques are covered in detail in the demonstrations which follow.

If you intend to use SoftSwitch with a second computer, you should use the backup copy of SS.SYSTEM.DISK. You can receive your free backup copy by returning the SoftSwitch Registration Card included in the SoftSwitch package. Returning this card also helps us notify you about updates to SoftSwitch and entitles you to technical support.

To install SoftSwitch with a second computer, use the backup disk to re-install SoftSwitch on the SS.SYSTEM.DISK or any other SYSTEM.DISK you wish. During the installation, SoftSwitch will be added to the Desk Accessory Menu on that computer.

SoftSwitch will now appear in the Desk Accessory Menu on either computer whether you are using the SS.SYSTEM.DISK or any other disk with SoftSwitch installed on it.

If you intend to use SoftSwitch in an office, school or other multi-computer environment, you may buy one additional copy of SoftSwitch for each pair of computers you wish to use SoftSwitch on.

The SS.SYSTEM.DISK included in the SoftSwitch package may be used to demonstrate SoftSwitch on any Apple IIGS at any time, and we welcome your interest in sharing your enthusiasm (though not the software) with your friends and associates. We have gone to extensive lengths to provide an easy to use, yet truly useful product for your at a reasonable cost. We appreciate your support.

Putting DeskTop on Your Own System.Disks

If you would like to modify your existing SYSTEM.DISK or hard disk to startup (boot) directly into the DeskTop, simply use the DeskTop to copy the file START from the SYSTEM folder on the SS.SYSTEM.DISK disk to the SYSTEM folder on the destination disk. You also need to copy the file DESKTOP.SYS16 and the DESKTOP folder to the root directory of the destination volume.

Be sure you have also installed SoftSwitch itself on the SYSTEM.DISK using Install as described in this chapter.

For more information on using the DeskTop program, see the Apple IIGS Users Guide.

Removing SoftSwitch

There may be an occasion (we can't think of any) when you want to remove SoftSwitch from a diskette. The procedure is virtually the same as installing SoftSwitch, except you begin by pressing item number 2 from the Install display screen.

Quitting Install

This is simple enough. Just press item number 3 from the Install display screen to exit the program. This will return you to the DeskTop.

Now that you have successfully installed SoftSwitch on the SS.SYSTEM.DISK, it's time to see it in action with some of the demonstration programs provided on that diskette.

Chapter 3: Starting with SoftSwitch

For being deceptively simple in concept, SoftSwitch has many different possible uses. This is because it "works" only by enhancing other pieces of Apple software. Since there are thousands of different programs that run on the Apple IIGS, there are thousands of ways to use SoftSwitch.

To make learning about SoftSwitch as easy as possible, we're going to lead you through a variety of scenarios for using SoftSwitch, and the exact steps needed to start and store a variety of different programs.

Keep in mind that none of these is *the* way to use SoftSwitch. After becoming familiar with the many options available from within SoftSwitch, you can decide which way of using it best suits a given task.

All of the examples that follow use files provided on the disk named /SS.SYSTEM.DISK that came in the SoftSwitch package, and onto which you have already installed SoftSwitch. If you're reading ahead and you have not installed SoftSwitch or changed the RAM Disk settings, please go back to the section entitled "Installing SoftSwitch" before proceeding with the examples.

The /SS.SYSTEM.DISK in the SoftSwitch package is a little different from the one provided by Apple Computer with your IIGS in that it starts by going directly to the Apple II DeskTop program.

The advantage of this setup is both a faster startup time, and also the saving of system memory for SoftSwitch applications by avoiding the use of the Program Launcher.

Although these first examples will use the Apple II DeskTop to start up the various demonstration programs switched by SoftSwitch, the DeskTop, as such, is not required.

Example #1: Speeding Up the DeskTop

The simplest use of SoftSwitch is to quickly revert the computer back to a previous point in time. A good use for this ability is to instantly return to the Apple II DeskTop after running a program. This gives a tremendous time savings when running new programs.

To see how this is done, place the /SS.SYSTEM.DISK (with SoftSwitch already installed) in the 3.5 startup drive and turn on your IIGS.

After a moment, a title screen will appear. Press Return to start up the Apple II DeskTop. If you ever wish to get to BASIC.SYSTEM quickly, you can also press the Escape key at this title screen, and skip the DeskTop entirely.

When the DeskTop is displayed, it should look something like this:
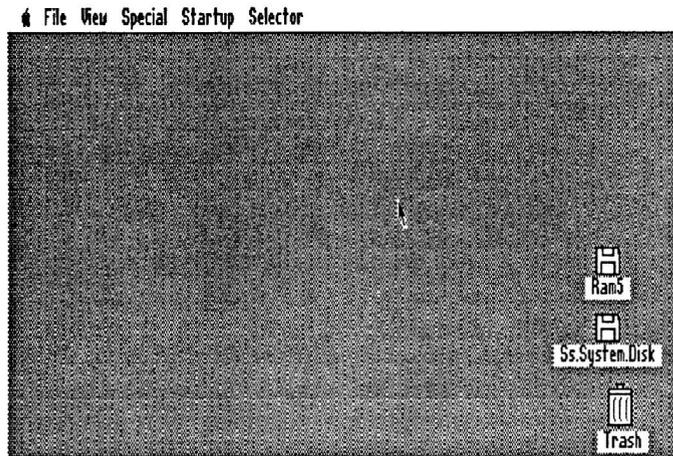
Now let's run a program. Running a program using the DeskTop is done by first using the mouse to click on the icon of the disk that has the program of interest on it.

Click once on the SS.SYSTEM.DISK icon now.

The icon will be darkened, showing it's selected. Now double-click to "open" the disk to see what is on it.

To run a program from the opened disk, you would repeat the procedure of clicking once to select the program, and then double-clicking to run it.

When you click to open SS.SYSTEM.DISK, one of the program icons you can see is called "Sweeper."

Click once to select Sweeper.
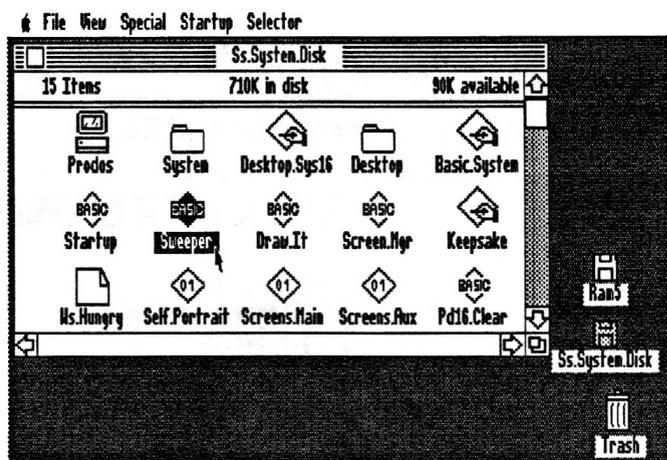
If the program you wanted to run was not immediately visible, you can use the up and down scroll arrows to see other files on the disk.

Double-click to run Sweeper now.

Sweeper is a Hi-Res program that draws interesting patterns on the screen. After watching a few patterns, press Return to Quit the program. When you do, the program will stop and automatically return to the Apple II DeskTop.

If you're like most people, you may think the DeskTop takes a little too long to start back up. Because of this, many people decide to stop using the DeskTop, and just press RESET to run another program. With SoftSwitch, you can have the best of all worlds: Easy program selection and a fast return to the DeskTop.

Let's take a look at SoftSwitch now. First, we'll store the state of the IIGS at this moment. Then you'll learn how to use SoftSwitch to "revert" back to this moment after you've run a program.

Press Control-Open-Apple-Escape to go to the Desk Accessory Menu.

This is the same key sequence you use to go to the Control Panel to set your system preferences. However, this time you'll be selecting SoftSwitch instead. If you've installed SoftSwitch correctly, you should now see its name in the list of Desk Accessories, like this:

```
┌─────────────────────────────────────┐
│ ⑉ Desk Accessories                   │
│                                      │
│                                      │
│    Control Panel                     │
│    Alternate Display Mode            │
│    SoftSwitch                        │
│    Quit                              │
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
│ Select ↓ ↑               Open: ↵     │
└─────────────────────────────────────┘
```
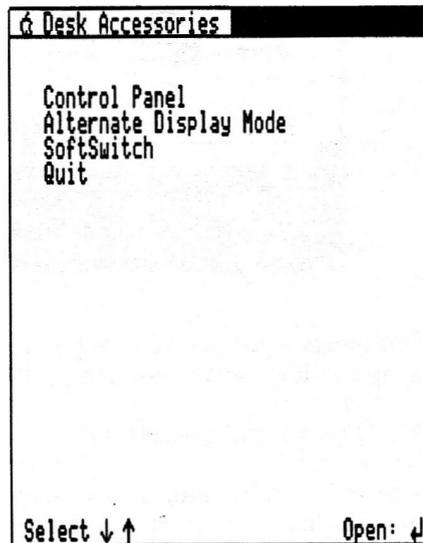
Use the arrow keys to select SoftSwitch and press Return.

When you do, the following screen will appear:

```
                    SoftSwitch™
        Copyright 1987 Roger Wagner Publishing, Inc.
┌─────────────────────┬─────────────┬──────────────────────┐
│ GS  Auto-Save: Off  │      '      │ Memory Size    1280K │
│                     │             │ Available RAM   458K │
│ Active Workspace: → │           .↑│ SoftSwitch RAM    0K │
│                     │           .↓│                      │
│ 06/01/87 04:30:06 PM│           .↑│                      │
├─────────────────────┼─────────────┼──────────────────────┤
│ #1: Workspace 1     │ #2: Workspace 2 │ #3: Workspace 3  │
│ ┌─────────────────┐ │ ┌───────────┐ │ ┌───────────────┐  │
│ │                 │ │ │           │ │ │               │  │
│ │                 │ │ │           │ │ │               │  │
│ │                 │ │ │           │ │ │               │  │
│ └─────────────────┘ │ └───────────┘ │ └───────────────┘  │
├─────────────────────┴─────────────┴──────────────────────┤
│    Press a number key to save (first time) or select a workspace. │
│               Ġ number key to clear.                      │
└───────────────────────────────────────────────────────────┘
```
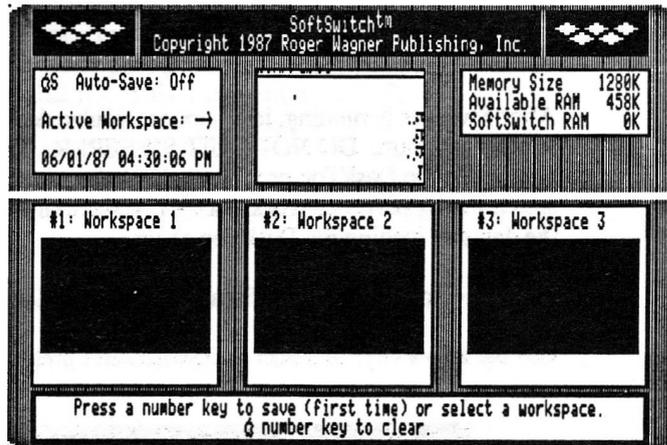
Notice that the Active Workspace contains a Mini-Screen representation of the DeskTop program. This was the program that was running when you chose SoftSwitch. You'll begin by storing a copy of the DeskTop program in Workspace #1.

Press the "1" (for Workspace #1) key now.

Immediately, you'll see a copy of the active Mini-Screen placed in the Workspace #1 display screen. This shows that SoftSwitch has just stored an exact image of your program, in this case the DeskTop, in the first Workspace. You can also see it has added the time at which that save took place. For our example, we'll say that time was 4:30 PM on 06/01/87.

Now that a program has been stored in Workspace #1, let's return to the active program.

Press the Return key (or Escape) to exit SoftSwitch.

This will return you to the Desk Accessory Menu.

Press Return to go back to the DeskTop ("Quit").

That was easy enough. Now let's run the demonstration program again.

Double click on the SS.SYSTEM.DISK icon.

Double click on Sweeper to run it again.

After Sweeper is running, let's suppose you've decided it's time to run another program. DO NOT QUIT SWEEPER. This would force you to wait while the DeskTop program is loaded again. Since you already have stored the DeskTop in Workspace #1, you can use SoftSwitch to eliminate the delay in loading the DeskTop again.

Press Control-Open-Apple-Escape to go to the Desk Accessory Menu.

Use the arrow keys to select SoftSwitch and press Return.
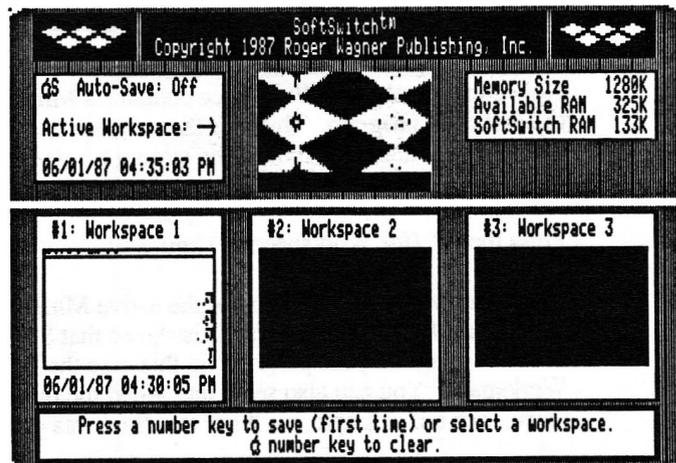
In the Active Workspace is the Sweeper program with its Hi-Res pattern. In Workspace #1 is the DeskTop as it was saved at 4:30 PM.

You want to replace the Active program (Sweeper) with the program stored in Workspace #1 (DeskTop).

Press the "1" key now.

SoftSwitch prompts you with "If you switch now, you will lose the current application. Press 'Y' to proceed."

SoftSwitch is reminding you that if you revert the computer back to the way it was 5 minutes ago, you'll lose what you've got right now. In this example, that is exactly what you want to do.

Press "Y" to confirm.

The Active Workspace Mini-Screen changes to match Workspace #1. The reversion is now complete.

Press Return to exit SoftSwitch, and Return once more.

You are back in the DeskTop! This process is called "reverting," and can be used whenever you want to revert a computer program back to where it was at an earlier moment in time. Obviously, to make this work, you must first save an image of that program within SoftSwitch at the point you'll want to return to later.

The first time through this may seem a little more complicated than letting the DeskTop run automatically when you quit a program. However, you'll soon get the hang of reverting to the DeskTop in just seconds, instead of waiting for the DeskTop to re-install itself each time you quit a program.

Try this process on your own now by running Sweeper again from the DeskTop and then using SoftSwitch to return to the DeskTop. You don't need to save the DeskTop again in Workspace #1 since it's already stored there.

Note: For a complete discussion of the Apple II DeskTop program, see Chapter 2 of your "Apple IIGS System Disk User's Guide" that came with your Apple IIGS.

Example #2: Reverting a Single Program

A variation on reverting to the DeskTop is to use another Workspace to save a copy of the program you're running, so that you can revert it to a previous state.

This time, we'll use the "Draw It" demonstration program. Instead of selecting it from an opened disk icon, let's see how to use the "Selector" function of the DeskTop.

If you use the mouse to pull down the Selector menu, you'll see that the sample programs used in these demonstrations have already been entered into the Selector menu. To run any program you just press and hold down the mouse button as you drag the mouse down the menu to select the desired program. Then release the mouse button to run the program.
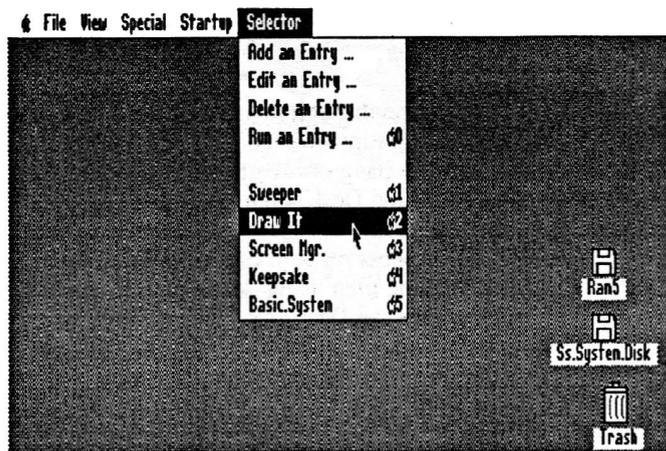
Select and run Draw It from the Selector menu now.

In a moment, a screen of instructions will appear. This program uses the mouse and pre-drawn shapes to help you create a Hi-Res picture. It is not intended to be a sophisticated program (although you're welcome to experiment with it), but rather an example of the type of program you might use with SoftSwitch, such as Dazzle Draw, Blazing Paddles, MousePaint, and so on.

After reviewing the instructions, press Return. The screen should then look like this:

```
                    CHOICE #1     CURRENT SHAPE    CHOICE #2
```
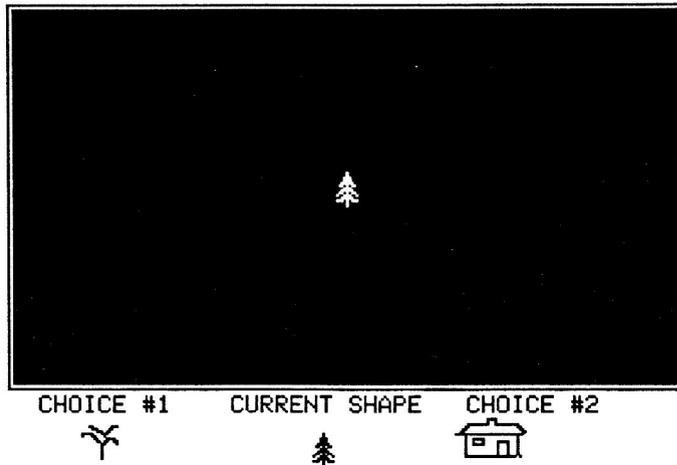
In the middle of the screen is a tree. As you move the mouse around, the tree will also move on the screen. To draw the tree, just press the mouse button once. A permanent tree should now appear in the drawing, in addition to the one that follows the mouse pointer.

Click to draw a couple of trees anywhere on the screen.

Now press Control-Open-Apple-Escape to go to the Desk Accessory Menu, choose SoftSwitch and press Return.

Since we want to keep the DeskTop in Workspace #1 available for when we finish with this program, you should store Draw It in Workspace #2.

Press the "2" key now to store Draw It.

Immediately, you'll see a copy of the active Mini-Screen placed in the Workspace #2 display screen. SoftSwitch now has *both* the DeskTop and Draw It stored.

Return to Draw It now by pressing the Return key to go to the Desk
Accessory Menu. Then press Return once more to go back to your
program.

Move the mouse to the bottom of the screen in order to select a new shape.
The mouse cursor will change to a cross-hair. By placing this cursor on
either "Choice #1" or "Choice #2," you can select a new shape. There are a
total of 14 different shapes available. Select the house shape (Choice #2 on
the right) and place it somewhere in your forest.

Now, click on Choice #1 (or #2, it works either direction) until the single
dot (like a period) shape is the Current Shape. (You can also use the left
and right arrow keys). This shape is used for drawing. Try it now by
holding down the mouse button as you move the mouse around the screen.

As you draw, it will leave a multi-colored line of dots on the screen. The
faster you move, the more widely spaced the dots will be.

Now that you've scribbled all over the screen, maybe you're thinking you'd
like to start over. In most programs, you'd erase the screen, and start
completely over. Let's see how to use SoftSwitch to "revert" back to where
the program was when you only had a few trees on the screen.

Go to SoftSwitch as you've done before.

This time, the SoftSwitch display screen should look something like this:
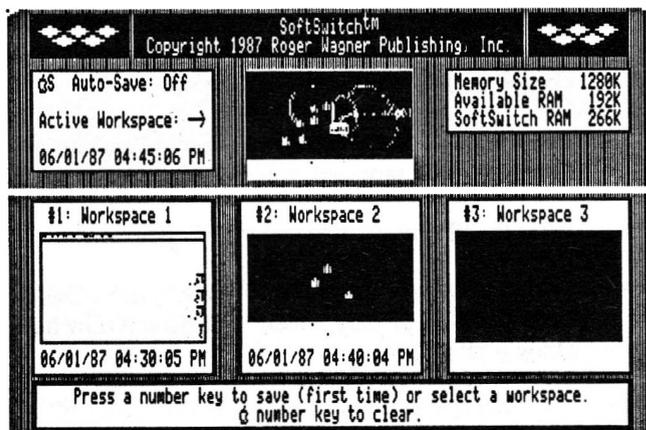
What SoftSwitch is showing you is that Workspace #2 contains Draw It as it was saved at 4:40 PM. In the Active Workspace is the program with the house and the scribbles at 4:45 PM.

You want to replace the Active program with the program stored in Workspace #2.

Press the "2" key now.

SoftSwitch will prompt you with "If you switch now, you will lose the current application. Press 'Y' to proceed".

It is reminding you that if you revert to the program the way it was 5 minutes ago, you'll lose what you've got right now. Since that is what you want, press "Y" to confirm.

The Active Workspace Mini-Screen will then change to match Workspace #2. The reversion is now complete.

Press Return to exit SoftSwitch, and Return once more to be back in your program - as it was 5 minutes ago!
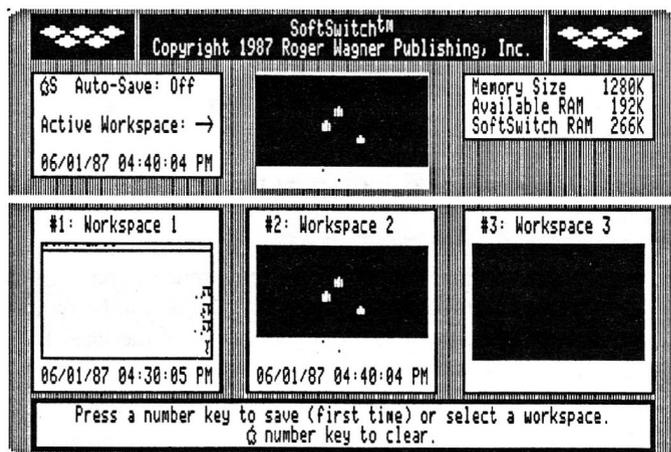
The moral of the story is: Don't press Control-Ú-RESET; use SoftSwitch! Try to change that habit of restarting the entire computer with RESET to just switching to the DeskTop!

By the way, just because you save a program image, it doesn't mean you *have* to revert. It's just another option that SoftSwitch gives you.

Now we'll see how to dispose of a stored program.

Go back to SoftSwitch now.

The SoftSwitch display screen appears.

Press Open-Apple-2 to erase Workspace #2.

Immediately the Mini-Screen turns to a blank, showing that SoftSwitch has disposed of its copy of the program.

Try pressing 2, then Open-Apple-2 a few times now to see how to store a copy of your program, and then erase it, with SoftSwitch. While you're trying this, also notice how the Memory Status Box numbers change showing the memory used ("SoftSwitch Memory") when a program is stored, and how it is released when the program is erased.

You can also press 3 and Open-Apple-3 to use Workspace #3. SoftSwitch really doesn't care in which order workspaces are stored.

More about the Apple II DeskTop:

If you would like the Selector menu to be automatically displayed when you first startup SS.SYSTEM.DISK, rename the icon "Selector.X" in the "Desktop" folder to "Selector." Icons can be renamed using the "Rename an Icon" choice in the "Special" menu of the DeskTop.

## Example #3: Storing Multiple Copies

Suppose when you revert to a previous state, you also want to keep a copy of where you're at now, just in case you change your mind again? You can with SoftSwitch.

Since you've just reverted to the original picture with only trees, go back and draw a house, some lines, or whatever else you want to add to the picture. When you've added a fair amount to the picture, go to SoftSwitch.

This is very much like the way it was the first time you reverted. This time, however, we'll assume you want to keep this program state around in case you change your mind again. Simple.

Press the 3 key to store a copy of this program in Workspace #3.

You'll see the Mini-Screen appear in Workspace #3.
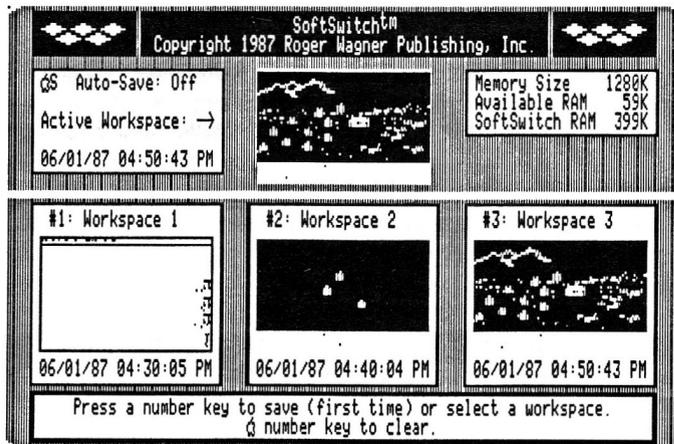
Now press the 2 key.

You'll see the Active Workspace display change to the earlier version. There is no warning prompt this time because SoftSwitch knows there's a copy in Workspace #3, so no data can be lost.

If you go back to your program, make changes, and then re-enter SoftSwitch, you'll now have three different program states on hand. You can either save the third and revert to either of the other two, or you can switch to the one you want, and erase the others.

When you're done using a given program, you'll probably want to go to SoftSwitch and erase its Workspace. This will release the stored memory, before quitting the program itself as you normally would. It doesn't hurt anything to have a stored program in memory, but there's also no reason to leave something around you don't need.

Even though Draw It has a Quit command, you've already learned a faster way to quit and run another program by using SoftSwitch and the stored DeskTop.

Therefore, to quit Draw It, just follow this sequence:

Go to SoftSwitch.

Switch the DeskTop in Workspace #1 to make it the Active Workspace.

Erase the copies of Draw It in Workspaces #2 and #3.

Press Return twice to leave SoftSwitch and go back to the DeskTop.

Example #4: Switching with Auto-Save

You can also use SoftSwitch for fast access to a program you use a lot, by switching between it and whatever other program is stored at the moment.

The DeskTop makes an excellent "accessory" to many programs because it can be used to format a disk, copy or delete files, and it has its own built-in "desk accessories," such as the calculator. With SoftSwitch, you can go to the DeskTop while you're in any program, and use its features as an add-on to any other program you wish.

To see how this might work, run Draw It again from the Selector menu in the DeskTop. Draw a few trees and so on, then go to SoftSwitch. Save it in Workspace #2, then go back to Draw It and draw a house or two.

Now suppose you're in Draw It and suddenly want to calculate some numbers, such as the number of board feet of pine needed to build a castle.

Go to SoftSwitch now.

You could switch back to the DeskTop by pressing "1", but you would get the "If you switch now you will lose the application in memory" message. It's telling you that SoftSwitch has Draw It as it was when you *first stored it,* not the current program state.

To switch without losing what you have now, you'd have to erase Workspace #2 (Open-Apple-2), and then store the new program state before switching to the DeskTop (Workspace #1).

You're probably wondering, isn't there any way that SoftSwitch could automatically update the stored workspace so you can switch without any prompting? The answer is yes: just turn on the "Auto-Save" feature.

Press Open-Apple-S now to activate Auto-Save.

SoftSwitch will prompt you with "This will overwrite the selected workspace with the application just interrupted. Do you want to proceed? (Y/N)."

Auto-Save works by synchronizing the appropriate stored workspace with the currently active one. By turning on Auto-Save now, SoftSwitch will update Workspace #2 with the image of the currently active program. This is what you want to do, so press "Y".

Now you can switch freely between programs #1 and #2. Try it now by pressing 1, then leaving SoftSwitch to go to the DeskTop.

In the DeskTop, pull down the "apple" menu in the upper left-hand corner, and select the Calculator. Click on the buttons with the mouse to see how it works.

Then go back to SoftSwitch, press 2 and Return twice to switch back to Draw It. Do this a few times until you understand how to switch between the two programs using the Auto-Save feature. Auto-Save automatically updates the stored Workspace each time you enter SoftSwitch. Auto-Save can be turned back off by pressing Open-Apple-S again.

If you wanted to switch between two programs, *plus* keep the DeskTop on hand, you would first store the DeskTop in Workspace #1, then exit SoftSwitch and start the first application program. Save this in Workspace #2. Then switch back to the DeskTop and start the second program, store it in Workspace #3 and turn on Auto-Save. Then exit SoftSwitch to either of the applications to begin your work.

This is the most common way to use SoftSwitch. The general procedure for setting things up is:

1) Start up with the DeskTop and store it in Workspace #1.
2) Return to DeskTop and start up program #2.
3) Store it in Workspace #2.
4) Switch back to the DeskTop and start another program, if desired.
5) Store it in Workspace #3, and then turn on Auto-Save. No prompt will be printed since the stored workspace at that point is identical to the active workspace.
6) Switch freely between programs using just the number keys.
7) When done, go to SoftSwitch and turn off Auto-Save.
8) Press the number key (usually 1) for the DeskTop, then erase the stored workspace for program #2, and exit SoftSwitch back to the DeskTop.

Example #5: Switching 3 Programs with Auto-Save

If you want to switch between three programs, the procedure is basically the same, except that you will have to erase the DeskTop in Workspace #1 to make room for the third program. Start with the DeskTop stored in Workspace #1. Use the DeskTop to start the next program, then store it in Workspace #2. Switch back to the DeskTop and start the next program, then store it in Workspace #3. Switch back to the DeskTop and start the final program. Then go to SoftSwitch, erase the DeskTop from Workspace #1, and save the third program there. Finally, turn on Auto-Save and switch freely between them.

Remember that Auto-Save should not be turned on until the last program is stored in a Workspace.

When you're finished using the stored programs, remember to go to SoftSwitch and turn off Auto-Save. Then quit one of the programs (for example, the program in Workspace #1) and let that program return to the DeskTop from the disk. Then go to SoftSwitch, erase that program's Workspace and save the DeskTop. Then erase any others you don't need any more, and exit SoftSwitch back to the DeskTop.

If you have 512K or less on your RAM Expansion Card, the only way to store three programs in SoftSwitch is to avoid using Apple's Program Launcher. The Launcher is a completely different program selector than the DeskTop, and is included on the SYSTEM.DISK that came with your Apple IIGS. (All of this presumes that your RAM disk size is set to 0K).

If you have 768K or more of RAM on your RAM Expansion Card (and more than 512K is available to SoftSwitch), then you can use the Program Launcher to set up all three programs if you wish.

Example #6: Switching DOS 3.3 or Protected Programs

Running a DOS 3.3 program, or a disk that is copy-protected, such as Dazzle Draw or Print Shop, requires a little different approach. Because these programs cannot be opened from the DeskTop, you won't be able to just click on the name there. You obviously also can't turn off the power and turn it back on again to start the disk because this would erase SoftSwitch from the Desk Accessory Menu. Pressing Control-Open-Apple-RESET to restart would have the same effect.

In addition, DOS 3.3 and most protected programs have no provision for quitting them back to the DeskTop other than to turn off the power and restart.

Fortunately, there is a way. The DeskTop has a menu called "Startup" that you can use to startup a disk without erasing SoftSwitch, or even any of the stored programs currently in Workspaces.

You must give some thought to the order in which you want to save your switching Workspaces. For example, if you start up Dazzle Draw first (or any protected program), and then store that in SoftSwitch without first saving the DeskTop, you'd have no way to quit Dazzle Draw, and thus no way to get back to the DeskTop to select another program, or to use Startup again for another non-ProDOS disk.

The easiest solution is to be sure to first save DeskTop in Workspace #1. Then use Startup to start the DOS 3.3 or protected ProDOS disk you want. When that program is saved in Workspace #2, switch back to DeskTop to run or start up the next program for Workspace #3.

By leaving DeskTop stored as Workspace #1, you've always got a "back door" to any program. You can use SoftSwitch to exit the DOS 3.3 or protected programs and then go back to the DeskTop by switching to Workspace #1. This is also useful as a "clean" way to shut down those programs like Print Shop without having to re-start when you're done. Just make DeskTop the active workspace by pressing its number key, and then use the Open-Apple-# key to erase the stored images of the non-quittable programs.

By the way, if you're comfortable with typing "PR#6" from BASIC to start a disk, then you can also use that to start any non-ProDOS disk to be switched by SoftSwitch. You can get to BASIC by choosing BASIC.SYSTEM in the Selector menu of the DeskTop.

IMPORTANT: Some software programs, most notably almost all software from Broderbund, Inc., have "false" Quit options in their menus that instead of a proper quit back to the DeskTop, clear all of memory and do the software equivalent of a Control-Open-Apple-RESET. This erases SoftSwitch and any other stored programs in memory.

For this reason, you should *never* use a Quit option that does not return to the DeskTop, no matter how attractively it's offered. Instead, use SoftSwitch to switch back to the DeskTop, then erase the offending application from its Workspace, if desired.

Programs such as MouseWrite and AppleWorks, which *require* a normal Quit, can be exited normally.

Chapter 4: Supplemental Programs

This chapter discusses some of the further features of SoftSwitch, and also
other programs such as Keepsake and the Screen Manager that are on the
SS.SYSTEM.DISK.

Example #7: Capturing a Screen Image

Another special feature of SoftSwitch is its ability to capture a screen image
from one program, and then to "paste" this image into another.

Before looking at how this is done, a short explanation of the various screen
displays on an Apple IIGS is in order.

There are a total of 13 video screen displays available on the Apple IIGS.
They are as follows:

40 column text, page 1 and 2.
80 column text, page 1 and 2.
Lo-Res graphics, page 1 and 2.
Double Lo-Res graphics, page 1 and 2.
Hi-Res graphics, page 1 and 2.
Double Hi-Res graphics, page 1 and 2.
Super Hi-Res graphics, page 1 only.

Many of these displays use the same part of memory as another. That is,
what you see just changes depending on the display mode of the computer,
but you're still looking at the same part of memory.

As an example, if you've seen the 80 column screen suddenly go to 40
columns, you may have noticed that every other character from the 80
column screen is left on the 40 column screen. This is because the 80
column display mode uses the same memory that the 40 column display
uses, plus another equal amount of memory to double the number of
columns displayed.

SoftSwitch can examine and copy the following screen displays:

40 column text, page 1 only.
80 column text, page 1 only.
Hi-Res graphics, page 1 and 2.
Double Hi-Res, page 1 and 2.

Having "captured" one of these images, SoftSwitch can then paste it into another program on either a Hi-Res or Double Hi-Res display, depending on what was captured.

Most of the time, you won't need to know which display mode or page is being used to create what you see in a given program, but understanding that there are many different modes will make it easier to understand what's going on when you use SoftSwitch.

In many graphics programs, the "picture" that you create is stored in two places within the program. The entire picture is first stored somewhere in memory, often on "page 2". This picture is not necessarily ever seen by the user of the program. Instead, this image is merged with whatever menus, prompts, window borders, and so on, that the program creates for the actual display that you see while using it.

For example, let's consider a program called Dazzle Draw, from Broderbund Software. As you look at the picture you're working on, you can also see the menus and other program features displayed at both the top and bottom of the screen, like this:
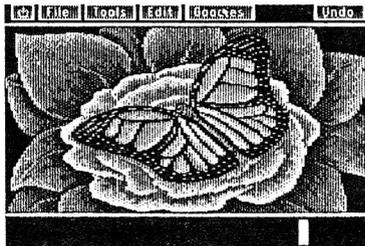
Page 1
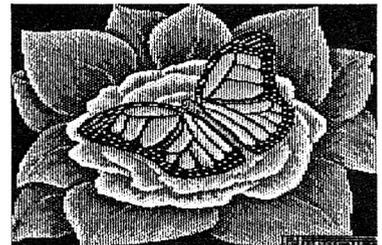
Page 2

One of those options is a choice to view the entire picture.

Dazzle Draw (and many programs like it) keeps the entire picture on the page 2 display. What you see while you work with the program is the page 1 display with added menus and program screen displays. When you select "View Entire Picture," the computer changes the display for a moment to page 2, and the menus, etc. "disappear."

Thus, if you wanted to capture the actual picture being worked on, you would want to copy the page 2 display, *not* the page 1 display that included all the unwanted "extras."

Likewise, if you wanted to paste an image into Dazzle Draw, you would want to paste the image into page 2. This is because page 1 is constantly being re-drawn based on the image on page 2. If you pasted to page 1, as soon as the screen was redrawn, the image would change back to the image from page 2. Instead, if you paste an image into page 2 in Dazzle Draw, this will become the master image for the picture and display screen, and you can then edit or save this picture as you would any other.

Example #8: Examining the Image

The best way to get a feel for this is with an actual example. Run the Draw It program from the DeskTop, and then draw a few trees in the middle of the screen. Then change the current shape to the "house" shape.

Go to SoftSwitch, and then press Open-Apple-E to "Examine" the image.

This command lets you examine the different text and graphics display pages of the Active Workspace. The following prompt appears in the SoftSwitch dialog box: "T = Text, 1/2 = Page 1/2 Graphics, S/D = Single/Double Hi-Res, C/M = Color Monochrome Video. ⌂C to Copy, ⌂V to Paste, Escape when done."

This is a list of command keys that you can use while examining the different display pages for the image you want to capture. Note that you can only copy and paste while you are actually in SoftSwitch, not within the program itself.

Press "S" for Single Hi-Res now.

The screen display will change to show you Hi-Res page 1, which in this case is the main working screen of Draw It, complete with the shape choices at the bottom of the screen. So where is the picture that can be viewed with the "V" key in Draw It?

Press "2" for page 2.

The display will now change to Hi-Res page 2. If you press the "T" (for "Text") key, you can also see the help screen image of Draw It.

You use the Open-Apple-C command to capture or "copy" the screen image you're viewing.

Press the "S" and "2" keys now so that you can see just the picture itself, without the options at the bottom of the screen.

Now press Open-Apple-C.

SoftSwitch will copy the image onto its "clipboard," and then immediately return the display to the normal SoftSwitch display screen.

"Pasting" means placing the image that is stored on the SoftSwitch clipboard into another program (that can accept it). Pasting is done by first switching the target program into the "active workspace", and then using the ⌥-E (examine) command and ⌥-V to paste the image. You can paste into any program that stores and uses within itself a complete Hi-Res or Double Hi-Res picture. The examine command is used to make sure you're pasting onto the right image. The Screen Manager is a program that has been provided on the SS.SYSTEM.DISK to help illustrate this process. It is only a representative of a general class of programs, and is not required to use the Copy & Paste feature of SoftSwitch.

Example #9: Using the Screen Manager

To see how Screen Manager is used, switch to the DeskTop (assuming you are still in SoftSwitch). Then choose "Screen Mgr." from the Selector menu.

Screen Manager is a simple program on the SS.SYSTEM.DISK whose sole function is to load and save Hi-Res and Double Hi-Res pictures, and to let you view them once they're loaded into memory.

When you run Screen Manager, you'll first see a title screen, and then this menu:

```
Screen Manager      ESCAPE: Quit to BASIC

_/ Main Menu _____
      1. Select Picture From Disk
      2. View Picture
      3. Save Picture to Disk
      4. Quit to BASIC
   Select a Number & Press RETURN:█
```

Although you haven't loaded a picture from disk yet, you can take a look at what is currently in memory.

Select menu item 2 now.

You'll be shown Hi-Res page 1. If you press "D", the display will switch to the Double Hi-Res display. You can switch it back to Single Hi-Res by pressing "S" again.

Press Return to go back to the Screen Manager main menu.

Now go to SoftSwitch, and press Open-Apple-E to examine the Screen Manager display pages.

Press "S" to see Hi-Res page 1 again, and by pressing "D" you can see the Double Hi-Res page.

Now press the "2" key to view page 2.

You can now examine graphics display page 2, in both Hi-Res and Double Hi-Res. For the Screen Manager, page 1 is where the program stores its graphics images.

Remember that a copy of the picture you captured is still on the SoftSwitch clipboard. To paste it into the Screen Manager, press the "S" and "1" keys to look at Hi-Res page 1 again.

Now press Open-Apple-V ("V" is the Apple standard key for "paste") to place the image in the Screen Manager's Hi-Res page 1. Press Return (or Escape) to go back to the main SoftSwitch screen.

Now exit SoftSwitch and go back to the Screen Manager. From the main menu, things look pretty much the same, but select item 2 to view a picture again. This time, you should see the picture that you captured from Draw It.

To save the picture to disk, just select item #3. The disk directory will appear. Type in TREES and press Return. The picture will be saved to the disk.

This is the method you can use to capture the screen image from almost any program, and then paste it into the Screen Manager to be saved. In our example, you didn't actually use SoftSwitch to keep a stored copy of the Screen Manager on hand, but this could have been done as well, if you anticipated switching many times between several different programs.

This copy & paste method can also be used to move a picture from one operating system to another, for example, DOS 3.3 to ProDOS. Simply load both DOS and ProDOS picture handling programs into memory (such as Blazing Paddles and Screen Manager), and then copy a picture loaded with one and paste it into the other. The copied image can be saved, edited, or printed, depending on the capabilities of the receiving program.

SoftSwitch can also capture 40 and 80 column text screens with the copy command. The text screen is immediately converted into a Double Hi-Res picture by SoftSwitch and can be saved and loaded later using the Screen Manager. The main use for this is for printing out screen images, or "screen dumps" using a graphics printing program to print the captured and saved image.

SoftSwitch does not convert Hi-Res images to Double Hi-Res or vice versa, and so will not let you paste the wrong image type into another program. The Screen Manager program can accept either Single or Double Hi-Res images, but some programs, like Dazzle Draw, may accept Single or Double Hi-Res only.

See Appendix C at the back of this manual for tips on how to copy & paste images with specific commercial programs.

Example #10: Loading and Pasting Images

The reverse process of the previous example would be to load a picture into memory using the Screen Manager, and to then paste it into another program, such as a drawing program like Draw It.

If you don't already have the Screen Manager in memory, run it now from the DeskTop.

Select menu item #1, "Select Picture from Disk."

The Select Picture function will first give you a list of all disk drives currently connected to your Apple IIGS.

Select SS.SYSTEM.DISK.

On the SS.SYSTEM.DISK should be your saved picture "TREES", from the previous example. Select this picture to load.

When it's loaded and you are returned to the main menu, use item 2 to view the picture.

When you are done viewing the picture, press Return to go back to the main menu.

Now go to SoftSwitch and press Open-Apple-E to examine the display pages. Press "S" and "1" to see the picture you just loaded.

Now press Open-Apple-C to copy the image to the clipboard.

Switch to the DeskTop and exit SoftSwitch. Run Draw It from the Selector menu (or switch to it if you have it stored in a Workspace).

You want to paste the image just captured from the Screen Manager program into Draw It. You could do this now from SoftSwitch, but it might be hard deciding where to paste the image if no image exists there yet. So, before pasting into a program, it is always a good idea to look at whatever picture that program already has in memory. Then you'll know what you're about to replace.

To create something different than the trees currently on the SoftSwitch clipboard, press Escape and "E" to erase any picture currently in Draw It. Then use the mouse to select the house. Draw a few houses on the screen.

Then go to SoftSwitch, and press Open-Apple-E to examine the display pages of Draw It. On Hi-Res page 2 you should see your houses.

Press Open-Apple-V to paste the image.

The image will be replaced with the TREES picture loaded by and copied from the Screen Manager. Now return to Draw It.

When the Draw It screen appears, you may be surprised not to see the pasted picture. This is because although you pasted the image onto page 2, thus replacing the picture, the working screen hasn't been updated yet.

To update the screen, press "V" to view the picture.

The new picture appears, and when you press a key to go back to the Draw It screen, the new picture has been updated into the program.

The actual procedure for updating the screen may vary between programs, but the principle is the same:

1) From the first (source) program, capture the actual picture image, not a working screen, with the SoftSwitch Copy (⌂C) command.

2) Run (or switch to) the second (destination) program, and identify the actual picture location (not the working screen) there. Paste the image using the SoftSwitch Paste (⌂V) command.

3) Finally, return to the destination program, and force it to update its working screen. In most programs this is done by just viewing the entire screen picture, and then going back to the working screen.

Note: When saving pictures to disk, Screen Manager ordinarily saves pictures to the disk from which it was run. If you want to save a picture to a different disk or subdirectory, use the "Select Picture from Disk" option, but do not load a picture. Instead, just select "Set This Prefix" when you have found the desired disk or subdirectory. Then, when the picture is saved by Screen Manager, the selected prefix will be used.

Again, be sure to see Appendix C for tips on specific commercial programs.

Example #11: Storing ProDOS Programs with Keepsake

The Keepsake program is on the SS.SYSTEM.DISK diskette and is used to
move a stored Workspace from the Apple IIGS to disk for long term
storage. The principle is fairly simple. After a program has been stored in a
Workspace with SoftSwitch, go to the DeskTop and use the Selector menu
to run Keepsake. Let's try it now with Draw It.

If it's not already in memory, run Draw It, draw a few trees or whatever,
and then store the program image in Workspace #2. Now switch to the
DeskTop.

Now run Keepsake by choosing it in the Selector menu. The following
screen will appear:
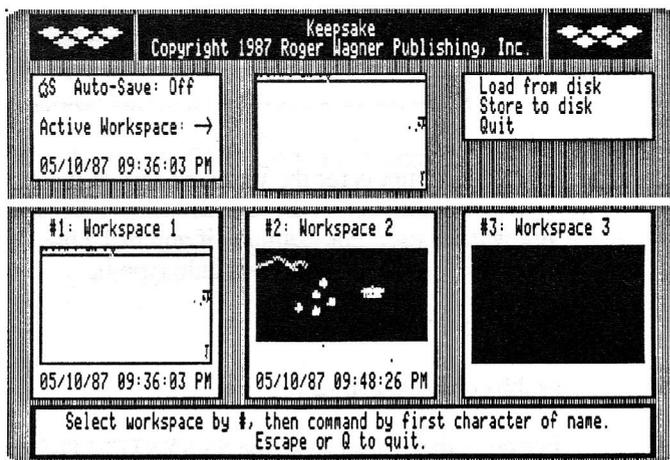
In the Workspace #2 Mini-Screen, you can see the image of the stored Draw
It program. To load or save a Workspace to or from the disk, you must first
press the number key of the desired Workspace.

Press the 1, 2 or 3 keys now.

The Active Workspace display will change as you press each key.

To save Workspace #2, press the 2 key to first select Workspace #2, and then press "S" to Store to Disk.

The screen will now change:
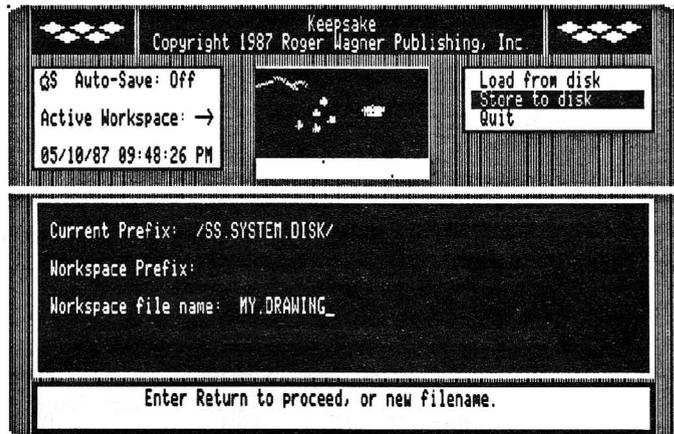
The first prompt is for the volume name of the disk you want to save the Workspace on, and for any added names or subdirectories in the pathname you want to use. For example, if you had a hard disk, with a subdirectory "WORKSPACES" on it, you could type in:

/HARD1/WORKSPACES

as the complete pathname.

For now, though, let's use the SS.SYSTEM.DISK. To use the default name, just press Return.

The next prompt will be for the name to save the Workspace under. Type:

MY.DRAWING

and press Return. The disk will then come on as the suspended program from "Draw It" is saved on the SS.SYSTEM.DISK. When the save is complete, the Keepsake display screen will return to the display of all the Workspaces.

Before seeing how to resume a stored Workspace, let's go to SoftSwitch and erase any stored Workspaces.

Press Control-Open-Apple-Escape now to go to SoftSwitch.

When you enter SoftSwitch, the Active Workspace Mini-Screen will show the Keepsake screen. If you tried to save Keepsake at this point SoftSwitch would give you an error message reminding you that it can't save ProDOS 16 applications.

Even though Keepsake is a ProDOS 16 application, and not usable by SoftSwitch as a switchable program, you can still go to SoftSwitch from within it. This can be used when you want to erase any Workspace needed for loading Workspaces from disk.

You want to erase the stored version of Draw It . Pressing Open-Apple-2. Then exit SoftSwitch and go back to Keepsake.

You can tell Keepsake to update its screen displays by pressing the space bar. Workspace #2 is now empty.

To quit Keepsake, press "Q" to Quit, and Select the "Return to DeskTop" option.

See the next example called "Restoring with Keepsake" for details on how to restore a program from disk.

Example #12: Restoring with Keepsake

Now let's see how to restore a ProDOS stored Workspace from disk. Select Keepsake from the DeskTop "Selector" menu. When it is up and running, press the "2" key, and "L" to tell the program you want load a program from disk. You can only load saved programs into an empty Workspace. If Workspace 2 is not empty, go to SoftSwitch and use Open-Apple-2 to erase it.

As before, you can enter the volume name along with any subdirectories for the location of the stored Workspace. For now, press Return to accept the default of SS.SYSTEM.DISK.

For the filename itself, you could enter the name MY.DRAWING directly, but there may be times when you don't remember the exact name you used. Let's see how to look at the disk.

Without entering a name, press Return alone, and then "C" (for "Catalog") to see what files are on the disk. If there is more than one file on the disk, pressing "C" will continue the list. The first entry is "SYSTEM", a directory file. Press "C" to skip this. When you see the name MY.DRAWING, press Return twice to load the file. You will see the mini-image appear in Workspace #1 when the load is complete.

Quit Keepsake by pressing "Q" and Return, and go back to the DeskTop. Then go to SoftSwitch. SoftSwitch is now loaded with the DeskTop and MY.DRAWING. Switch to Workspace #2, and then exit SoftSwitch.

You will find yourself exactly where you left when it was saved in SoftSwitch, and then stored on the disk.

As another example, try loading the saved Workspace file called WS.HUNGRY using Keepsake and resuming it from SoftSwitch.

You should find yourself in a program saved quite some time ago, and stored on the SoftSwitch diskette. "The Hungry Dot" is a program that shows the adventures of a little dot on the screen as it bounces around eating everything in its path.

If you have a monochrome monitor, the dot may be difficult to see. If so, press the "M" (for "monochrome") key to get a larger dot ("C", for color, restores the dot to the normal size). Pressing any other key will stop the program. If you would like to save it as an Applesoft program, simply press a key to stop the program, type TEXT for a full text screen display, and then type SAVE HUNGRY.DOT and press Return to do the save.

The program can then be run directly from the DeskTop or Applesoft as you wish.

Example #13: DOS 3.3 and Protected Programs

Using Keepsake with DOS 3.3 or non-standard ProDOS programs is only slightly different than the normal procedure.

Restoring programs from disk is done in the usual way. The only concern is whether the program you restore is the only program in SoftSwitch (i.e., no DeskTop in Workspace #1). If you use SoftSwitch to switch to the stored program, and it's a protected program that you can't quit from, you'll have no way of getting out of it and back to the DeskTop without turning off the power or doing a Control-Open-Apple-RESET startup.

The answer, of course, is to just save the DeskTop in one of the other Workspaces before you switch to the program you're restarting. That way, when you're finished, you can switch back to the DeskTop.

Likewise, when you want to save a DOS 3.3 or non-standard ProDOS program to disk using Keepsake, you should first save the DeskTop, then run the desired program. Then you can switch back to the DeskTop to run Keepsake.

More About Keepsake

If you have a 512K or less RAM Expansion Card (RAM Disk set to 0K or more) or a 1Mb card with only 512K or less for SoftSwitch (RAM Disk set to 512K or more), there isn't enough room for *three* stored Workspaces *and* Keepsake. With these settings, Keepsake should only be run with 1 or 2 stored Workspaces, not 3. If you have a 1Mb card, and your RAM Disk is set to 256K or less, then you can run Keepsake with three stored Workspaces.

If you run Keepsake and there isn't enough room in memory to load it, Keepsake will print an error message and return to the the DeskTop. If you have trouble running Keepsake, try erasing one of your stored Workspaces, or changing the control panel settings to provide more memory for SoftSwitch (smaller RAM disk size).

The usability of available RAM on the Apple IIGS depends on more than just how much there is. It is also important that continuous blocks of memory are available for programs to load and run properly. If you have run Keepsake, or used the Program Launcher, AppleTalk, or any ProDOS 16 program, it is possible that SoftSwitch will not be able to save a program in the third Workspace, even though the Memory Status box shows some memory still available.

If you have trouble saving a Workspace, you may have to re-start the SS.SYSTEM.DISK to "clean up" memory. If this happens often, you may want to change the control panel settings to provide more memory for SoftSwitch (smaller RAM disk size).

Saved Workspaces take a lot of disk space (289 blocks). The SS.SYSTEM.DISK does not have enough space to save more than one Workspace on it. Thus, you must use another disk. You can use the DeskTop to format 3.5 disks, or to see how much space is on a given disk by selecting the GET INFO function in the Special menu of the DeskTop.

Appendix A: Things to Remember

Keep the following guidelines in mind when using SoftSwitch:

1) Here's the general procedure for using SoftSwitch:

Store the DeskTop first in Workspace #1. Then run application #2 but do not quit it. Instead, go to SoftSwitch and store the application in Workspace #2. Then switch back to Workspace #1 and use the DeskTop to run application #3. This technique is useful for switching software, such as arcade games and protected software that do not allow an exit without a complete re-start (usually the equivalent of pressing Control-Open-Apple Reset).

2) SoftSwitch is very hardy. Starting a disk, as such, doesn't upset SoftSwitch. As long as you don't press Control-Open-Apple-Reset, or re-start into ProDOS 16, SoftSwitch will remain active, along with any saved Workspaces. Thus, you can use a PR#6 in BASIC to start DOS 3.3 or protected ProDOS programs, and SoftSwitch will switch those DOS 3.3 programs right along with ProDOS 8 programs.

3) Keep track of your disks! If you have only one drive and you have one program that's using a given diskette (like Print Shop), and then switch to another program that expects its own disk in the drive (like MouseWrite), it's up to you to make sure the right disk is in the drive. SoftSwitch is not equipped with ESP and can't reach out of the computer and put in the right disk for you. If you have more than one disk drive, or a hard disk, this shouldn't be a problem; just start each program from it's own drive.

4) Speaking of disks, you also shouldn't save the same program in two different Workspaces if that program writes files to the disk. If the first copy opens a file and starts writing, and then you switch to the second copy of the same program, it may try to write to a half-completed file that the first isn't finished with. A general rule of thumb: If the program writes files to disk, don't store two copies of it in memory at once.

5) If you switch disks while you're in one program, and then go back to the DeskTop, it won't know you've swapped disks. To update the disk icons (a good idea if you've changed disks), you should select "Check Disks" in the "Special" menu.

6) SoftSwitch does not save and restore the state of running printers, modems, and other attached devices. SoftSwitch does not save the I/O (Input/Output) status of interface cards. Thus, if one program sets a serial card to 1200 baud, and another program sets it to 9600, SoftSwitch will not restore the baud rate after switching. In general, it is not a good idea to switch programs that are in the process of using any of these devices.

One exception to this is the mouse port. SoftSwitch remembers, and correctly sets, the independent states of the mouse hardware, including interrupt status, position and clamping between multiple applications.

7) Do not switch programs while a program is writing to a disk. This is because disk allocation is not updated until the end of the "write" process. If you interrupt or switch a program while it is writing to the disk, and then switch to a program that was using the same disk (or you didn't swap the disk when you should), the second program might overwrite the data that was in the process of being written by the first. Be careful!

8) When quitting, some programs need to put away things, save information to the disk, delete temporary files, and so on. This includes programs like AppleWorks 2.0, MouseWrite, Point-to-Point, and a few others. You should not quit these programs by taking the SoftSwitch short-cut back to the DeskTop. You should quit these programs as you normally would, and let them take you back to the DeskTop. It's slower, but necessary to make sure everything gets put back where it is supposed to be. Generally speaking, programs like this are fairly rare, and so you can usually use the SoftSwitch short-cut quit. You can tell which programs fall in this category because their manuals will caution you not to press Control-Open-Apple-RESET, but to use a Quit command instead.

9) SoftSwitch will work in any program where the Desk Accessory Menu is accessible. Unfortunately ProDOS 1.1.1 shuts off interrupts, and thus locks out the Control Panel and SoftSwitch. If your program uses ProDOS, make sure it is not ProDOS 1.1.1. Likewise, certain arcade games and other programs that turn off interrupts will not be usable with SoftSwitch.

10) Some programs may appear to deny access to the Desk Accessory Menu. Before giving up, try alternating between pressing Control-Open-Apple-Escape and moving and/or clicking the mouse. Sometimes this method will activate the Desk Accessory Menu and give you access to SoftSwitch.

Appendix B: Common Questions About SoftSwitch

"Why is the screen in black & white, and not color?"

SoftSwitch uses the Double Hi-Res graphics mode of the Apple IIGS for its display screen. With color enabled, characters printed on the Double Hi-Res screen are pretty much unreadable. In addition, if the compressed pictures or Mini-Screens were in color, it would be impossible to retain as much detail as in black & white. Super Hi-Res could have been used, but this would take an additional 32K just for the display. At a certain point, a design decision had to be made in priorities. Our decision was to try to keep the size of SoftSwitch down so that it would still be possible to switch three complete programs with only a 512K RAM Expansion Card in the IIGS.

"Why doesn't SoftSwitch switch ProDOS 16 programs like PaintWorks Plus or Music Studio?"

The underlying principle of any switching program is to use the availability of more memory than the "switched" programs were originally designed to use. Obviously, one cannot switch three programs that each use 512K of RAM in a machine with only 512K RAM available. Even with a megabyte RAM Expansion Card, storing two 512K programs wouldn't leave any room for SoftSwitch. However, it is possible that as larger memory cards become available, a version of SoftSwitch will be designed to handle those programs that require a minimum of 512K.

"Why can't a single keypress be used right within my program to switch, instead of having to go to the Desk Accessory Menu?"

SoftSwitch isn't actually active during your program's operation. It only comes to life when you access it via the Desk Accessory Menu. This means that SoftSwitch isn't available during your program to be checking for anything. In addition, no matter which key or sequence we picked, some program somewhere would use the same sequence, and there would be a conflict. An example of this is Print Shop, described in Appendix D.

"Do I have to store all the programs to be switched first, before being able to switch between them?"

Yes, but that's just logical. It doesn't take any longer to load a program with SoftSwitch in the background than without it, so you're not losing anything. What you gain is the ability to switch between the programs. As an aside, the Keepsake program on the SoftSwitch diskette can be used to pre-load interrupted programs, but it is actually designed for resumption of suspended programs, not as a quick-load utility.

Appendix C: Tips on Copying and Pasting Graphics

SoftSwitch can copy any screen image on any of the display pages, even if it is not visible, in any switchable program. However, the display you see on the screen may or may not be the actual "picture" being edited in a given graphics program.

To paste an image into a program, and to then be able to actually use that image within the destination program, requires two steps.

First you have to paste the image into the proper display page. SoftSwitch makes this easy by letting you view the different display pages in any program before you paste. In addition, it won't let you accidentally copy and paste images that don't match.

For example, in looking at a screen, you can't always tell by just its appearance whether it's text, Single Hi-Res, or Double Hi-Res. You can use the Screen Manager to load the picture "Self Portrait" to see a good example of this. Although you have sufficient information in SoftSwitch, because you select the display by pressing the "S", "D" or "T" keys (for Single Hi-Res, Double Hi-Res or Text screen), you still might not remember the type of image on the clipboard when you paste. Therefore SoftSwitch only lets you paste into a destination display mode that matches the mode of the image stored on the clipboard.

The other variable between programs is which particular display page (page 1 or page 2), the picture image is stored on, in contrast to the working screen image that you see while you run the program.

Second, you sometimes have to do something to get the program to recognize and use the new image that has been pasted into it. In some programs, as soon as you return to them, you'll see your new pasted image. In others, you may have to do the paste at a particular command level in the program. For example, in Dazzle Draw you must choose the "View Picture" option and then return to the menu screen to update the working screen image.

The following notes provide helpful information on individual commercial graphics programs that you might want to use with the SoftSwitch Copy and Paste functions, and tips on the various ways to get a graphic image into

and out of them. Remember that although any display screen can be copied onto the SoftSwitch clipboard, what you may want is the actual entire picture, not what you see on the working screen that contains additional menus, the cursor, and so on.

Some packages contain several different programs, or different menu levels at which a copy or paste might occur. Each entry indicates the most appropriate program and/or menu level at which a copy and paste should be done.

MousePaint
Apple Computer, Inc.

Display Modes: Single Hi-Res only.
Picture Image: Not available.
Copy: Any visible screen.
Paste: Not available: MousePaint does not maintain a
                        complete picture image anywhere in memory at any
                        time to enable pasting.

DOS: ProDOS only.
Load Pictures: Yes
Save Pictures: Yes
Print Pictures: No

Special Features: Uses Mouse to edit pictures.

Note: Although MousePaint is not practical to copy & paste with, it can load and save the same Single Hi-Res pictures used by the Screen Manager. This means you could copy & paste to the Screen Manager, then use the load or save picture function to access a disk file also shared by MousePaint.

Blazing Paddles
Baudville, Inc.
("Tools screen")

Display Modes:	Single Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Page 2 with tools displayed. Then click on any tool to update.
DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes
Special Features:	Zoom mode; add shapes & text; cut & paste portions of pictures.

Pixit
Baudville, Inc.
("Picture Editor": "Function Menu")

Display Modes:	Single Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Page 2 while at "Function Menu"; update is immediate.
DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes
Special Features:	Includes shape table editor.

Prince
Baudville, Inc.
("Pictures" menu)

Display Modes:	Single and Double Hi-Res.
Picture Image:	Page 1.
Copy:	Page 1.
Paste:	Page 1 while at "Pictures" menu. Then use "Find" command (in Edit Pictures) to update.
DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes
Special Features:	Print cropped portion of any graphics screen.

8/16 Paint
Baudville, Inc.
("PAINT.STD.HIRES")

Display Modes:	Single Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Draw a line or anything at the main level. Then paste to page 2; press Escape (to "Undo") to update.
DOS:	ProDOS only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes

8/16 Paint
Baudville, Inc.
("PAINT.DBL.HIRES")

Display Modes:	Double Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Draw a line or anything at the main level. Then paste to page 2; press Escape (to "Undo") to update.

DOS:	ProDOS only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes

Special Features: Designed specifically for the Apple IIGS. Very advanced picture drawing, editing and printing features.

Alpha Plot
Beagle Bros. Inc.

Display Modes:	Single Hi-Res only.
Picture Image:	Both Page 1 *and* 2 (dual editing).
Copy:	Any screen, complete pictures on both.
Paste:	Page 1 or 2; update is immediate.

DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	No

Special Features: Edit both Hi-Res screens (pg 1 & 2).

Beagle Screens
Beagle Bros., Inc.
("Add Text to Screen")

Display Modes: Single and Double Hi-Res.
Picture Image: Page 1.
Copy: Page 1.
Paste: Page 1; update is immediate.

DOS: ProDOS only.
Load Pictures: Yes
Save Pictures: Yes
Print Pictures: No

Special Features: Pre-drawn screens that you can customize. Includes
                      "slide show" program.

Triple Dump
Beagle Bros., Inc.
("Main Menu")

Display Modes: Single and Double Hi-Res.
Picture Image: Page 1.
Copy: Page 1.
Paste: Page 1; update is immediate.

DOS: ProDOS only.
Load Pictures: Yes
Save Pictures: Yes
Print Pictures: Yes

Special Features: Supports both Single & Double Hi-Res.

Animate
Broderbund, Inc.

Display Modes:	Double Hi-Res only.
Picture Image:	Page 2 (background).
Copy:	Page 1 or 2 as desired (page 2 = background).
Paste:	NOT AVAILABLE: Pasting to Animate will crash the program (Animate)!

DOS:	ProDOS only.
Load Pictures:	Yes (Single & Double Hi-Res)
Save Pictures:	Yes (Single & Double Hi-Res)
Print Pictures:	No

Special Features:	Specialty product for animated Double Hi-Res graphics. Can convert pictures between Single & Double Hi-Res.

Dazzle Draw
Broderbund, Inc.
("View Picture")

Display Modes:	Double Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Page 2; update occurs on return to menus.

DOS:	ProDOS only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes

Special Features:	Double Hi-Res screen editor.

Fantavision
Broderbund, Inc.

Display Modes: Single Hi-Res only.
Picture Image: Page 2 (background).
Copy: Page 1 or 2 as desired (page 2 = background).
Paste: NOT AVAILABLE: Pasting to Fantavision will crash
                     program (Fantavision)!

DOS: ProDOS only.
Load Pictures: Yes ("backgrounds")
Save Pictures: Yes ("backgrounds" only)
Print Pictures: No

Special Features: Nifty animation system.

Print Shop
Broderbund, Inc.
("Screen Magic": "Draw Text on Screen")

Display Modes: Single Hi-Res only.
Picture Image: Page 2.
Copy: Page 2 (*).
Paste: Page 2 (*).

DOS: ProDOS only.
Load Pictures: Yes
Save Pictures: Yes
Print Pictures: Yes

Special Features: Prints signs, greeting cards, etc.

(*) Print Shop requires a special technique to access SoftSwitch. Because
it treats the Open-Apple key the same way as Return, namely sending you to
a next menu level, it takes a little strategy to interrupt Print Shop at the exact
spot you want.

You can take advantage of the fact that if you *hold down* the Open-Apple key, the program only advances *one level*, that is, it doesn't continue to select items from new menus.

The best way to paste a full-screen image into the Screen Magic portion of Print Shop is to select the choice "Draw Text on Screen" by *pressing and holding down* the Open-Apple key. The screen will change to a new menu. It is at this point, while continuing to hold down the Open-Apple key, that you should press Control-Escape. This will activate the Desk Accessory menu, from which you can go to SoftSwitch and paste the desired Single Hi-Res image onto page 2 in Print Shop.

Print Shop Companion
Broderbund, Inc.
("Graphic Editor+": "Get Picture from Memory")

Display Modes:	Single Hi-Res only.
Picture Image:	Page 1.
Copy:	Page 1.
Paste:	Page 1, Hi-Res *or* Double Hi-Res (*).
DOS:	DOS 3.3 only.
Load Pictures: .	Yes
Save Pictures:	No
Print Pictures:	No
Special Features:	Capture portions of *any* Single or Double Hi-Res screen and convert it to a Print Shop graphic.

Note: Although the Print Shop Companion (PSC) is primarily a Single Hi-Res product, it does have a feature for capturing part of a Double Hi-Res screen, and converting it to a Print Shop graphic.

The PSC can be used with SoftSwitch to convert any graphic or text you can see on the screen, in any program, into a Print Shop graphic. This means that if you want to convert the dragon on your favorite adventure title screen into a border graphic, you can.

The main disadvantage of the PSC is that it is one of those programs that does not keep its permanent image of a Hi-Res screen in a standard place in memory. It is possible to paste a Single Hi-Res picture into PSC, but only while viewing the complete Hi-Res screen image. This is done by first selecting "Control-G = Get" in the Graphic Editor+ menu. The next menu will offer the choice "Get Picture in Memory." Select this. You will then be presented with a Hi-Res screen of whatever was in memory when you started up the PSC disk.

To paste an image from the SoftSwitch clipboard, first go to SoftSwitch, while the PSC screen with the cropping box on it is displayed. Here's the critical part: when SoftSwitch shows the Mini-Screen for PSC, if you can see the cropping box displayed, back out (press Escape) of SoftSwitch, go back to the PSC screen, and *then go back to SoftSwitch again.* The trick is to go to SoftSwitch and *not* have the cropping box show up in the Mini-Screen. If you paste an image while the box shows, you'll get a box drawn on the screen image that you paste into PSC. It may take a few tries, but you'll get it sooner or later.

When you do, save the PSC program image in a SoftSwitch Workspace. Then switch to the program that you want to copy the graphic out of (if you haven't already copied a screen, that is). Copy the Hi-Res image of your choice.

Then switch back to PSC and paste the image onto page 1. After the paste, press Return in SoftSwitch to go back to PSC. You'll see your pasted screen image with the cropping box. Pressing Return in PSC then captures whatever the cropping box has framed. See your PSC manual for specific PSC commands from this point on.

This is a good example of where "reverting" can come in handy. Once you've saved PSC in just the right state to receive a picture (i.e, no cropping box showing), you can convert a large number of graphic images by copying them from wherever you want, and then reverting PSC to the saved Workspace each time before doing the paste (as opposed to turning on Auto-Save and having to try to get things "just right" each time).

Double Hi-Res graphics requires a different technique. The only way PSC can capture a Double Hi-Res is to have the picture in memory *when PSC is started up*. The procedure here is to first use the Screen Manager program on the SS.SYSTEM.DISK, and paste your Double Hi-Res image into the Screen Manager.

Then exit the Screen Manager by pressing the Escape key, or selecting menu choice #4. When you get the Applesoft prompt, type PR#6 and press Return to start up the Print Shop Companion disk. Then go to the Graphic Editor+ part of the program, and select "Get Picture from Memory." This technique works for Single Hi-Res pictures too.

The Complete Graphics System
Polarware, Inc.
("Picture Editor" - main command level)

Display Modes:	Single *and* Double Hi-Res.
Picture Image:	Page 1 and 2.
Copy:	Page 1 and 2.
Paste:	Page 1 and 2.
DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	No
Special Features:	Primarily designed for creating animation and full-screen pictures from data files rather than large bitmap screens.

Graphics Magician
Polarware, Inc.

Display Modes:	Single Hi-Res only.
Picture Image:	Not specifically available.
Copy:	Any screen as desired.
Paste:	Not available.
DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	No

Special Features: Primarily designed for creating animation and full-screen pictures from data files rather than large bitmap screens.

Draw It!
Roger Wagner Publishing, Inc.
(On SS.SYSTEM.DISK)

Display Modes:	Single Hi-Res.
Picture Image:	Page 2.
Copy:	Page 2.
Paste:	Page 2; paste while viewing picture ("V"); update is immediate.
DOS:	ProDOS only.
Load Pictures:	No
Save Pictures:	No
Print Pictures:	No

Special Features: Anybody can draw a picture with it!

Screen Manager
Roger Wagner Publishing, Inc.
(On SS.SYSTEM.DISK)

Display Modes:	Single and Double Hi-Res.
Picture Image:	Page 1.
Copy:	Page 1.
Paste:	Page 1; update is immediate.

DOS:	ProDOS only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	No

Special Features: Excellent "receiving" program for pasted screen images that you want to save to disk, or a way to load pictures that you want to copy into other programs.

Printographer
Roger Wagner Publishing, Inc.
(At "Main Menu")

Display Modes:	Single Hi-Res only.
Picture Image:	Page 2.
Copy:	Page 1 or 2.
Paste:	Page 1 or 2; select "Edit Picture in Memory" to update.

DOS:	DOS 3.3 only.
Load Pictures:	Yes
Save Pictures:	Yes
Print Pictures:	Yes

Special Features: Prints in black & white (or color on appropriate printers) on almost 100 different printers. If you've got an odd printer, this is the program to use! Also adds text, and can crop screens for partial print-outs.

Graphics Expander
Springboard, Inc.

SoftSwitch cannot be used with this program. (Desk Accessory Menu is disabled).

Newsroom
Springboard, Inc.

SoftSwitch cannot be used with this program. (Desk Accessory Menu is disabled).

Apple Graphics Software Companies

Activision, Inc.
P.O. Box 6286
Mountain View, CA 94039
(415) 960-0410

Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014
(408) 996-1010

Baudville, Inc.
1001 Medical Park Drive SE
Grand Rapids, MI 49506
(616) 957-3036

Beagle Brothers Software
3990 Old Town Avenue
San Diego, CA 92110
(619) 296-6400

Broderbund, Inc.
17 Paul Drive
San Rafael, CA 94903
(415) 457-1170

Electronic Arts, Inc.
1820 Gateway Drive
San Mateo, CA 94404
(415) 571-7171

Polarware, Inc.
521 Hamilton Street
Geneva, IL 60134
(312) 232-1984

Roger Wagner Publishing, Inc.
1050 Pioneer Way, Suite "P"
El Cajon, CA 92020
(619) 442-0522

Springboard Software, Inc.
7808 Creekridge Circle
Minneapolis, MN 55435
(612) 944-3912

Appendix D: Commercial Programs and SoftSwitch

This section covers special techniques needed for using certain commercial programs with SoftSwitch.

ProDOS 8, DOS 3.3, etc.

AppleWorks 2.0
Apple Computer, Inc.

Note: The following information does not apply to earlier versions of AppleWorks.

Because of the way that AppleWorks 2.0 uses the RAM Expansion Card on the Apple IIGS, it should never be "reverted" with SoftSwitch. In other words, you should never install AppleWorks 2.0 as a SoftSwitch Workspace, return to AppleWorks, shut it down, and then try to resume it from memory later on by entering from another program, and then re-activating SoftSwitch's saved Workspace.

Likewise, once AppleWorks 2.0 is installed, you should turn on Auto-Save immediately after installing it in a Workspace. If Auto-Save has not been turned on, reverting will overwrite pointers in the active version, and thus cause unpredictable results.

AppleWorks 2.0 also has a tendency to commandeer all available memory when it first starts. Therefore, you should store it last, otherwise it will not leave any memory for any of the other applications you want to switch. It is perfectly safe to store AppleWorks 2.0 last, turn on Auto-Save, and then go on your way.

Apple IIGS System Utilities
Apple Computer, Inc.

Treat this set of programs like AppleWorks 2.0. Never revert it.

Flight Simulator
SubLogic

Flight Simulator is not compatible with SoftSwitch. This is because the program does not properly return after going to the Desk Accessory menu, regardless of whether or not SoftSwitch is present.

AirHeart
Broderbund Software, Inc.

This program disables the Desk Accessory menu, and so cannot be used with SoftSwitch.

Print Shop
Broderbund Software, Inc.

Print Shop presumes that any time the Open-Apple key is pressed, the user wants to advance to the next level. Thus, the Control-Open-Apple-Escape needed to access the Desk Accessory Menu (and ultimately SoftSwitch), always advances the program state one menu further than you really want. If a given program state is important, the only solution is to back up one level using the Escape key (Escape is a Print Shop command), then press the Open-Apple key and *hold it down*. Continue to hold the Open-Apple key until you're at the point you originally wanted to interrupt, then press 'Control-Escape' while continuing to hold down the Open-Apple key to go to SoftSwitch.

* * * * *

IMPORTANT: Some software programs, most notably almost all software from Broderbund, Inc., have "Quit" options in their menus that, instead of a normal ProDOS "Quit", they clear *all* memory when selected, and do the equivalent of a Control-Open-Apple-Reset before re-starting. This erases SoftSwitch and any other stored programs in the machine.

For this reason, you should *never* use the Quit option in these programs, no matter how attractively it's offered. Instead, switch back to the DeskTop and erase them from the Workspace they were stored in, if desired.

ProDOS 16 Programs

Although SoftSwitch cannot switch or store ProDOS 16 programs, it can be used to capture and paste screen images. SoftSwitch is not disturbed by the running of any ProDOS 16 program that follows good programming practices, i.e, doesn't deliberately turn off access to the Desk Accessory Menu, allows for a normal ProDOS quit, etc. This means that for a properly designed ProDOS program you can start it from the DeskTop, copy or paste an image with SoftSwitch, and then return to the DeskTop with a quit command with SoftSwitch and any previously stored programs still intact.

Unfortunately, most ProDOS 16 software currently being written for the GS violates one principle or another.

A notable exception to this is Baudville's 816 Paint program, and we encourage you to let them know you appreciate it by supporting their company.

Here's a brief list of ProDOS 16 programs.

Music Studio, Activision: Doesn't startup from DeskTop properly.

PaintWorks Plus, Activision: Works fine.

Shanghai, Activision: Doesn't startup from DeskTop properly.

Tass Times in Tone Town, Activision: Starts ok from DeskTop, but turns off access to the Desk Accessory Menu, and doesn't restore it when you quit back to the DeskTop.

816/Paint, Baudville: Works fine.

Music Construction Set, Electronic Arts: Starts ok from DeskTop, but no access to Desk Accessory Menu, and doesn't have a quit command.

Keepsake, Roger Wagner Publishing: A good example of a program that can be started from the DeskTop, allows copying of screen images, and quits back to the DeskTop with no problems. For fun, try copying the Keepsake display screen to the Screen Manager.

SPEAK OUT!

SoftSwitch works with all programs that follow the Apple design guidelines for software. These guidelines were put together by Apple to encourage software publishers to create software that was easy for everyone to use.

Software that doesn't follow these guidelines makes life harder for everyone. Here are things in particular that SoftSwitch doesn't like:

1) No quit command, or quit re-boots instead of returning to DeskTop.
2) Erasing all of memory when quitting.
3) Disabling the Desk Accessory Menu.
4) Incompatibility with Desk Acccessories; i.e, access may be allowed, but program crashes on return from Desk Accessory menu.
5) Hi-Res (or Double Hi-Res) images not stored on normal graphics screens, and/or encoded in memory.

If you have programs that have these kinds of problems, *write the publisher* and tell them you want your software to work for you, not against you! Of course they want your opinion - they gave you that nice registration card and asked for it, remember!

So, if you're using software, let other people know what you want; if you're writing software, take a little time to make things easier for everyone - thanks!

Appendix E: Software Industry Use of SoftSwitch

If you are personally involved in the writing or marketing of software, or teach others about the Apple computer, there are certain features of SoftSwitch that you may find particularly useful.

Software Documentation Illustrations ("Screen Shots")

When writing any instructions on the use of software, it is very helpful to the reader to have illustrations of the computer screen as it will appear while running a program. Traditionally, this involves either the expensive process of photographing an actual computer screen, or the printing of text characters in the documentation to simulate the screen appearance. Both methods are tedious, and even the photographic method rarely produces clearly readable results.

With SoftSwitch, however, you can use the display screen "copy" command to capture the program screen at any point, and without disturbing the overall operation of the program. With the exception of the Desk Accessory Menu screen in Chapter 2, every "screen shot" in this manual was captured from the running program using SoftSwitch. The SoftSwitch images were captured by pressing Control-RESET while the SoftSwitch screen was displayed, and then immediately re-entering SoftSwitch and capturing the Double Hi-Res page.

Once the screen image is captured, it can be printed on any printer using any of the various printer dump utilities listed in Appendix C. Remember that both 40 and 80 column screens are converted to Double Hi-Res by SoftSwitch.

If you are using a Macintosh and a LaserWriter to prepare your documentation (as was done for this manual), you can use a package called "ATM" ("Apple II to Mac"), to transfer the Single and Double Hi-Res images, captured with SoftSwitch and saved using the Screen Manager, directly to a Macintosh. The image is converted directly to a MacPaint document, and can then be placed directly into PageMaker, or the program of your choice.

ATM is available from:

Boojum Computer Systems, Inc.
15004 Donna Drive
Silver Spring, MD 20904

At the time of this manual's writing, the price was about $50.00, but you
should write the company for specific price and ordering information.

Software Writers

If you're writing instructions, descriptions or articles for magazines, your
local newsletter or your classroom, SoftSwitch is a great way to switch back
and forth between the program you're writing about and the word processor
you're writing the story with. It's like having three computers side-by-side
(except you don't have to roll your chair around!). SoftSwitch lets you not
have to remember how a program worked - you can run the program even
as you're writing about it!

Software Programming

SoftSwitch can be used by programmers to quickly switch from a
development program such as the Merlin assembler, to the environment in
which the program is to be tested, for example the DeskTop or
BASIC.SYSTEM. This eliminates all delays in shifting environments. In
addition, because the computer environment is completely switched, you
don't have to worry about a program corrupting a source file still in
memory, or a DOS pointer somewhere.

If you've got a program that runs for 20 minutes before a bug occurs, and
you want observe the "crash" several times, SoftSwitch is an ideal way to
save the system state just before the crash, and to repeat the problem as
many times as necessary without having to re-run the entire program. The
fast switching also makes it very convenient to switch back and forth and
compare memory pointers, variables, etc. before and after the problem
occurs.

Technical Support

If your job involves helping other users of software packages, SoftSwitch can provide a quick way of switching from one program to another, without having to wait for each program to boot up. You can also use it to allow you to work on your word processor and/or data base while waiting for the next question. When you need to start a program up, just put your letter or mailing list on hold, instantly switch to (or start up via the DeskTop) the program in question. When you're done, you're only a keypress away from being back where you left off before the question.

Software Demonstrations

If you demonstrate software for your user group, classroom, or in a retail setting, you can use SoftSwitch to set up all the programs you'll be needing before the fact. Then you'll have instant access to any program without having to waste time watching the disk spin to start up each new program. It conserves valuable time in demonstrations, and prevents impatience in your audience.

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