



Apple® IIcs

SAFE2 Reference Manual

SAFE2 v2.2.4

(Son of SAFE)

Born from the original
Spectrum™ Automated File Exchange
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Spectrum™ Automated File Exchange

**Dedicated to the memories of Joe Kohn 1947-2010
and Ryan Suenega 1967-2011**

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Preface



Welcome to SAFE2

Welcome

The Internet has advanced rapidly over the years, and the IIs has at times struggled to keep up. With the introduction of SIS back in 1997, we entered the battle in earnest. SIS is still a force to be reckoned with, but sadly web pages are often now so complicated, that SIS struggles to even display them at all.

The Internet is more than just the web, and most of us will also be emailing, or even transferring files using FTP. Over the years, I have written various applications, with SAM2 handling your email, SNAP handling Usenet and newsgroup access, and SAFE2 accessing FTP servers. My earlier application Spectrum™, is still a viable and useful tool, as it supports Marinetti™, and can handle Telnet connections.

Background

Some years ago, I wrote the SAFE script set for Spectrum™. SAFE gave simple File Transfer Protocol access to hosts such as Syndicomm, or your ISP's web servers. SAFE worked fairly well, but because it was written in Spectrum™ scripting language, was desperately slow in operation.

Having recently embraced Ethernet access to my local LAN using an Uthernet™ card in my IIs, and from there, access to the Internet using ADSL, I needed a quicker way of getting files easily into and out of my IIs than the original SAFE provided.

Thus SAFE2, or Son Of SAFE was born. Those familiar with the original SAFE will feel at home with its interface, though they will find some welcome changes.

The main difference, apart from the new found speed, is that SAFE2 is a standalone application, so does not require Spectrum™ to run.

With emulators now beginning to be able to access the outside world through Ethernet connections, SAFE2 is even more important as the easy way of getting files directly into your Iigs environment.

Introduction

SAFE2 uses a simple metaphor for FTP file transfers. Once you have logged into a host, your local files appear in the window on the left, and the host files appear on the window on the right. To copy files back and forth, just select the files and folders that you want to copy, and then click the relevant Transfer button. The files, and or folders, will then be automatically transferred from one window to the other.

In addition, SAFE2 has a number of useful functions that simplifies accessing your favourite hosts, and that allows you to manage the files and folders at both ends.

SAFE2 is a stand alone application, and requires a minimum of 1Mb of free memory.

SAFE2 requires a TCP/IP connection through Marinetti 3.0 or later. Marinetti must be configured to access either your LAN, or the Internet, through one of the available Link Layers. Refer to the Marinetti instructions on how to get the appropriate Link Layer working for your preferred access.

Check out some of my other contributions to the Iigs world on my web site:

<http://www.wannop.info/speccie/>

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Setup



SAFE2 FTP File Transfer

Requirements

SAFE2 is a stand alone application, and requires a minimum of 1Mb of free memory.

SAFE2 requires a TCP/IP connection through Marinetti 3.0 or later. Marinetti must be configured to access either your LAN, or the Internet, through one of the available Link Layers. Refer to the Marinetti instructions on how to get the appropriate Link Layer working for your preferred access.

It is recommended that you get the very latest version of Marinetti, as it is still in development, and bug fixes may have been made.

As of SAFE2 2.1.8, the Time Zone tool by Geoff Weiss is also required. This has been included with this archive in case you do not yet have it installed.

To obtain SAFE2, the HTML Tool, the Uthernet Link Layer, and any of my other software::

<http://www.wannop.info/speccie>

To obtain the latest version of the Marinetti TCP/IP stack:

<http://www.apple2.org/marinetti/>

To find out about, and order an Uthernet card:

<http://www.a2retrosystems.com/>

Installation

This is simplicity itself.

1. From the Archive folder, copy the SAFE2 file to a working folder of your choice.
2. Copy the SAFE.8 font to the Fonts folder in the System folder of your boot disk. Usually dragging and dropping the file to the System folder icon will suffice.

Note: A copy of Shaston.16 is also supplied. This has been used in the documentation, so if you do not already have it installed, please copy this font over as well.

3. From the TimeZone folder, copy the TimeZone CDev to the CDevs folder in your System folder, and Tool056 to the Tools folder.
4. For those using the Uthernet card, an v1.0.1b2 update to the Link Layer has been provided. This gives better compatibility, and will let you gain control, if for any reason your Ethernet link becomes broken. Copy the Uthernet Link Layer file to the TCPIP folder in your System folder, replacing the existing file, and reboot.
5. Go to the TimeZone CDev in the Apple Menu, and select your time zone from the menu. Now go to the Time CDev, and set either Auto daylight savings if you are in a time zone that respects standard daylight saving, or if it does not, to Standard or Daylight Time depending on what is currently being observed.
6. You are now ready to go. Fire up SAFE2, and start transferring those files!

The first time you start SAFE2, two folders will be automatically created in the folder that you placed SAFE2. A default Downloads folder, and a SAFE2.Data folder. Inside the data folder, preference files, favourites files, and log files will automatically be created.

Note: If you are updating from SAFE2 v2.1.0bx, you may find you need to reset your preferences, as the original settings get overwritten.

5. Optionally, you can install online Help for SAFE2...

If you do not already have !Help! installed on your IIgs, copy the Help NDA, and the entire Help.Files folder, from the Help folder in the Archive, to the Desk.Accs folder in the System folder.

If you already have !Help! installed, then just copy the SAFE2 folder from the Help.Files folder in the Archive, to the Help.Files folder in the Desk.Accs folder. If you already have !Help! installed, just copy the SAFE2 folder to the existing Help.Files folder.

Note: These files are updated in each release of SAFE2.

Note: If you are running SAFE2 under the Sweet16 IIgs emulator on a Macintosh running OSX 10.7 or later, and wish to FTP into the Macintosh, you will need to first turn on 'File Sharing' in the Sharing Preferences dialog, making sure that the share for the account you wish to use is set to 'Read & Write'. Only after that has been done, you must then turn on the FTP server on the Mac, which by default is turned off.

Issue this command from Terminal:

```
sudo -s launchctl load -w /System/Library/LaunchDaemons/ftp.plist
```

To stop the FTP server, it's the same command, but with 'unload'. If you ever turn off 'File Sharing', you will need to reissue the load command again in Terminal, after File Sharing has been turned back on.

Legal

SAFE2 is Freeware, and may be distributed freely, provided the archive stays intact, no alterations are made to it, and full attribution is always made to the author Ewen Wannop. SAFE2 may not be sold in any form, but may be included in other distributed archives, provided you first seek my permission.

Contact

For any communication relating to SAFE2, for bug reports, or for technical support, please contact:

spectrumdaddy@me.com

For my Home Pages, Spectrum updates, etc.:

<http://homepage.mac.com/speccie/>

To get your own copy of Spectrum™, with the optional SAM mail client, contact:

<http://store.syndicomm.com/>



Menus



SAFE2 Quick Reference

The Menus

Apple Menu

About SAFE2

Set System Clock

File Menu

Connect TCP/IP

Disconnect TCP/IP

Retrieve File

Synchronise Folders

Quit

Edit Menu

Undo

Cut

Copy

Paste

Select All

Only Send Text Files

Settings Menu

Add Current to Favourites

Edit Favourites

Set Preferences

Set Default User

View SAFE Log

Apple Menu

About SAFE2

This opens a small window showing the SAFE2 Version number.

Set System Clock

If you have correctly set the Time Zone CDev to your time zone, and have set the Time CDev to auto daylight, daylight, or standard time, depending on what your time zone observes, this command will set the Hgs system clock to the correct day and the nearest second.

Note: If the Hgs system time was not within the correct day, this may result in a one hour difference from the correct time, depending on whether you are currently observing daylight time or not. To fix this problem, open and close the Time CDev, and then call this command a second time. As long as the system time is within the correct day, opening and closing the Time CDev will set the 'daylight' time flag in the system BRam, and as a result, this call will set the clock correctly.

File Menu

Connect TCP/IP & Disconnect TCP/IP

The state of these two menu items will depend on whether Marinetti is currently connected or not.

If you have a permanent connection to a LAN, or the Internet, then you will probably have already configured the Link Layer in Marinetti to connect at boot. If however you are using a dialup connection using the PPP or SLIP Link Layers, then you will have probably told Marinetti to only connect on demand.

At any time, you can toggle your TCP/IP connection with these two menu items. If you are currently connected to a host, you will be asked to confirm that you wish to disconnect from the host before TCP/IP can be disconnected.

As SAFE2 will automatically connect TCP/IP when needed, and as additionally you can tell SAFE2 in its preferences dialog to always disconnect TCP/IP when you close a host connection, you may not ever need to use these two menu items.

Retrieve File

Opens a dialog where you can enter a path to manually download a file. If possible, you will be prompted with the path of the current directory.

This is useful when you wish to retrieve a known file from a directory that may be too large to list, or takes too long to list.

Synchronise Folder

Opens a dialog where you can choose to either synchronise up or down between the currently displayed home and away folders. See the section below for more details.

Quit

When you are finished transferring files, this will close all open connections, optionally disconnect TCP/IP, then quit SAFE2, and return to the Finder.

Edit Menu

Undo, Cut, Copy, Paste, Clear & Select All

These commands are provided mainly for use within Desk Accessories. They are however active in most of the LineEdit controls that are used for setting up Favourite entries, or in the other dialogs.

Only Send Text Files

As binary files can normally only be sent as raw binary data by FTP, and thus any filetypes and resource forks would be lost, you may only want to send text files.

If you tick this menu item, only files of file type \$04 will be sent. If it is not ticked, then all files will be sent, but only the data fork of a forked file will be sent.

Note: Refer to the section on Preparing files for Transfer to see how to deal with sending forked files.

Note: If you have checked the upload 'Encode' box, regardless of this setting, all files will be sent. This is because automatic encoding will allow any kind of file to be sent, preserving both the filetype and the resource fork.

Settings Menu

Add Current to Favourites

This will open a dialog window allowing you to save details of the currently connected host to the Favourites list. The host path, username, and password, will be used for the new entry, and you can optionally edit the current directory path. Enter a unique name to identify the new item in the Favourites list.

Edit Favourites

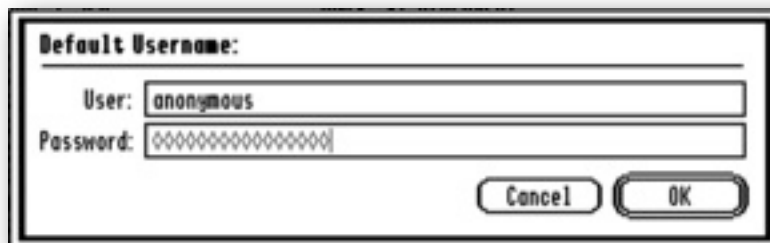
This opens a dialog allowing you to manage and edit your Favourites. Refer to the section on Managing Favourites for more details.

Set Preferences

This opens a dialog allowing you to manage and edit the SAFE2 Preferences. Refer to the section on Setting Preferences for more details.

Set Default User

This opens a dialog allowing you to enter a default username and password. If the User Name field in a Favourites dialog, or Connect dialog, is empty, then the defaults set here will be used instead. Many public systems accept 'anonymous' as the User Name, and a valid email address as the password.



Default Username:

User:

Password:

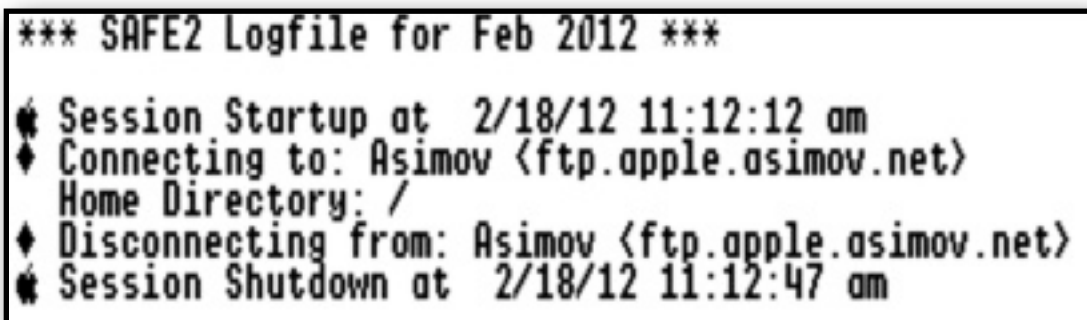
View SAFE Log

SAFE2 keeps a running log file showing all the events that you have activated during a session. You can view this file at any time, and especially, you can refer to this log if you have had any problems with file transfers. You can copy text out of the window, but you cannot edit the text itself. Refer to the section on the 'Log File' for an explanation of what it might show.

The log file is reset on the first day of each month, with the older file being renamed to show the month and year when it was created. The log files are kept in the SAFE2.Data folder. You can optionally decide not to keep the log file automatically updated from the Preferences Dialog.

If the log file has grown large over time, only the last 64K of the file will be displayed.

Close the Log View window with the Escape or Return key, or by clicking on the 'OK' button.



```
*** SAFE2 Logfile for Feb 2012 ***
* Session Startup at 2/18/12 11:12:12 am
* Connecting to: Asimov <ftp.apple.asimov.net>
  Home Directory: /
* Disconnecting from: Asimov <ftp.apple.asimov.net>
* Session Shutdown at 2/18/12 11:12:47 am
```

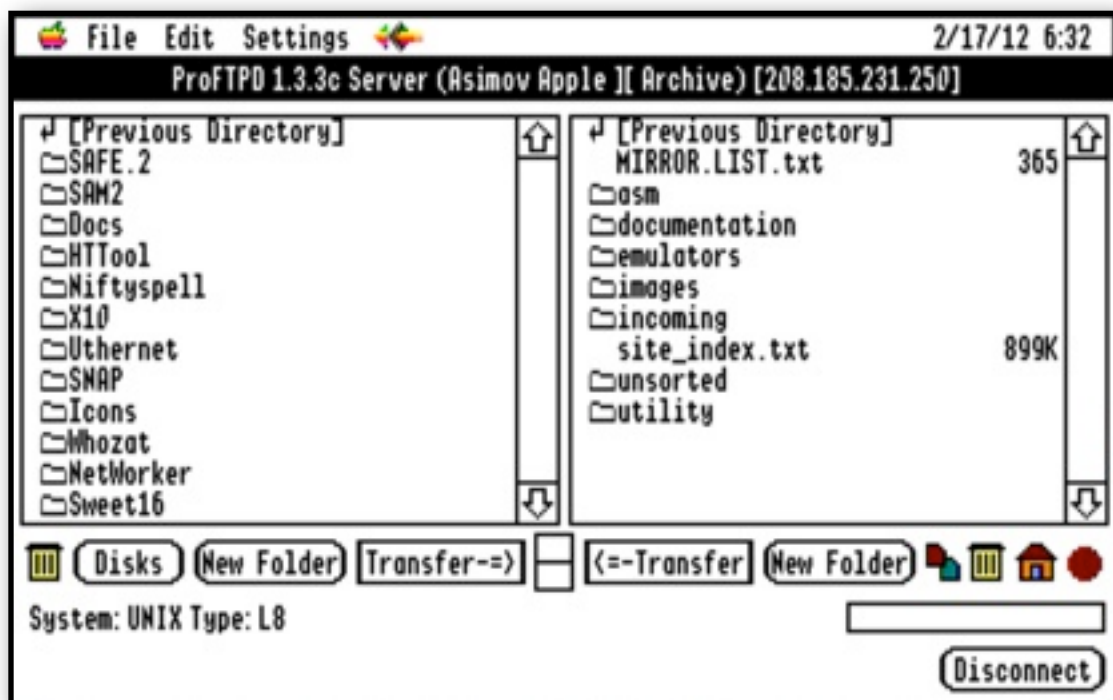
Basics

Working with SAFE2

The Main Window

The Transfer window consists of three main interactive areas, the Home folder on the left, the Away folder on the right, and a row of buttons and button icons. In addition, there is a title bar, three information strips, and a progress thermometer.






If you are not yet connected to a host, the Away folder will display a list of any Favourites you may have defined.



Home folder

Navigate by double clicking directories to tunnel down, and double click the [Previous Directory] item to go back up one directory. If you go back up from the top folder in the current disk, you will see a list of all the disks that are mounted. You can also see this list by clicking the Disks button. Double click a disk entry to open that disk. You can multi select files for transfer or deletion.

Symbols to the left of the filename indicate what kind of file it is:

-  Open diamond = text file
-  Closed Diamond = binary file
-  Open Cross = Forked file
-  Folder = Subdirectory
-  Return = Previous Directory









Note: Hidden files are never displayed.

Note: If you have checked the upload 'Encode' box, the size of both forks of a forked file will be displayed, otherwise, only the size of the data fork is displayed.

Away Folder

This will show all the files that are available at your access level in the host folder. Navigate in the same way as with the Home folder. You can return to the Home or starting folder at any time by clicking the Home icon. You can multi select files and folders for transfer or deletion.

Symbols that show to the left of the filename will indicate access levels to a file:

- No Symbol* = Read and Write access
-  Up Arrow = Write Only
-  Down Arrow = Read Only
-  Cross = No read or write access
-  Folder = Subdirectory
-  Folder = Write only (Drop Box)
-  Folder = Read Only
-  Folder = No access
-  Return = Previous Directory

Note: If you are at top level, there will not be a [Previous Directory] item showing at the top of the list.

Note: Please read the section on permissions for more details.

Title Bar

When first connected to a host, this will display the first line of the welcome message sent by the host. As you navigate down and back up any folders on the host, it will show the name of the current directory. If necessary, it will truncate the middle of the path to fit the Title bar.

Top Message

This will display various messages, depending at what point in a session you may be. For most of the session, it will display details of the host System.

Bottom Message

This will display various progress messages, and will keep you informed as to what the current state of your session may be.

Thermometer Bar & Transfer Report

During a file transfer, the thermometer will show how far into the transfer you have got. If you are resuming transfer of a file, this will start at the point the transfer was resumed.

To the left of the thermometer, the B/s or KB/s transmission speed is shown, along with how many bytes have currently been transferred for that file.

Note: If you are running SAFE2 under a fast emulator, it is possible that SAFE2 is able to send out data faster than the emulator can process it. In such cases, SAFE2 will allow the send queue to reach a fixed size before it pauses and waits for it to clear. If you are sending a large file, this may result in the progress thermometer rapidly increasing, then apparently stalling for long periods of time. Be patient!

Buttons and button icons

Note: The state of these buttons and icons will change depending on whether you are connected, disconnected, transferring files, or listing directories.



The buttons reading from left to right:

Trash icon button

Will delete a file, files, or folders, from the Home folder. Confirmation will be asked. Any enclosed hierarchical directories, and their contents will also be deleted. If there are any locked files within a folder, then those files will not be deleted, along with their enclosing folders.

Note: Be careful, as you can easily delete a large number of files and directories with this command.

Disks icon button

Displays all the disks that are currently mounted. Double click a disk entry to open and display the top directory of that disk.

New Folder button

Opens a dialog asking for the name for a new folder to be created within the current Home folder. If you enter an empty value, no folder will be created. Once the folder has been created, it will be opened, and its empty directory will be displayed in the Home folder. Invalid folder names will be automatically corrected to suit the current filing system.

Transfer==> button

If you are connected to a host, and have selected one or more files or folders from the Home folder, this will transfer these files to the directory currently listed in the Away folder. Once all the files have been transferred, the Away folder will be relisted to show the files that you have transferred.

Note: If you have selected a folder, the entire hierarchical contents of the folder will be transferred, creating folders on the host as necessary. Be careful, as you can easily transfer more files than you realise!

Upload Encode checkbox

This is the top box of the pair, and becomes active when you are connected to a host. If it is checked, all files transmitted will be encoded in the AppleSingle format. You can check this box to change the setting of the 'Encode' flag on the fly. See the 'Setting Preferences', and 'Encoding' sections, for more details.

Download Decode checkbox

This is the bottom box of the pair, and becomes active when you are connected to a host. If it is checked, all files received will be decoded if a recognised encoding format is found in their headers. You can check this box to change the setting of the 'Decode' flag on the fly. See the Setting Preferences, and Encoding sections, for more details.

<=Transfer button

If you are connected to a host, and have selected one or more files or folders from the Away folder, this will transfer these files into the directory listed in the Home folder. Once all the files have been transferred, the Home folder will be relisted to show the files that you have transferred. Any invalid directory, or file names, will be changed if necessary to conform with the local file system.

Note: If you select a folder, the entire hierarchical contents of the folder will be transferred, creating any new folders as necessary. Be careful, as you can easily transfer more files than you realise!

Note: A check will be made to see that enough space is available for each file that is transferred to the Home folder. If SAFE2 thinks that there is not enough space to receive the file, you will be asked for confirmation of what to do next. If you are resuming a file, this check may indicate there is not enough space, when you know there is sufficient space for the download. In this case, proceed with caution, or the transfer may fail!

Note: If you have automatic decoding checked, and an encoded file is seen, it will be decoded if possible after it has been received. For a large file, this may take some time, so be patient. If there is insufficient space to decode the file, or any other checks fail during the decoding, the raw downloaded file will be left untouched. The log file will report any files that were decoded, and show what kind of decoding was used (see the section on decoding for further details).

New Folder button

Opens a dialog asking for the name for a new folder to be created within the Away folder. If you enter an empty name, or an invalid name, no folder will be created. If you want to transfer files into the new folder, you will need to first open the folder by double clicking its entry.

New Name icon button

Opens a dialog that lets you change the name of a file or directory in the Away folder, and then redraws the list.

Note: If you do not have access permissions to change the name, or the name you give is not acceptable by the host, this function will fail.

Trash icon button

Will delete a file, files, or folders, from the Away folder. Confirmation will be asked. Any enclosed hierarchical directories, and their contents will also be deleted. If there are any locked files within a folder, then those files will not be deleted, along with their enclosing folders. Read only folders cannot be deleted.

Note: Be careful, as you can easily delete a large number of files and directories with this command.

Home Icon button

Will open the default directory that was first shown when you connected to the current host.

Stop icon button

This is your panic button for emergencies! If for any reason, you wish to stop a transfer, a host 'sticks', or you cannot get a host to respond, click the red button to stop the current action. It sometimes may take a few clicks to stop recalcitrant hosts, so be patient!

Note: Depending on exactly when the Stop icon is pressed, it may automatically disconnect you from the host. At other times, it may ask if you wish to disconnect. Reconnect to the host if you have not yet finished transferring files.

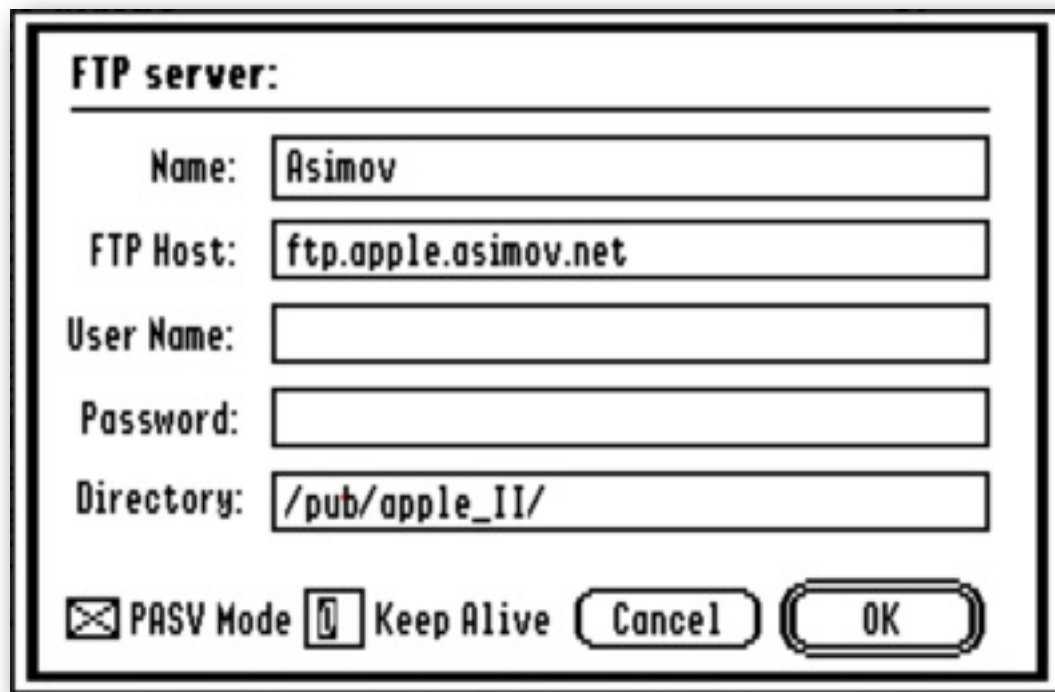
Connect/Disconnect button

This button will be named according to whether you are currently connected to a host or not.

Connect - Opens a dialog asking for the access information to a host. You should normally fill in all the fields, though the Name field is optional. If you leave the User Name and Password fields empty, you must have already entered valid entries for the default user name and password. See 'Set Default User' for how to do that.

Note: The entries you make here will be later used if you select 'Add Current to Favourites'. The Name field will be used in that dialog, but if you have left it empty, you will get a chance to enter a new one at that time.

Disconnect - Asks for confirmation, then closes your connection with the host, displaying the Favourites list once more.



The image shows a dialog box titled "FTP server:". It contains five text input fields: "Name" (containing "Asimov"), "FTP Host" (containing "ftp.apple.asimov.net"), "User Name" (empty), "Password" (empty), and "Directory" (containing "/pub/apple_II/"). At the bottom, there are two checkboxes: "PASV Mode" (checked) and "Keep Alive" (unchecked). To the right of these checkboxes are two buttons: "Cancel" and "OK".



Transfers



Transferring Files

The prime function of SAFE2 is to transfer files between the local computer and a host computer by means of the FTP protocol. It can send either a single file, or many files, depending on how many files or folders you select in the appropriate folder listing.

If the filename of a received file is unacceptable to the home file system, it will be automatically renamed, and you will be prompted to either accept the new name, or to change it a new one. The log file will show the name of the original file, and the new name it was saved under. With long filenames, or names that include spaces, saving to an HFS partition may prove to be more suitable, as HFS is more forgiving of long or unusual names.

If you wish to stop the transfer of a large file, click the red Stop button. As long as you do not modify the file in any way, or you were not automatically encoding or decoding, you should be able to resume its transfer later.

SAFE2 will attempt to set the 'file modified' date to that of the file on the host server, respecting time zone differences. If the host server is observing a different daylight time to you, this may result in a file with a one hour difference.

Note: If the Previous Directory entry is selected, it will be ignored.

Note: Marinetti can handle around 48 open ports at any one time. It can take some seconds for a port to be cleared after it has been closed, so as a result, if you are batch transferring a large amount of small files within a short time, you may find there are times when you have to wait till a port is available. If this happens, you will see a screen message telling you the transfer is waiting for a free port.

Permissions

FTP follows the Unix structure for read and write permissions. Files in the away window may be marked with an icon to the left of the file name to show if they are read or write only, and though directories will normally show a directory icon, they may show specific read and write only icons instead. Some files and folders may even show a no access hour glass icon.

You cannot transfer a write only file from the Away folder, and you cannot rename or delete a read only file. Both read only and write only directories may be opened, and copied, but any files in a write only folder will be invisible, and will not be copied. If you write files to a write only folder, they will not show in the directory listing.

If you copy a folder from the away directory that has write only folders within, you will not receive any files that they may contain.

Wherever possible, the home and away Transfer buttons will be dimmed, to reflect the permissions of the target folder.

There are two main modes used to transfer files with FTP, Binary and ASCII:

Binary Mode

This will transfer the file, making an identical copy at the other end, and is the default setting. Received files are saved locally as binary files (filetype = \$06). This method will always be used when the relevant encoding or decoding box is checked.

Note: Local filetypes or auxtypes are not preserved on transfer to a host, and so resource forks in local files will be lost. See 'Preparing files for Transfer', or the 'Encoding' section, for details on how to deal with such files.

ASCII Mode

If the 'ASCII mode for Text files' option has been set in the 'Preferences' dialog, any text files that are sent, will have their EOL (End Of Line) sequences changed during the actual transfer:

```
CR => CR/LF pair
CR/LF => CR/LF pair
LF => CR/LF pair
```

If SAFE2 receives a file in ASCII mode, it will then strip any LFs, replacing them with CRs if necessary, and then save as a text file (filetype \$04). This conforms to normal Apple II format, where a CR is used as an EOL marker.

When a host receives a file in ASCII mode, it will do a similar processing, adjusting the CR/LF pair to its own requirements.

SAFE2 uses the suffix of files it sees on the host to determine whether it is a text file or not. You cannot force SAFE2 to consider a file to be a text file, so if necessary, you may need to post process a file, changing its filetype, or editing and saving as a text file.

The text suffixes recognised by SAFE2 are these:

`cgi, hqx, htm, html, java, php, php3, shtml, txt, uu and uue`

Note: As the length of file that will be saved in ASCII mode will usually be different to the size of the original file on the host, you will be unable to Resume the transfer of text files.

Note: If a file has been transmitted or received in ASCII mode, its entry in the Log file will show a bullet against its name.

Resume

Binary files that are only partially transferred may be resumed, if the host supports this function. Most Unix hosts do allow resumption of a transfer. Depending on the settings of the flags in the 'Preferences' dialog, this will either take place automatically, or you will be prompted. See 'Setting Preferences' for more details.

Be sure that you are resuming the transfer of the same file, as no checks are made to see that it is the same file! The only check made is to see whether the source file is longer than the target file that is being resumed.

Note: If you have the relevant encoding or decoding boxes checked, you will not be able to resume the transfer of a file.



Synchronise Folder

The synchronise folder feature allows you to quickly replace files that are newer than those in the currently selected folder. It will leave any 'orphan' files intact, only change files that already exist in both folders, and will dig down into any nested folders.

Checks are only made on the modified date of the two files, the size of the files being ignored. Older files will always be overwritten, and you will get no prompts if a file name has to be changed to suit the IIs file system.

As the IIs does not report seconds for a file saved under GS/OS, the comparison is made to the nearest minute. SAFE2 will attempt to make the comparison using UTC time, to avoid problems over local time differences.

Select the direction you wish to synchronise, and if you have write permissions on the host, check the 'Determine server time automatically' box. If you do not check that box, you must enter the offset of the server from your time.

Click OK to start the synchronising of the folders. If you are keeping a Log file, you can check the file for what actually happened, and which files were copied or skipped.

Preparing files for Transfer

Only the data fork of a file may normally be transferred from a file in your home folder, and filetypes and auxtypes are not preserved by an FTP transfer. If you wish to transfer a forked file, either send it by using the automatic encoding process, or alternatively, you can preserve its filetype and auxtype, by first archiving the file or files using GSHK. Any archive files can then be transferred as binary files, and can be stored on any kind of host system. During retrieval, they can then be automatically decoded if the encoding method is recognised by SAFE2, or after retrieval, they can then be unpacked back to their original format.

There are many archiving formats, such as BINSCH, or MacBinary, that can optionally be used to do the same kind of thing as GSHK.

You may wish to simplify filenames to suit the host that you are sending the files to, though most Unix systems can accommodate filenames with all but the '/' symbol.

Note: SAFE2 has an optional automatic encoding feature, that sends a file using the AppleSingle format. This preserves both forks of a file, its filetype and auxtype, and the creation and modification dates.

Encoding and Decoding

Because host libraries can only hold simple binary or text files, the local file information, such as its native name, the creation and modification dates, file and auxiliary types, and the resource fork, cannot usually be directly stored. The AppleSingle encoding format preserves all this information in a flat file, that can be stored on any system that can receive binary files. SAFE2 can optionally encode every file it sends with this format. By this means, you can easily store or send ProDOS or GS/OS files, and be able to recreate them in their original format when they are subsequently downloaded.

Note: An '.as' suffix will be added to all files uploaded using AppleSingle encoding.

As there are many other encoding formats that you might come across, SAFE2 can optionally automatically decode some other formats when you download

files. Some of these formats will preserve file information, and resource forks, others will not. If you have checked the download decode box, then the decoding process takes place automatically, examining each file for a recognised header. If successful, the Log File will add a message 'x Decoded as: ', showing the name that the decoded file was saved under. The 'x' as shown in the log file, is a number that refers to the encoding format that was found:

Encoding type Library format Preserved data

- | | |
|---|---|
| 1 | AppleSingle Binary file Dates filetypes forks |
| 2 | BinSCII Text file Dates filetypes |
| 3 | Binary II Binary file Dates filetypes |
| 4 | BinHEX 4.0 Text file Dates filetypes forks |
| 5 | MacBinary Binary file Dates filetypes forks |
| 6 | UUencode Text file |
| 7 | Base64 (MIME) Text file Dates filetypes forks |

Note: SAFE2 will attempt to save the decoded file under any native name it finds within the encoding. If this name is unsuitable, or already exists, it will be changed to a unique name compatible with the local file system. By downloading files to an HFS volume, it may mean that longer, or more obscure filenames, can be preserved.

Note: A Binary II encoded file can hold multiple files, and can also hold subdirectory information. If necessary, any required subdirectories will be created by SAFE2, and the decoded files placed in their correct directory. Check the Log File to see any directories that were created, and which files were placed where.

Note: Files are decoded after downloading, and so may take time to decode depending on their size. If the decoding fails for any reason, the raw file will be left exactly as it was downloaded.

Note: You cannot resume the sending or receiving of files if the relevant box for upload encoding, or download decoding, has been checked.

Note: Multiple segmented part files, for some of the encoding formats, cannot be decoded, as only single part files are supported by SAFE2. These files can be generated by programs such as Spectrum, so if you are using Spectrum to encode files, make sure that it has been set to produce a single output file, rather than multiple parts.

Managing Favourites

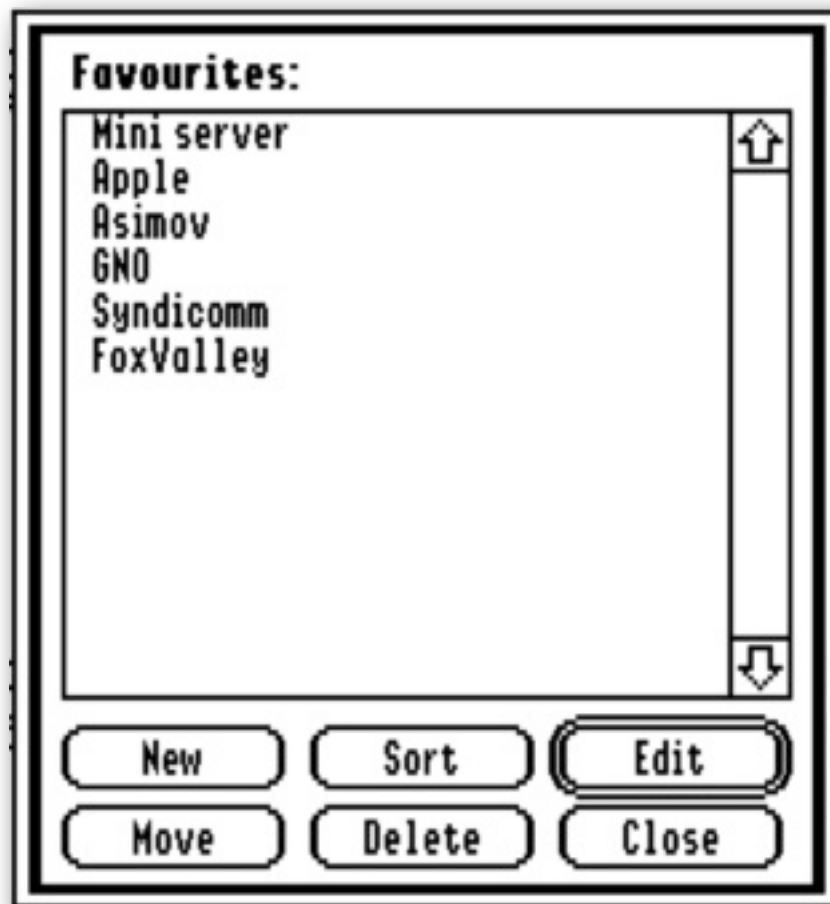
You are not expected to remember all the URLs, names, and passwords, used to access your favourite hosts, and as you will want to minimise the use of the manual Connect dialog, SAFE2 lets you keep all these details as a 'Favourites' entry.

Any Favourites you have defined, will show in the Away list, and by double clicking an entry, you can quickly access and log into that host.

When you select Edit Favourites from the Settings Menu, a window opens to show a list of all your current Favourites.

You can enter new entries, delete old ones, move entries within the list, sort the list, and of course edit an entry.

Note: Double clicking an item in Edit Favourites will open its edit window



The New or Edit window has various fields:

Name - This is only used locally to identify the entry in the list window.

FTP Host - This must have a valid entry to an FTP host, for example, ftp.asimov.com. No checks are made to see if this name is valid. It can be either a dotted address, or a full URL.

User Name - This is the name that this hosts knows you by. If you leave this field empty, the default username will be used instead.

Password - This is the password linked to your User Name. If the Name field was left empty, the default password will be used instead.

Note: For your security, passwords are never shown in the clear within SAFE2, and are also saved in an encrypted format within the SAFE2.Favs file.

Directory - This should point to the directory you wish to first access when you have logged in to a host. Most times this will be the default directory '/', and so this is set for you with each new entry.

PASV Mode - If the host, or your firewall, requires PASV Mode, click this checkbox. See 'Setting Preferences' for more details.

Sorting - Will alphabetically sort the entries. There is no 'Undo', so be careful!

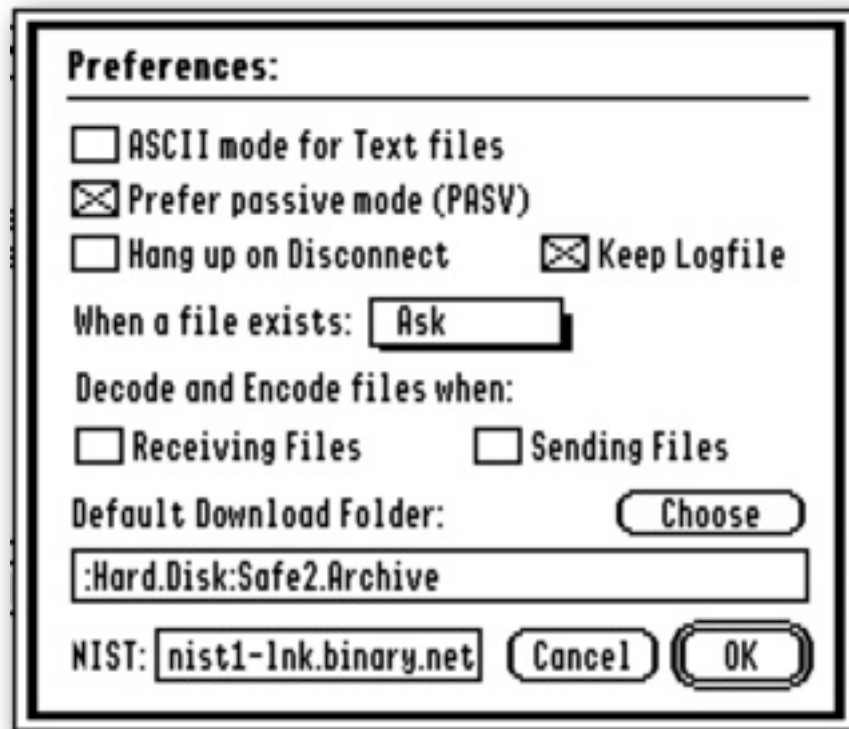
Move - To Move an entry, first select the entry you want to move, and then click the Move button. Now click on the entry where you want to move the item above, and click the Move button once more. The entry will be moved, and the rest of the list moved down to make room for it.

Keep Alive - By setting a value in this box, SAFE2 will send regular prompts to the host in an attempt to stop it from timing out and disconnecting you. This may or may not work, depending on how the host has been configured. The value you enter will be multiplied by 30 to give the seconds delay between prompts. A value of 0 will give no prompts.

Once you have completed editing your Favourites, click the 'Close' button to save your changes and exit.

Setting Preferences

Here you can customise the behaviour of SAFE2:



ASCII Mode for Text files - This turns on a flag which will automatically process text files during transmission or after receiving. See Transferring Files for details of how this is done.

Note: If this flag is set, you will not be able to resume the transfer of text files.

Prefer passive mode (PASV) - FTP transfers involve opening two ports, a command port and a data port. The command port (21) is used to handle all command transactions, and remains open during the entire session to a host. A random port is then opened for the data channel, and this is closed down as soon as data has been transferred.

SAFE2 can either request a data port from the host (PASV mode), or tell the host which port on your Hgs to use (Active port). SAFE2 uses Active ports within the range 32767-65534. If a port fails to open during a transfer, SAFE will automatically disconnect, and display the Favourites list once more. Check the Log file to see what occurred, and if necessary, correct the problem before reconnecting and trying again.

Note: Even though you have logged into a host, an Active or a Passive port may fail to open if you have a Firewall that blocks these ports. If you get any connection problems, first check that your Firewall is open for port 21 (Command Port), and the range 32767-65534 (Data Ports).

Some host firewalls are fussy about which ports they let open, and may require you to use Active mode rather than Passive (PASV) mode. Your own local firewall, in a router for instance, may also be fussy, and require you to specifically open ports within the range that SAFE2 uses.

If you have set PASV mode for a host, and this is rejected, if possible it will fall back to use Active mode for that session.

Setting this PASV flag only changes the prompt for the PASV checkbox in the Connect and New Favourites dialog. It does not actually change the behaviour of SAFE2.

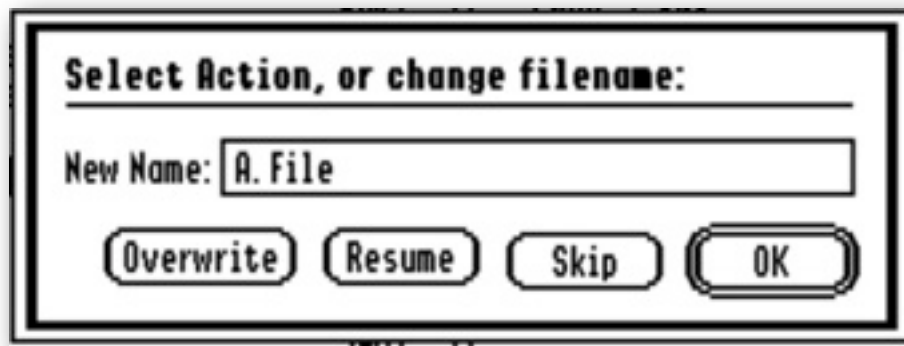
Note: If you are using the Sweet16 emulator to run SAFE2, you will only be able to use the PASV ports, as Active Ports are not supported.

Hang up on Disconnect - If you are connecting to the Internet through a LAN, or an otherwise 'always on' connection, you will probably have told Marinetti to connect at boot. In that case you will not wish SAFE2 to disconnect TCP/IP. If however you are using a dialup connection, you will wish to disconnect TCP/IP every time you disconnect from a host, to save possible phone charges. Checking this box means that SAFE2 will always disconnect TCP/IP on disconnect.

Keep Logfile - SAFE2 will always create and open a log file. By checking this box, SAFE2 will then keep it up to date with a record of all file transfers and other actions.

When a file exists - The popup menu may be set to four options:

- Ask
- Overwrite
- Resume
- Skip



Ask - When a file name already exists, a dialog opens asking whether you wish to Overwrite, Resume or Skip the file. Alternatively, you can enter a new name and then click OK.

Overwrite - When a file name already exists, the existing file will be deleted, and the complete file will be transmitted or received once more.

Resume - The file will be resumed if possible. If the transmitting size is equal or smaller than the target file, no action will be taken.

Note: If you are transferring a text file in ASCII mode, or you have the relevant 'Encode' or 'Decode' box checked, the Resume option will be dimmed in the dialog, and the file can only be overwritten.

Note: When sending a file, if the host cannot resume transmission of files, then the target file will automatically be overwritten.

Skip - No action will be taken, and the file will be ignored if it has the same name as an existing file

Decode and Encode files when:

'Receiving Files'
'Sending Files'

These two settings control the default settings at startup, of the upload 'Encoding' and download 'Decoding' check boxes on the main screen. You can subsequently override these default settings at any time from the main window.

Default Download Folder - This folder is the first folder to be shown in the Home folder when you start SAFE2. Either enter the path directly, or click the 'Choose' button and navigate into the target folder. Press Select once you are in the folder you wish to use.

NIST - This is the address of the time server that SAFE2 uses to set the system clock, and to determine the correct time for the Synchronise folder command. Only change this address if this server is no longer available. You can read more about NIST, and get a link to other time servers, on this web page:

<http://www.nist.gov/pml/div688/grp40/its.cfm>

Log File



As a default, the Log File keeps a record of all file transfers and other online actions. It also reports any failures that may occur.

Each month, any existing log file will be renamed to show the month and year it was created, and a new file will be opened. You may want to periodically clean the SAFE2.Data folder of any old log files you no longer require.

If it does not exist, a log file will always be created, but you can optionally tell it not to update itself from within the Preferences dialog.

When you view the log file, it will always scroll to the bottom, so you will see the most recent events displayed.

Optionally, you can delete the current log file while viewing it. This will cause a new blank file to be created, and the original contents will be lost.

This is what a typical Log File may contain, and a breakdown of what it is showing:

*** SAFE2 Logfile for Dec 2006 ***

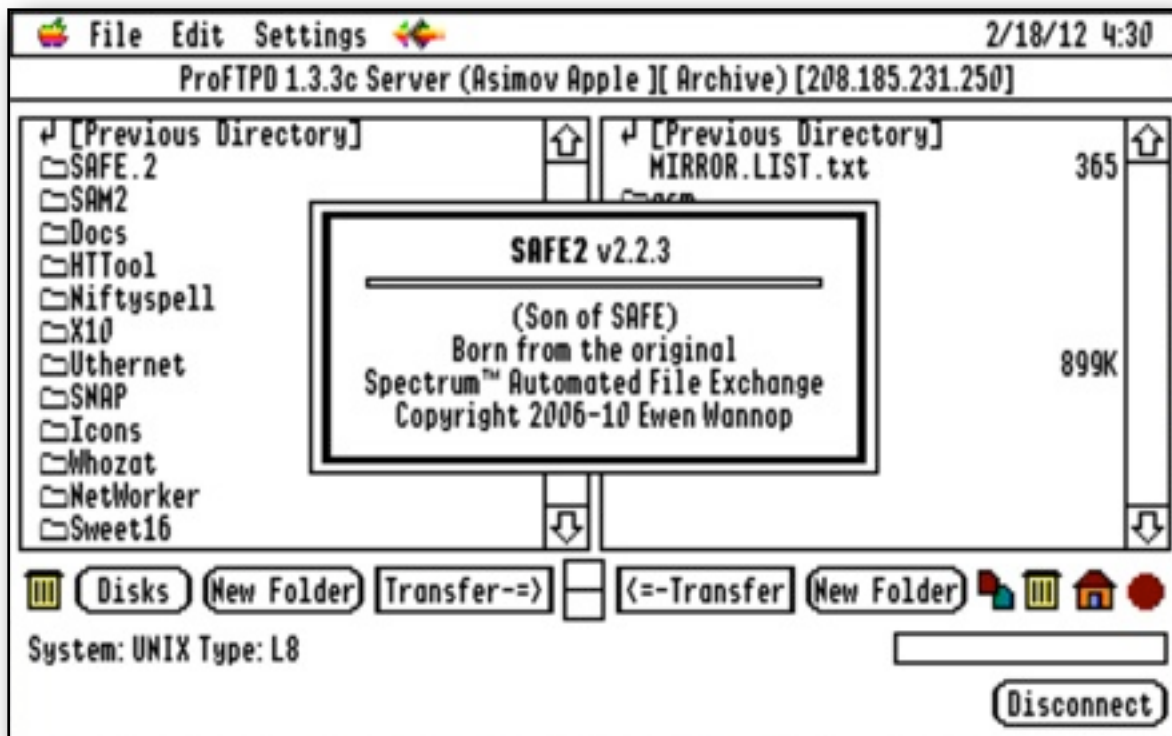
```
1) Session Startup at 3/12/06 6:37:44 pm
2) Connecting to: www.a2central.com <75.35.59.6>
3) Home Directory: /
4) Received file: A long name that does not fit ProDOS.txt
5) File saved as: A.very...OS.txt
6) Sent file: A.File
7) Opening Directory: A.Folder
8) Sent file: A.File
9) Back to Directory: /Top/Files/Documents
10) Sent encoded file: A.File.as
11) Received file: A.File.as
12) 1 Decoded as: A.File
13) Deleting host file: A.File.as
14) Directory created: New.Folder
15) Deleting host file: A long name that does not fit ProDOS.txt
16) Renaming file: Another.File
17) To: New.Name.File
18) File Transfer stopped: A.Second.shk
19) Appended file: A.Second.shk
20) File Transfer stopped: A.Second.shk
21) Resumed file: A.Second.shk
22) Disconnecting from: www.a2central.com <75.35.59.6>
```

Analysis:

Title: Showing the date the Log File was created.

- 1: Each time you connect to a new host, a session time stamp is written.
- 2: Shows the URL and dotted address of the host that you are connecting to.
- 3: Displays the Home directory at login. Often this will be just '/'.
- 4: A file was received from the host.
- 5: The file was renamed to fit the local file system.
- 6: A file was sent to the host.
- 7: A folder was opened or created on the host.

- 8: A file was sent to the host, and saved in the directory from Line 7.
- 9: The target path was moved back one directory.
- 10: A file was sent encoded as AppleSingle.
- 11: A file was received from the host.
- 12: The file was decoded from AppleSingle (1).
- 13: A file was deleted on the host.
- 14: A new directory was manually created on the host.
- 15: Another file was deleted on the host.
- 16: A file on the host was renamed from 'Another.File'...
- 17: ...to 'New.Name.File'.
- 18: A file transfer was stopped by the red button.
- 19: The transfer was resumed to the host (Appended).
- 20: A file transfer was stopped by the red button.
- 21: The transfer was resumed from the host (Resumed).
- 22: The host was disconnected, and a session time stamp was written.





Extras



Help

Online Help is available if you have installed the optional !Help! desk accessory, and its Help files, to the Desk.Accs folder.

Problems

Hopefully you will have none, but if you do, and they cannot be answered by reading these notes, please contact me on:

spectrumdaddy@me.com

Other information

Check for the latest version of Marinetti:

<http://www.apple2.org/marinetti/>

If you do not already know about Spectrum™, please drop by my home pages, or the Syndicomm web site, and read more. Apart from all the other wonderful things it does, Spectrum™ offers many useful tools for processing files, such as post processing text files that you have received, that may have obstinate formatting.

<http://homepage.mac.com/speccie/>

<http://store.syndicomm.com/>

Someone once said to me, 'Spectrum™ does everything!'

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