CD / Spectrum Pro

CD / Spectrum Pro Version is a CD-Audio player with built-in graphical spectrum analyzer. It was designed to run on ***Windows 95***, and the new ***Windows NT 4.0 Shell Update Release*** (SUR). Versions 2.3 and later were designed to run in conjunction with ***The Psychedelic Screen Saver v3.0*** or later to provide stunning visuals that are synchronized to the beat of the music you play on the CD. This document describes how ***CD/Spectrum Pro*** operates.

Contents

CD/Spectrum Pro Hardware Requirements

Although **CD/Spectrum Pro** will run on a 486, a Pentium is recommended for optimum performance. If your machine has trouble keeping up with the processor-intensive spectrum analysis, you may choose to use only the CDaudio part of the program.

Of course a CD player is required for the CDaudio portion of the program to function. If your system has more than one CD drive, you can choose which one **CD/Spectrum Pro** will use in the "Config" dialog. Currently, **CD/Spectrum Pro** provides no special support for multidisc changers, so although it should work with them, it will not be able to provide changer-specific functionality like changing which slot is playing.

A sound card in necessary for the spectrum analyzer to function. The spectrum analyzer uses the wave capture on the sound card to determine what the CDaudio signal looks like. If no sound card is present, or the sound card does not support wave capture, you may choose to use only the CDaudio part of the program.

CD/Spectrum Pro Installation

Installation is simple. A self-installing executable program is provided that performs all of the necessary installation chores. This installation program put an icon on your desktop from which you can run **CD/Spectrum Pro**.

CD/Spectrum Pro General Information

The following tricks and tips may be helpful when using **CD/Spectrum Pro**.

- The trackbar between the *Configure* and *CD-Audio* buttons adjusts master system volume.

- Tooltips are provided for most buttons. Let the mouse cursor linger over a button to get a small text description of what the button does.

- The program remembers its last position and goes back to that location the next time you run it. If it comes up minimized, that means you closed it while it was minimized last time. If it comes up with only a taskbar icon present and no main window visible, that means you closed it while it was in "taskbar icon only" mode last time. Simply click on the taskbar icon and uncheck that menu option.

- You can use either or both of the CD-Audio and Spectrum Analyzer portions of the program.

- The *Register* buttons turns into an *About* button and the nag dialogs disappear once the program is registered.

CD/Spectrum Pro Configuration

The configuration dialog allows you to customize *CD/Spectrum Pro* to fit your individual tastes. There are five tabs in the configuration dialog, allowing you to configure the following items:

- **CD Audio**
    - Intro Duration - the number of seconds that will be played from each track in Intro mode.
    - Logical CD Drive - the logical drive letter of the CD drive that CD/Spectrum Pro will use.
    - Autoplay Programmed - if this option is chosen, CD/Spectrum Pro will engage programmed play when autoplayed. Otherwise, normal play will be used.
    - Fast AutoPlay - this option tells CD/Spectrum Pro to begin playing a new CD immediately after it is inserted into the drive.
    - Auto Exit after Last Track - If this option is chosen, CD/Spectrum Pro will close itself down after CD play has completed.
    - Auto Eject after Last Track - If this option is chosen, CD/Spectrum Pro will automatically eject the CD after play has completed.
    - Stop CD on Exit - If this is chosed, the CD will stop playing when you exit CD/Spectrum Pro.
    - Retracted CD Play - If this is chosen, the CD Audio part of the program will retain ownership of the CD device even when the CD audio window is hidden. This facilitates using Programmed, Random, Repeat, and/or Intro mode play without having the CD Audio window exposed. Note that if this option is not chosen, Programmed, Random, Repeat and Intro mode will not function when the CD Audio window is retracted.
    - CD-Audio TaskBar Icon - if this option is chosen, CD/Spectrum Pro will provide an icon on the taskbar from which you can control the CD drive.
    - Use as Default CD Player - This tells Windows to use CD/Spectrum Pro as the default CD audio player.

- **Spectrum**
    - HiColor - the color used to display the parts of the spectrum that approach the maximum magnitude.
    - MidColor - the color used to display the parts of the spectrum that approach HiColor.
    - LowColor - the color used to display the lower magnitudes.
    - BkGndColor - the color used to draw the background of the spectrum.
    - TaskBar Bk - the color used to draw the background of the spectrum taskbar icon.
    - TaskBar Fg - the color used to draw the foreground of the spectrum taskbar icon.
    - Spectrum Trails - if chosen, spectrum trails will linger at maximums.
    - Hi Resolution - if chosen, more resolution will be shown in the y axis.
    - Psychedelic Visuals - engages psychedelic visuals in the spectrum window, courtesy of The Psychedelic Screen Saver.
    - Spectrum Trails Duration - adjusts the linger duration of the spectrum trails.

- **Mixer**
    - This page is filled in at run time. A button is provided for each line that can be digitized. If no buttons appear on this page, it is likely that your sound card does not support software mixers. Try downloading an updated driver from your sound card or computer manufacturer.

- **Global**
    - Always on Top - is chosen, CD/Spectrum Pro will remain on top of all other windows.

- Prevent Screen Saver - if chosen, CD/Spectrum Pro (as long as it is the topmost window) will not allow a screen saver to kick in.
- Also on the Global page, several links to the web site are provided. If you have a web browser installed, these buttons will take you to the CD/Spectrum Pro web site.

- **Psych**
  - From this page, you can launch The Psychedelic Screen Saver configuration dialog, or jump to the web site.

CD/Spectrum Pro CD-Audio

The CD/Audio player in CD/Spectrum Pro has the following features:

• Up to 100 tracks per CD.

• It reads information from the Windows CDPlayer, so if you have already entered your CD titles and tracks, CD/Spectrum Pro will read them so will not have to enter them again. However, CD/Spectrum Pro store the information in another location to allow more CDs to be stored. In fact, the number of CDs you can enter is almost unlimited.

• It is integrated with The Psychedelic Screen Saver for stunning visuals that are synchronized to the music you play.

Several buttons make the CD audio player easy to use. To play a track on the CD, simply click on the track's number in the grid. Click the Tracks button to get a list of tracks. Other buttons include:

Repeat button. When it is depressed, play will repeat after the program or CD is finished.

Random button. When it is depressed, tracks will be played in a random order.

Program button. When it is depressed, tracks will be played in the order dictated by the program for the current CD.

Intro button. When it is depressed, only the beginning of each track will be played. This option affects Regular, Random, and Programmed play.

Eject button. This button ejects the CD. On computers with CD players that support it, this button will also suck the drawer back in. Not all CD players support this.

Edit Program button. This button launches a dialog box used to edit the programming for this CD. This dialog box and the programming of a CD are discussed below.

Edit CD List button. This button launches a dialog box used to edit the title, artist and tracks on this CD. The dialog box and entering of this information are discussed below.

Play button. This button begins playing the CD.

Back button. This button moves back to the previous track. In random or programmed mode, it moves to the previous random or programmed track, respectively.

Forward button. This button moves forward to the next track.In random or programmed mode, it moves to the next Random or programmed track, respectively.

Pause button. When depressed, play will be paused.

Stop button. Stops play.

A trackbar is also provided to locate the current position within a track. Simply drag the trackbar to the desired location and play will resume there.

Editing the Program List

When the *Edit Program* button is chosen, a dialog box is launched that facilitates editing the programmed play list. This dialog box has two groups of track titles. The one on the right is the list of tracks on the CD. The one on the left is the current programming for the CD. You can use the *Remove*, *Move Up*, and *Move Down* buttons to adjust the currently highlighted track in the left list. You can use the *Insert* and *Append* buttons to insert and append the currently highlighted track in the right list into the left list. When you are done, you may choose *OK* to save the program, or *Cancel* to discard your changes. <u>Hint: remove all the entries in the left list and press *OK* to reset the left list.</u>

Editing the CD Title Artist and Tracks List

When the *Edit CD List* button is chosen, a dialog box is launched that facilitates editing the title, artist and track titles for the current CD. Enter the title of the CD in the appropriate box. Then enter the artist and track title for track 1. If the same artist performed all the tracks on the CD, press *Propagate Artist* to use that artist's name for all tracks. If the CD is an assortment of tracks from different artists, enter each artist's name while editing the track title for that track. You can move between track titles by pressing the up/down buttons next to the track number. <u>Hint: When you are done editing a text, press <Enter> to automatically move to the next field.</u> The *Overview* button allows you to get a look at the entire CD. A list of track titles is presented.

CD/Spectrum Pro Spectrum Analyzer

The Spectrum Analyzer employs a Fast Fourier Transform to derive the frequency spectrum of the sound as it comes off the sound card. This spectrum is then displayed in the Spectrum window as a series of graphics. Below the frequency spectrum, left and right volume are displayed.

Eight buttons adorn the right side of the Spectrum Analyzer: *Left & Right*, *Center*, *Split* and *TaskBar Icon, Frequency View, Psychedelic View, Psychedelic Config,* and *Psychedelic Full Screen*.

- *Left & Right* - When this button is depressed, frequency information for both left and right channels is displayed.
- *Center* - When this button is depressed, monaural frequency information is displayed. This button and the *Split* button cannot be depressed at the same time.
- *Split* - When this button is depressed, the left and right channel frequency information is physically separated in the graph. For this reason, monaural information may not be shown in this mode so this button and the *Center* button cannot be depressed at the same time.
- *TaskBar Icon* - When this button is depressed, **CD/Spectrum Pro** places a taskbar notification icon on the system taskbar. This icon shows the current volume levels for left, right, and/or monaural sounds - depending on the settings of the *Left & Right* and *Center* buttons. Note: while this button is depressed, **CD/Spectrum Pro** retains ownership of the wave device even when the spectrum window is retracted. Also, note that this option requires a fair amount of processing time; if your processor is having trouble keeping up, try turning this option off.
- Frequency View - When this button is depressed, the spectrum window displays the frequency information in the graph.
- Psychedelic View - When this button is depressed, the spectrum window hosts a psychedelic visuals window provided by The Psychedelic Screen Saver.
- Psychedelic Config - Press this button to launch the configuration dialog for The Psychedelic Screen Saver.
- Psychedelic Full Screen - Press this button to engage full-screen visuals which are provided by The Psychedelic Screen Saver.

A *Gain* trackbar is also provided to help adjust the gain of the signal into the spectrum analyzer. This has no effect on volume - to change volume, look to the trackbar between the *Config* and *CD-Audio* buttons.

Right-click on the spectrum to get a context menu that will allow you to turn spectrum trails and hi resolution on/off, as well as perform other functions.

The Psychedelic Screen Saver
and
CD/Spectrum Pro

Release Notes / License Agreement

The Psychedelic Screen Saver - Version 3.0
Copyright (C) 1995-1996 / Mike Irvine - All Rights Reserved

CD Spectrum Pro - Version 2.3
Copyright (C) 1995-1996 / John Hornick - All Rights Reserved

Release Notes

- Installing The Psychedelic Screen Saver v3.0 will overwrite prior versions of The Psychedelic Screen Saver. If you've installed a previous version (2.5 or higher) you may want to backup, rename, or otherwise save the file "psych.scr" in your \system directory (on Win95) or \system32 directory (on WinNT).   Psych v3.0 is compatible with your existing saved settings.

- The Psychedelic Screen Saver v3.0 is available to users who have registered a previous version of The Psychedelic Screen Saver as a $10 upgrade. This fee licenses you for Psych 3.0 but not for CD Spectrum Pro. CD Spectrum Pro is a separate product made by different ShareWare developer and must be registered seperately.

- Registering Psych v3.0 gives you a license to use all updates of The Psychedelic Screen Saver prior to version 4.0 and *ALL* previous versions.

- You must have a sound card installed (and properly configured) in your system in order for Psych 3.0 to sync with sound.

- CD Spectrum Pro must be running in order for Psych v3.0 to sync with sound.

License Agreement

Users of either 'The Psychedelic Screen Saver' or 'CD Spectrum Pro' must accept this disclaimer of warranty: both 'The Psychedelic Screen Saver' and 'CD Spectrum Pro' are supplied as is.   The   authors disclaim all warranties, expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. The authors assume no liability for damages, direct or consequential, which may result from the use of either 'The Psychedelic Screen Saver' or 'CD Spectrum Pro'."

Both 'The Psychedelic Screen Saver' and 'CD Spectrum Pro' are "shareware" programs and are provided at no charge to the user for evaluation.   Feel free to share them with your friends, but please do not give them away altered or as part of another system.   The essence of "user-supported" software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products.   If you find either program useful and find that you are using either program after a reasonable trial period, you must make a registration payment to NorthStar Solutions for either.   This payment will be:

- $20 if you are just registering 'The Psychedelic Screen Saver'
- $20 if you are just registering 'CD Spectrum Pro'
- $30 if you are registering both products

The registration fee will license one copy of each program for use on any one computer at any one time. You must treat this software just like a book.   An example is that this software may be used by any number of people and may be freely moved from one computer location to another, so long as there is no

possibility of it being used at one location while it's being used at another. Just as a book cannot be read by two different persons at the same time.

Commercial users of either 'The Psychedelic Screen Saver' or 'CD Spectrum Pro' must register and pay for their copies within 30 days of first use or their license is withdrawn.

Registrations
The Psychedelic Screen Saver 3.0
and/or
CD Spectrum Pro 2.3

If you enjoy using The Psychedelic Screen Saver and/or CD/Spectrum Pro, you may register them as described below. After your registration has been processed, you will receive a registration validation number that you will need to enter in order to remove the registration reminder messages.   Once you receive this number just enter it in the registration dialog that is available by clicking the "Register" button.

Registration Options

- The Psychedelic Screen Saver v3.0 (screen saver only) for $20 US.
- CD/Spectrum Pro v2.3 (CD player only) for $20 US.
- Both products for $30 US. (Use this option if you want visuals that are synced to the sound.)
- Upgrade your pre 3.0 version of The Psychedelic Screen Saver to v3.0 (screen saver only) for $10 US.

Payment Options

You may register via any of the following methods:

- **Phone** (Credit Card only) - provide the information in the order form below to the operator at:
  1-800-699-6395 (10:00am - 10:00pm EST U.S. only)
  1-803-699-6395 (10:00am - 10:00pm EST)

- **Fax** (Credit Card only) - fax the order form below to:
  1-803-699-5465 (24 hr/day International and business orders encouraged)

- **Email** (Credit Card only) Email the order form below to:
  CompuServe: 71561,2751
  Internet: 71561.2751@compuserve.com
  (International and business orders encouraged)

- **U.S. Mail** - send the order form below to:
  NorthStar Solutions
  PO Box 25262
  Columbia, SC 29224

------------------------------ **Order Form - Cut Here** ------------------------------

Order Form
The Psychedelic Screen Saver v3.0
and/or
CD/Spectrum Pro v2.3

Name:
Address1:

Address2:
City: State: Zip:
Country:
Phone:
Email Address:

Which Version Are You Registering?   PSS v3.0   CDSP v2.3
Check Registration Option: PSS/$20___ CDSP/$20___ Both/$30___ Upgrade/$10___
Check Payment Type: Visa___ MasterCard___ Discover___ Check/MO___

For credit card orders:
Name as it appears on card:
Card Number:
Expiration Date:

Notes:
- Be sure to make check/money order payable to "NorthStar Solutions"
- Be sure to indicate which version of the which product(s) you are registering.
- When upgrading, please include the full name under which you placed your original order.

The Psychedelic Screen Saver

Contents

- **<u>OVERVIEW</u>** -- What is The Psychedelic Screen Saver?
- **<u>SYSTEM REQUIREMENTS</u>** -- What do I need in order to run it?
- **<u>RELEASE NOTES</u>** -- What should I know about version 3.0?
- **<u>CD/SPECTRUM PRO</u>** -- What is it and why do you mention it?
- **<u>INSTALLATION</u>** -- How do I install it? / How do I get rid of it?
- **<u>REGISTRATION</u>** -- Where can I find information on how to register it?
- **<u>MANUAL</u>** – What the heck do all these controls do?
- **<u>BACKGROUND</u>**-- Where did it come from?
- **<u>FAQ</u>** – Frequently Asked Questions (and answers)
- **<u>QUESTIONS/SUPPORT</u>** -- Where can I get help with problems?
- **<u>UPDATES</u>** -- When is the next version due?

OVERVIEW

The Psychedelic Screen Saver generates an endless variety of mesmerizing   patterns. As the patterns materialize on your screen, the colors will shift,   undulate, and generally speaking, look cool. Whether you're into abstract   art, mathematics, or just have a history of mental illness, you'll love this screen saver.

Version 3.0 of The Psychedelic Screen Saver has been designed to work in conjunction with CD/Spectrum Pro in order to provide stunning visual effects that synchronize with the sounds from an audio device (like the CD player in your computer). With many of the module controls you can now associate a sound frequency, a range of effect, and a sensitivity.   Fluctuations in the amplitude of the frequency will oscillate the control values within the range of effect.

PSYCH V3.0 RELEASE NOTES

- The Psychedelic Screen Saver v3.0 is available to users who have registered a   previous version of The Psychedelic Screen Saver as a $10 upgrade. This fee licenses you for Psych 3.0 but not for CD Spectrum Pro. CD Spectrum Pro is a separate product made by another ShareWare developer.

- Registering Psych v3.0 gives you a license to use all updates of The Psychedelic Screen Saver prior to version 4.0 and *ALL* previous versions.

- You must have a sound card installed (and properly configured) in your system in order for Psych 3.0 to sync with sound.

- CD Spectrum Pro **must** be running in order for Psych v3.0 to sync with sound.

- Questions relating to the screen saver should be sent to pixel@halcyon.com and questions about the CD player should be sent to gator@halcyon.com.

BACKGROUND

   The algorithms I used in these screen savers were originally conceived as part of an art project I worked on in my senior year at the Evergreen State College.   I implemented the algorithms in about 70,000 lines of Borlands' Turbo Pascal for MS-DOS and included a "User Interface From Hell" that provided access to the hundreds of parameters used to customize the image generation process.   After I graduated, I attempted to make a living as an artist by selling the images I produced to various galleries around the country.   I quickly discovered that being an artist requires not only a healthy dose of creativity, but also a boatload of marketing savvy (which I was lacking).   Since I was having a hard time making ends meet, I decided I'd have to find another way to make a living (besides, another month of macaroni and cheese would probably have killed me).   After kicking around the idea of putting together a company to do the video/effects for raves, I decided that I'd be better off getting a programming position with a company that wouldn't require me to wear a suit.   In order to prove I'd done some programming, I ported some of my Pascal code for MS-DOS into C for MS Windows and sent it out with my resume. The result was the beginning of The Psychedelic Screen Saver.

Mike Irvine
Author of The Psychedelic Screen Saver

SYSTEM REQUIREMENTS

Suggested:
- The Psychedelic Screen Saver v3.0 runs quite nicely on a 80486 DX2-66 system.   However, if it is being used in conjunction with CD Spectrum Pro then you'll probably want at least Pentium 90 (or better <g>)

- Microsoft Windows NT or Windows 95

- 256 color display card - While the screen savers should still work in high/true color modes, you won't get palette animation.
      In order to get some of the effects that they use, the screen savers use   a palettized video mode. This means that colors are referenced by index   rather than by RGB value. By using a palettized video mode, the screen savers can change the RGB value that corresponds to a particular palette index and the result is that all of the colors on the screen that use that index are immediately updated. Neither high or true color modes use a palette, so it is not possible to achieve the effects without manually updating the entire display. Since updating the entire display is far   too slow, I didn't code the screen savers to do it.
      On the bright side, Windows 95 supports dynamic video mode switching which means that the display mode can be changed without rebooting the system.   Unfortunately, you are forced to reboot your system when you change color depths .   This will be changing in the near future and once it does, I'll setup the screen saver to let you pick the video mode that it runs in.   That way you can change to a palette based video mode when it starts up and then change back when it's done. However, until then, we're stuck with the limitation :-(

INSTALLATION / REMOVAL

To install the Psychedelic Screen Saver, run the setup program (INSTALL.EXE) and then follow the directions.   If you later decide that you would like to remove the software from your system, run the uninstall program (UNINSTALL.EXE) that's in the directory you installed to.   You can also uninstall from the "Add-Remove Programs" applet in the Windows "Control Panel."

QUESTIONS/SUPPORT

If you have access to the World Wide Web, check out the home page for the Psychedelic Screen Saver at:

http://www.halcyon.com/pixel/psych.htm

I maintain a "Frequently Asked Questions" page similar to the <u>FAQ</u> that I've included here with the screen saver (but more up to date).   The <u>FAQ</u> provides answers to the vast majority of the questions I get via email.

If you can't find the information you need in the <u>FAQ</u> or in the FAQ on the web, send me (Mike Irvine) email at pixel@halcyon.com

If you are experiencing a problem, check to see if the problem exists in the latest version of the software which can be found on my WWW site.   If you are still experiencing the problem, email me with a description of the behavior and information on your hardware configuration and operating system. Please be sure to indicate which version of the the screen saver and which version of the operating system you are running.

UPDATES

I post updates to the software on my web site fairly often.   When I'm feeling particularly creative I may post updates as many as 2 or 3 times a week :-)

The Psychedelic Screen Saver - Version 3.0
Copyright (C) 1995-1996
All Rights Reserved
http://www.halcyon.com/pixel/psych.htm

Here are a number of the questions that I get asked frequently by folks using The Psychedelic Screen Saver.

QUESTIONS:

1) How come the colors don't "shift and undulate "in high/true color display modes?
2) How can I capture the images that the screen savers generate so that I can   use them for my wallpaper, WWW pages, etc...?
3) Do you do custom screen saver development?
4) I've noticed that the date on the ZIP you post changes fairly often but the name hasn't changed (it's still psych26.ZIP).
5) Can I add a link to your page from mine?
6) Once I download the file, how do I set up the screen savers?
7) Where can I find out more about how to write screen savers?
8) What the heck are *.PSY files?
9) What does the "Effects" module do?
10) How come you don't have documentation for the various controls?
11) Why did you drop support for Windows 3.1?
12) Can Psych 2.5 or later be run on 16 bit Windows?
13) What are the differences between V2.0 and V 2.1?
14) What do you do with the registration information (address, phone number, email ID, etc...)?
15) Will there ever be a Macintosh version?
16) How come when I run the setup program I get a black screen for a second and nothing gets installed?
17) I've noticed that each of the modules has a "Strength" setting -- what the heck does it do?
18) How do I remove SS Runner (Runner.EXE) from my taskbar?
19) How do I remove The Psychedelic Screen Saver from my system?
20) What is your official upgrade policy?
21) I'm seeing these strange boxes that stay around after the screen saver has exited -- do you know what's going on?
22) My system locks up periodically after running the screen saver – what's going on?

ANSWERS:

1) How come the colors don't "shift and undulate" in high/true color display modes?

While the screen savers should still work in high/true color modes, you will only get the palette animation effects in 256 color video modes.

In order to get some of the effects that they use, the screen savers use   a palettized video mode. This means that colors are referenced by index   rather than by RGB value. By using a palettized video mode, the screen savers can change the RGB value that corresponds to a particular palette index and the result is that all of the colors on the screen that use that index are immediately updated. Neither high or true color modes use a palette, so it is not possible to achieve the effects without manually updating the entire display. Since updating the entire display is far   too slow, I didn't code the screen savers to do it.

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video mode when it starts up and then change back when it's done.   However, until then, we're stuck with the limitation :-(

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2) How can I capture the images that the screen savers generate so that I can   use them for my wallpaper, WWW pages, etc…

Well, on Windows 3.1 and Windows 95 you can just press the "Print Screen" key and this will copy the image to the clipboard. From here, you can paste the image into your favorite image processing application and save/edit it.

On Windows NT, after the screen saver time-out period, the OS switches over to a secure desktop and then runs the screen saver. Because of this, pressing the "Print Screen" key will terminate the screen saver rather than copying the image to the clipboard. In order to avoid this behavior, you can run the screen savers (*.SCR files are just *.EXE files that have been renamed) from the command line or create icons for them. When you run them this way, you run them on the application desktop and the "Print Screen" key works just fine.

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3) Do you do custom screen saver development?

No.

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4) I've noticed that the date on the ZIP you post changes fairly often but the name hasn't changed (it's still psych26.ZIP).

I make changes fairly often to the screen savers and post the updates in the same file. The reason I haven't changed the name is that quite a few people
have added links to their page that directly reference the file as psych26.ZIP.
In order to make it easier for people to know when I've made updates, I'm going
to put up a page that describes what modifications have been made over what
time period. I suspect that this will be a bit more convenient than checking
the file date ;-)

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5) Can I add a link to your page from mine?

Absolutely! However, please reference the page:

    http://www.halcyon.com/pixel/psych.htm

rather than the ZIP file. (see #3)

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6) Once I download the file, how do I set up the screen savers?

The file that you've downloaded is actually an archive file that contains the collection of screen savers. In order to extract the individual files, you will need to obtain a program that can extraction files from a ZIP archive. You can probably find a number of these archive programs from the SimTel Archive.

One commonly used archive program is PKZ204G.EXE.

In any case, once you have used the archive utility to extract the files from the archive file, follow the instructions in the README.TXT file on how to setup the screen savers.

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7) Where can I find out more about how to write screen savers?

If you are interested in writing screen savers for Windows 3.1, there is a source code sample in the Microsoft Windows 3.1 SDK called BOUNCER that should be helpful. If you are interested in writing a 32 bit screen saver for Windows NT or Windows 95, you might want to check out a sample in the Microsoft Win32 SDK called FRACTAL.

To write After Dark modules, you'll want to get a copy of Berkeley Systems'   After Dark Module SDK which should be available somewhere on their WWW site at: http://www.berksys.com/

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8) What the heck are *.PSY files?

The PSY files are saved setting files. You can use the "Import" button in the "Main Settings" panel to load the files and display them. You should also be able to click on the PSY files and have the screen saver launch and display using the settings in that file. On my WWW site, there are additional PSY files that contain interesting settings. If you are running Microsoft Internet Explorer then you should be able to click on the link on my web page in order to launch Psych25 with the settings in that particular file. If you want to export your own settings into PSY files, you can just use the "Export" button in the "Main Settings" panel. You can also make shortcuts on your desktop to the PSY files so that you can launch the screen saver with different settings just by clicking on the shortcut. The PSY files that come with Psych25 get installed when you run the setup program. They should show up in the drop-down listbox that contains the "Saved Settings" in the "Main Settings" panel.

_____

9) What does the "Effects" module do?

The "Effects" module differs from the other modules in the way it works. Instead of producing a pattern, "Effects" modifies whatever pattern is currently on the screen. So, if nothing is on the screen not much will happen :-)

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10) How come you don't have documentation for the various controls?

As you've noticed, I have not provided documentation for all of the various controls and the only way to find out what they do is through experimentation. Part of this is due to the fact that many of the controls are difficult to describe without resorting to a mathematical description of their function. Another reason that there aren't any docs is that I hate writing them :-) I agree that docs would be helpful though so I'll see what I can put together for version 3.0. Until then, I've tried to make the experimentation process as simple and painless as possible.

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11) Why did you drop support for Windows 3.1?

Actually, I got flooded with email from people who were not very happy about me dropping support for the Windows 3.1 versions of the software. In light of this, I've decided to continue supporting the 16 bit version :-) I should be placing version 2.2 of 16 bit Psych on my WWW site sometime in the near future. It will have better palette animation and more palette effects than the present 16 bit version of the collection.

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12) Can Psych 2.5 or later be run on 16 bit Windows?

No. There was an error in the documentation (README.TXT) that claimed that Psych 2.5 would run under Windows 3.1. Psych 2.5 will *only* run under Windows 95 or Windows NT. It is multi-threaded so it won't run under Win32s.

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13) What are the differences between V2.0 and V 2.1?

Version 2.1 that's on my web site is pretty much the same as version 2.0. The only major difference is that it comes with a setup program :-)

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14) What do you do with the registration information (address, phone number, email ID, etc...)?

I use them to track who is registered so that when people forget their registration numbers I can tell them. I **DO NOT** give them to **ANYONE** so you will not wind up on mailing lists, telemarketing lists, or any other annoying things like these.

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15) Will there ever be a Macintosh version?

No. I had planned to do a Macintosh version of Psych but because of the amount of time and energy required to maintain two separate forks of the source code I have decided not to make a Macintosh version. Instead, I will apply my energy towards adding new modules and effects to the Win95/WinNT versions. My apologies to all of the Macintosh users out there. You can find something for the Mac that is similar to The Psychedelic Screen Saver Collection at:

http://www.imaja.com/imaja/BlissSaver.html

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16) How come when I run the setup program I get a black screen for a second and nothing gets installed?

You are trying to install the 32 bit version (Psych 2.5) on Windows 3.1. Psych 2.5 is for Windows 95 and Windows NT only. Fortunately there are 16 bit versions that should work just fine on your system. You can download them from:

http://www.halcyon.com/pixel/download.htm

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17) I've noticed that each of the modules has a "Strength" setting -- what the heck does it do?

The "Strength" setting is a weighting that controls how much one module is favored compared to another. For example, if you made "Pattern" as strong as possible and "Stain" as weak as possible then the "Pattern" module would draw quickly while the "Stain" module would lag behind. Strength only has an effect when there is more than one module selected.

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18) How do I remove SS Runner (Runner.EXE) from my taskbar?

To remove SS Runner from your task bar you need to follow the following steps:

1.   Right click the SS Runner icon on the taskbar and select close from the popup menu.
2.   Right click on the taskbar itself and select "Properties" from the popup menu.
3.   Select the "Start Menu Programs" tab in the "Taskbar Properties" dialog.
4.   Press the "Remove" button.
5.   Double click on the "Startup" folder in the tree view in order to see its contents.
6.   Select "Runner.EXE" (or "Runner") and press the "Remove" button.
7.   Confirm the removal by pressing the "Yes" button.

At this point, SS Runner has been removed from your taskbar and will no longer be run when your system is started.

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19) How do I remove The Psychedelic Screen Saver from my system?

If you have version 2.6b or later installed you can run the uninstall program (UnInstall.EXE) that's in the directory that you chose to install the screen saver into (C:\Psych by default).

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20) What is your official upgrade policy?

My policy on upgrades is that, by registering a particular version, you are entitled to use any and all versions up to but not including the next major version.

For example, if you register version 2.1 you are automatically registered for all 1.x and 2.x versions but not for 3.x versions. Basically, you get updates to the version you registered and a discount to upgrade to a new version.

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21) I'm seeing these strange boxes that stay around after the screen saver has exited -- do you know what's going on?

This problem is probably due either to a problem in your video driver or to the way the driver is configured.   There are several things you can try that may resolve the problem.

•   Your graphics performance setting may be set to too high a value.   To change the setting, right click on "My Computer" and select "Properties" from the popup menu.   Now, select the "Performance" tab and then press the "Graphics" button.   This should bring up a slider that will let you control how much the acceleration options for your video driver. Try setting the slider all the way to the "None" side and see if you still get the problem.   If you don't, try setting it to the next higher value.   Keep doing this until you find the fastest setting that doesn't exhibit the problem.
•   Your video driver may have a bug in it.   To see if this is the case, try using a another driver and/or a different resolution and see if the problem persists.   (The standard VGA driver that ships with the OS

is a good one to test with.) If the problem does not occur with a different driver you may want to check with the folks who made the video card to see if they have a new version that fixes the problem.   You can probably find their WWW site on the internet.

- If the previous suggestions don't fix the problem, run the diagnostic program at: http://www.halcyon.com/gator/cdsdiag.exe and send me the output and a detailed description of the problem you are experiencing via email (pixel@halcyon.com).   This will give me more information about your system and drivers.

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1) My system locks up periodically after running the screen saver – what's going on?

See the answer to #21 (above) since this is probably due to a video driver problem.

<u>Main Settings</u>

Palette

Sound

Display

Module Settings

❀ Main Settings

This is the place where you can build and manage your displays.   A particular display is comprised of one or more modules and a palette.   The modules will provide the structure or shapes used in the display while the palette will determine the colors used to display the structures.   To select which modules are used, check the box corresponding to the name of the module.   If you wish to modify the way that a modules draws you can select the tab for that module and make adjustments to its controls.   Similarly, select the palette tab if you wish to change to colors used in the display.

Here is a brief description of each of the controls in the main settings panel:

Active Modules - Determine which modules are being used in the current display.

CPU Usage - Determines how much processing time the screen saver receives when other applications are contending for the CPU.   Keep in mind that, the fact that other applications are running does not imply that they are placing a high demand on the CPU.   In general, it is a good idea to keep this set to the "Low" setting unless the screen saver appears to be running excessively slow.

Saved Settings - From here you can pick which settings you are using, save new settings, and export settings to *.PSY files.   To ***pick a new display*** from the list of available displays, select its name from those in the drop-down listbox.   All of the settings for that display will be loaded.   To ***Save*** a display, just enter a name in the drop-down listbox and press the "Save Selection" button.   You should now see the new display listed with the manes of the existing displays.   Likewise, to ***Delete*** a display, select it's name from the drop-down listbox and press the "Delete Selection" button.   Its name will be removed from the list of available displays.
    In some cases you may want to create a file that contains the settings for a particular display.   This can be useful if you want to send the settings to someone else or if you want to create a backup copy of the settings.   You can use the ***Import*** and ***Export*** buttons to load or create saved setting files (*.PSY files).   You can also place PSY files on your desktop and launch them by double-clicking on them. There is an archive of interesting PSY files available at http://www.halcyon.com/pixel/settings.htm.

Clear Screen - If this is checked, your screen will be cleared when the screen saver starts.   If you are using the "Effects" module by itself, you may want to leave this unchecked.

Show Titles - If this is checked, the name of the current settings will be displayed in the top center of the screen.

Palette

Sound

Display CD Info - If CD Spectrum Pro is running and this is checked, the title, track, and artist information for the current audio CD will be displayed in the lower left corner of the screen for a few seconds every time a new track begins.

Display

M Module Settings

Using The Psychedelic Screen Saver With CD/Spectrum Pro

Here are a few hints, tips, tricks, and techniques to get the most out of using the two programs together.

- Settings shipped with the screen saver are prefaced by "[S] " if they use sound -- be sure to try one of these.   "[S] Twitch" is a pretty good one for demonstrating   the sound synchronization.

- Music with a strong on-beat followed by a soft off-beat will produce the most dramatic results.

- If you aren't seeing the patterns synchronizing with sound, check to see if sound synchronization is possible with your current system configuration.   When you run CD Spectrum Pro and engage the spectrum, do the bars move with the sounds from the CD player?   If not, you'll need to get this to work before the screen saver will synchronize with sound.   Please see the CD Spectrum Pro FAQ for information on how to troubleshoot this problem.

- If the screen saver runs *very* slow with the sound engaged, try changing the "CPU Usage" (in the screen savers "Main Settings" panel) to "Normal" rather than "Low" -- this should help speed up the drawing.

- CD Spectrum Pro *must* be running for sound synchronization to work.   If it isn't, and you run one of the settings that use sound, all   of the control values that use sound are changed to "Oscillate"   at run-time.

- If the synchronization appears sluggish, try checking the "Turbo Mode" option in the "Sound" settings panel of the screen saver.

- If the synchronization doesn't appear to have much variation within the   selected range, try checking the "Auto Gain" option in the   "Sound" settings panel.

CD / Spectrum Pro FAQ
(Frequently Asked Questions)

By far, the most common issues revolve around sound card and driver problems. Please, before sending email with a problem report, be sure your system is in a state where you can record CD audio using only the Win95/NT CD player and the Win95/NT Sound Recorder. CD/Spectrum Pro requires that your system be able to do this. All multimedia systems should be able to do this with no trouble. However, some drivers exist that can't handle this task properly. If you are unfortunate enough to have one of those drivers, you should contact your computer or sound card manufacturer for a replacement driver.

CD/Spectrum Pro uses the same resources and functionality as the combination of the Win95/NT CD player and the Win95/NT Sound Recorder. Once your system is in a state where those two applications can be used to record CD audio, chances are *very* good that CD/Spectrum Pro will work flawlessly.

Frequently Asked Questions:

<u>Why isn't the spectrum animating?</u>
<u>Why is the system so slow when CD/Spectrum Pro is running?</u>
<u>Why can't I hear the music when CD/Spectrum Pro is running?</u>
<u>Why does the volume change when I start/stop CD/Spectrum Pro?</u>
<u>Why do I get some color squares even when the CD is stopped?</u>
<u>How can I check for hardware conflicts?</u>
<u>Is CD/Spectrum Pro an equalizer?</u>
<u>How would I write a similar program?</u>

CD/Spectrum Pro FAQ: Why isn't the spectrum animating?

There are five common causes for this.

- The gain is set too low - drag it to the right.
- The CD audio line volume is set too low - drag it up.
- The color of the spectrum is set to the same as the color of the background - go into Configure and make sure the "Low Color" is set to a very different color than the background color.
- The CD player is not hooked up to the sound card - if you are able to listen to CDs only through headphones, this is your scenario. (By the same token, if you listen to CDs through your sound card, this is not your scenario.) You need to connect a proper cable between your CD player and your sound card. Please let only a qualified technician perform this.
- By far, the most common cause of this problem is that the sound card is configured to digitize an audio source other than the CD audio (usually the microphone). Look in the 'Mixer' page in the 'Config' dialog in CD/Spectrum Pro - if it has some buttons on it, you may use them to set the digitization source. However, if no buttons are present on that page, you may need to go into the software for your sound card to tell it what to digitize (set the ADC source).

CD/Spectrum Pro uses the same mechanisms in your computer that are used by the Windows 95/NT components 'CDPlayer' and 'Sound Recorder'. You should first make sure that you can indeed record CD Audio by shutting down CD/Spectrum Pro and playing a CD with the Win95/NT CD player and recording with the Win95/NT Sound Recorder. Once you can successfully do this, chances are good that CD/Spectrum Pro will work fine.

CD/Spectrum Pro FAQ: Why is the system so slow when CD/Spectrum Pro is running?

Some CDROM drivers (usually real-mode drivers) can cause CD/Spectrum Pro to have very poor performance. On systems equipped with those faulty drivers, other applications become extremely sluggish whenever CD/Spectrum Pro is running. Admittedly, CD/Spectrum Pro is a demanding application. But when running on good drivers, reasonable performance should be expected even on high end 486 machines, or low end Pentiums.

If your machine has one of these slow drivers, the best thing you can do (short of buying a new CD drive, or getting better drivers) is to disable the CD player in CD/Spectrum Pro and use only the spectrum analyzer. This will allow you to continue to use The Psychedelic Screen Saver to produce visuals that sync to the beat.

To disable the CD part of CD/Spectrum Pro, go into the *Config* dialog and uncheck the *Retracted CD Play* and *CD Audio Taskbar Icon* buttons. Then, close the *Config* dialog and press the *CD Audio* button to retract the CD window.

You should also visit the web site of the computer, or CD driver manufacturer. They may have a newer fixed driver available. They may also have a feedback mechanism where you can let them know you are unhappy with the quality of their drivers.

CD/Spectrum Pro FAQ: Why can't I hear the music when CD/Spectrum Pro is running?

Some "off-brand" sound cards do not permit simultaneous listening and recording of sound. When recording starts, they stop sending the sound to the speakers. CD/Spectrum Pro uses the wave capture, or recording mechanism to determine what the sound looks like. Therefore, on these substandard cards, the sound will go silent when the spectrum is engaged. Although there is nothing I can do about this, there is something you can do - complain to your sound card manufacturer and ask for updated drivers. It is possible that they have a driver that will fix the problem. Also, keep this in mind the next time you buy a sound card - is it *really* SoundBlaster compatible? SoundBlasters are :)

CD/Spectrum Pro FAQ: Why does the volume change when I start/stop CD/Spectrum Pro?

This is an artifact of software mixers.

CD/Spectrum Pro FAQ: Why do I get some color squares even when the CD is stopped?

The color you see (usually in the left-most bin) is simply the baseline noise that your sound card is putting out. I don't make the sound, I just FFT it :)

CD/Spectrum Pro FAQ: How can I check for hardware conflicts?

Look in

Start->Settings->Control Panel->System->DeviceManager

and make sure your CD player and sound card are configured properly with no resource conflicts.

CD/Spectrum Pro FAQ: Is CD/Spectrum Pro an equalizer?

No, CD/Spectrum Pro is not an equalizer. It is a spectrum analyzer. This means that it simply displays the frequency spectra without giving you any opportunity to adjust them. I may add equalizer capabilities when more sound cards support full-duplex wave I/O, but that remains to be seen.

CD/Spectrum Pro FAQ: How would I write a similar program?

I've had many requests for information regarding how to write code to do some of the things that CD/Spectrum Pro does. I regret that I don't have the bandwidth to answer programming questions, but I will offer the following:

- CD/Spectrum Pro was written in C using the Win32 SDK.
- Most of the interesting code uses the multimedia APIs and some OLE/COM. You can find documentation on everything I did with those APIs in the Win32 SDK online help, or on MSDN.
- Specifically, folks seem to be interested in the spectrum analysis. I use standard Win32 multimedia APIs to gather the data. You should be able to find all you need in the online help for the Win32 SDK. To process the data, I use a Fast Fourier Transform (FFT) - although there are other transformation functions available. Unfortunately, the FFT is too complex to describe here, or in email - so your best bet would be the local library. Be prepared to invest a hefty amount to time to reach "FFT Nirvana" - for me it was several months.