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## Preventing Burn In

During the beta test cycle, a couple people raised concerns that some of the modules included with Twilight II may not prevent burn in as well as others. We feel this warrants further discussion.

Protecting against burn-in seems to be somewhat of a problem with *every* modular screen saver, to some extent - modules put stuff on the screen, and that blanked image may still wind up burned in (although it won't happen nearly as quickly). Although Twilight as a whole has been tested extensively to prevent screen burn in and the modules have been designed to avoid burn in, there is always the possibility that other modules or animations may be prone to not protecting the screen as well as others. Under normal use this will probably never be noticeable.

Some modules can be set up for better protection. For example, Snow will protect your monitor better when told to clear the screen after a short period of time. The user can help this situation by choosing a balance of protective modules and options. A good effect module will frequently change the intensities and/or positions of images onscreen.

Burn-in problems occur from pixels being continually stimulated at relatively high intensities. These problems are more prone to occur when pixels are left unchanged for a long period of time or are frequently returned to their original color in a small amount of time. Normal intensity text and menubars are usually unchanging images with potentially damaging high intensity. However, if a pixel is stimulated at half the intensity, it will take twice as long, or longer, to burn. Also, remember that one pixel isn't really what one should be concerned with. On color monitors, there are three phosphors per pixel. Each phosphor dot must be considered.

For example, Scanner projects a relatively narrow full intensity band, bordered by progressively lower intensity lines. The high intensity part is over any particular part of the screen for only about 17% of the time, and the same goes for the rest of it. Now, if we say that the phosphors will burn-in in exact proportion to how long they're lit, not counting intensity, then you're looking at 83% less burning than if it was on continually. What this means is that one would have to leave scanner running for an outrageous and unreasonable long amount of time for anything bad to happen.

While we have done extensive testing to avoid any form of burn in, there is always the remote possibility that it could happen, especially if a mediocre module is left on screen for several days. We regret that we cannot take any responsibility if burn-in does occur. It is up to the user to responsibly decide which modules and options should be used with caution, but rest assured that in a future version of Twilight II we will have an option to automatically switch modules after so many minutes.

(Special thanks to our fantastic beta testers who contributed most of this discussion.)

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## Twilight II and Express from Seven Hills Software

If Express is transparently spooling to the printer in the background, and the screen foreground blanks, the printing will stop until the screen unblanks. While not truly at fault, Seven Hills can make a very minor change in their code to fix this slight inconvenience. If you would like to see this fix, call up Seven Hills (telephone (904) 575-0566) and tell them so.

They will judge the amount of calls they receive and if it looks like this fix can't wait until a future "significant" update, release of an interim version that forces background blanking during background printing (i.e. Twilight II would make the screen black automatically whenever something is printing in the background) is a definite possibility.

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## Additional Module Information

Information about a few modules for various reasons was not included in the manual at the time it went to print. Fazer!, the first of which, is a Twilight II module from Greg Templeman and Eric Shepherd. It started as an algorithm developed to improve graphics compression, but it had the interesting side effect of looking like a pretty good dissolve. Fazer! moves the dots on the screen around in a mathematical pattern that looks pretty random, except that you get striped lines and other interesting effects every few seconds. The dots are repeatedly moved to new locations, until eventually the original screen shows up again.

The use fast-fazer option employs a 62.5K cache to drastically speed up fazing. Double-fazer seems to slow fazing down, but each point is being moved twice as far, so the whole fazing process takes less time overall.

There is also a screen fader built in, which fades between minimum and maximum intensity settings at an adjustable speed. By selecting brightness only, you can turn off "fazing" so only the fader is used - almost like another whole module!

The quit after one checkbox causes Fazer! to quit to the next module when in random mode. If you have brightness only selected, the

screen brightness will be dimmed to the minimum setting, then intensified to the maximum setting, and then the next module will be run. (So, if you selected Fazer!, brightness only, and Tiler in random mode, if Fazer! was run first, it would dim down the screen and then Tiler would operate on the partially dimmed screen.) If brightness only is not selected, then Fazer! will quit to the next module after one complete fazing of the screen (i.e. the original screen is arrived at again). Note that while the visual fazing appears very rapid, the entire screen must be fazed over 14,000 times to get back to the original image (over 7,000 times for double-fazer) which takes 30-42 minutes on a 10 MHz GS.

Greg and Eric can be reached on the Internet at [barnabas@aol.com](mailto:barnabas@aol.com) and [sheppy@aol.com](mailto:sheppy@aol.com), respectively.

The Sharks and Fish module, by Nathan Mates, is the second module accidentally left out of the manual. Sharks and Fish is based on the Computer Recreations article (p. 18-22), in the December 1984 issue of Scientific American. A.K. Dewdney writes out a much better summary of the program than here, and interested people are encouraged to locate his article for more insight.

Sharks and Fish is a program that simulates to actions of two populations, predator and prey, shark and fish, on a small scale. Each sharks must eat a fish at certain limits of time, or it will starve to death. The fish are content to merely swim around, reproducing as they do. On each unit of time, the fish can move one square up, down, left, or right, if there is space, and breed if it is time to do so. Breeding is simulated by the movement of one of the offspring (or whatever) to a nearby square, while the parents stay in the original square. Sharks, being predators, are always looking out for food. If there is a hapless fish nearby, it will be eaten. Otherwise, the shark will move about, just like a fish. Each shark must eat every so often, or it will starve and die.

Although the world size is fixed, there are a number of parameters that can be set from this module's setup window. In increments of twenty, you can change the initial number of fish, the number of sharks in increments of ten, and the base characteristics of the sharks and the fish. For the breeding and starving times, the number is the number of cycles before that action passes. Thus, a breeding of one means that offspring will be born every turn, if there is room for them. Likewise, a starving of one means that the sharks will starve every turn, so they will all die off in a turn.

Sharks and Fish can be interesting to watch and play with; it also forms a cool screen saver. The graphics were optimized for the starting light-blue world, but the blue can potentially burn into the monitor if it is left going for an overly excessive period of time. Therefore, the option to allow color cycling (changing the colors of the world slightly every turn) is available, and should be use if Sharks and Fish is used as a frequent screen saver.

Nathan can be reached at Nathan Mates, MSC #850, Caltech, Pasadena, CA 91126-0001, (818) 578-9696, [nathan@cco.caltech.edu](mailto:nathan@cco.caltech.edu). Among others, he also wrote the L.E.D. Message module, which was accidentally left off the credits page.

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## Feature Name Change

IntelliKey (p. 24) is now called QuickResponse (with a keyboard equivalent of *Command-Q*). Please make a note of it.

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## Module Limit Now Removed

The adjustable module limit discussed on page 35 of the manual has been removed. Twilight II can now handle an amount of modules limited only by available memory and disk space (and patience.)

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## Self Extracting Archive Included on T2.Extras

The T2.SpinLogo.SEA file on the Extras disk includes a bonus PaintWorks-type (\$C2) animation for use with the Movie Theater module. This animation is in the form of a self extracting archive. To install the spinning animation, run the T2.SpinLogo.SEA file and select the folder you want the animation to be put in.

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## Promotional Information

Some copies of Twilight II may come with descriptive flyers for hardware and software for the Apple IIGS, unrelated to Twilight II. This information is provided with no particular endorsement, but we hope that it will be useful to you as the owner of an Apple IIGS and Twilight II.

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## Thanks

Thank you again for purchasing Twilight II. If you have any additional questions, you can reach us at the addresses listed on page iv of the Twilight II manual.

# Twilight II v1.1 Manual Addendum

May 14, 1993

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## Using Signature GS v1.0.2 Effects With Phantom

It has been brought to our attention that for Signature GS v1.0.2, Q Labs decided to pre-install their seven effects. This means that our Signature Phantasm Effect installation script will not work with if you only have Signature GS v1.0.2. We are currently working on a program that will allow you to extract Phantasm effects from the *PhantInir* file (where they are stored by Phantasm after installation) so they can be used with the Twilight II Phantom module. We would like to note that this is not a bug in Phantom. All Phantasm effects can be used with Phantom, *in their uninstalled form*.

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## Problems With Public Domain Phantom Effects

Some users have reported erratic problems with the public domain Phantom effects (installed into the *Phantom.Effects* folder) included with Twilight II. We are looking into this, but the problem appears to be with the Phantom effects and *not* with Twilight II or the Phantom module. If you notice problems with any of these public domain effects, stop using them—their quality really cannot compete with most of the Twilight II modules, and they were included with Twilight II primarily as a bonus.

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## Creating New Preset Options for Cyclone

It is possible to add, modify, and delete preset animations for the Cyclone module if you are a programmer or adept with a resource editor. Cyclone uses one word to store all its setup information. Seven options are packed into that one word. They are defined as follows:

|                  |            |  |
|------------------|------------|--|
| IsPreset         | Bit 15     | Indicates whether the current setup options are the same as one of the preset options.   |
| Width            | Bits 14-12 | Legal values are 0-7.  |
| Shape            | Bits 11-8  | Legal values are 1-10.   |
| VerticalMirror   | Bit 7      | Indicates whether the vertical mirror is on.   |
| Length           | Bits 6-4   | Legal values are 1-7. 1 = infinite, 2 = length of 15 lines, 3 = length of 30 lines, etc. |
| HorizontalMirror | Bit 3      | Indicates whether the horizontal mirror is on.   |
| Color            | Bits 2-0   | Legal values are 0-7.  |

The easiest way to determine what the value of this word would be for any given set of parameters is to simply configure Cyclone to the desired settings and then look at the saved configuration word in the *Twilight.Setup* file (stored in the *Twilight* module folder.)

To make an animation configuration into a new preset for Cyclone you must first add a new menu item to the preset menu, with an ID of the Cyclone configuration word just created above. The IsPreset bit (bit 15) should *never* be set in the menu item ID because Cyclone keeps track of this for itself. The following is an example using Genesys.

- ① Bring up the Cyclone options from within Twilight II. Set the options to the values you want for your new preset. For this example we will set width to 8, length to infinite, color to sliding, shape to diamond and both mirrors to off. Click save to save the new setup information to disk.
- ② Launch Genesys and open the *Twilight.Setup* file.
- ③ Select rType \$1002 in the type list on the left and then double click on Cyclone config in the in the resource list on the right. The generic resource data window should open up and show the value \$10 \$7C. Adjusting for GS reverse hex, the actual value of the Cyclone setup word is \$7C10. Remember this.
- ④ Close all the open windows and then open *Cyclone*, also located in your *Twilight* folder.
- ⑤ Select menu in the type list on the left and then double click on the preset menu in the resource list on the right. (You will have to figure out which menu resource is the preset menu by looking at each one until you find it.)
- ⑥ Select Add Item from the Options menu to add a new menu item to the Preset menu.
- ⑦ Make sure your new item is selected. Then select edit item data from the options menu. Type in the value of the configuration word into the item ID field, \$7C10 for this example. Click on the change button to accept the new ID.
- ⑧ Double click on the new menu item and then type in a name for your new preset. We will use Diamond.
- ⑨ Close the preset menu window, pick save from the file menu and then close the Cyclone window. Your new preset is now finally installed into the Cyclone preset menu. Open up Twilight II and test it out!

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## Online Support

In addition to the electronic mail addresses listed on page iv of the manual, we also have specific product support bulletin boards on America Online and GEnie. We actually would prefer that you place feedback of general interest on these public message boards when possible (instead of sending electronic mail) so that everyone may benefit from the discussion.

On America Online, the DYA/DigiSoft Innovations company support area is available through the Apple II Utilities (Keyword: AUT) and Apple II Graphics & Sound (Keyword: AGS) forums.

Twilight II messages can be posted in the Apple II forum or sent via email on Delphi.

On GEnie, a general user-oriented discussion of DigiSoft products is located in category 13 of A2 (page 645.) Specific topics are available for most of our products, such as topic 30 for Twilight II. Twilight II technical information (including support for writing effect modules and Twilight II-savvy programs) is available in category 29 in A2Pro (page 530.)

Finally, our GEnie mail address will soon be changed from DYA to A2PRO.DYAJIM.

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## Fazer! Tricks

Page 30 of the Twilight II manual gives some examples of how the effects of several different modules can be combined in random mode. Fazer! adds even more possibilities to this list! When "brightness only" and "quit after one" are set, Fazer! will dim the screen to the intensity you specify and then the next module will be run. So, for instance, the screen can be faded out part way before a module such as Tiler or Worms is run. The combinations are endless!

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## YouDrawIt! Bug

Version 1.0.1 of the YouDrawIt! module, as shipping with Twilight II v1.1, contains a small bug that causes the system to crash when you try to run an animation that does not have the "number of frames" set in the picture. Under most situations, this bug will not be encountered, but it will occur if you try to run the *Blank.ATF* or *Blank.EATF* empty animation files which come with Twilight II. The next release of Twilight II will fix this.

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## Miscellaneous Clarifications

The screen is *always* background blanked in ProDOS 8 programs, unless ProDOS 8 blanking is turned off via the text screen blank option (in Setup: Options) or Twilight II is deactivated.

Your serial number can be found on the back of either Twilight II disk.