

# **Firefly 2 & 4 Channel Media Player**

**Version 3.2**

User Manual



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Visual Circuits Corporation  
5155 East River Road, Suite 401  
Minneapolis, MN 55421 USA  
<http://www.visualcircuits.com>

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All specifications, notices and warnings are subject to change without notice.

# Firefly Safety Requirements

## IMPORTANT SAFETY INSTRUCTIONS:


**The following safety instructions apply to Visual Circuits Corporation Firefly:**


1. Read and follow all warning notices and instructions marked on the product or included in this manual. Opening or removing covers and/or components may expose you to dangerous high voltage points or other risks. Qualified personnel should perform all servicing.
2. The maximum ambient temperature for the Firefly is 114 degrees Fahrenheit (45 degrees Celsius). Care should be given to allow sufficient air circulation or space between units when Firefly is installed in a closed or multi-unit rack assembly because the operating ambient temperature of the rack environment must be greater than room ambient temperature.
3. Slots and openings in the cabinet (chassis) are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, maintain a minimum of 1-inch (2.5-cm) clearance on the top and sides.
4. Installation of the Firefly in a rack without sufficient airflow can be unsafe.
5. If installed in a rack, the rack should safely support the combined weight of all equipment it supports. A fully loaded Firefly weighs 12 pounds (4.6 kg).
6. The connections and equipment of the Firefly should be capable of operating safely with the maximum power requirements of the Firefly. In the event of a power overload, the supply circuits and supply wiring should not become hazardous.
7. Models with AC power inputs are intended to be used with the three-wire grounding type plug (a plug that has a grounding pin). This is a safety feature. Equipment grounding is vital to ensure safe operation. Do not defeat the purpose of grounding type plugs by modifying the plug or using an adapter.
8. If a three-wire grounding type power source is not available, consult a qualified electrician to determine another method of grounding the equipment.
9. Install only in restricted areas in accordance with Articles 110-16, 100-17 and 110-18 of the National Electrical Code, ANSI/NFPA 70.

10. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on or come in contact with the power cord.

## **POWER AND GROUND REQUIREMENTS:**

Determine that the cumulative power requirements of the Firefly plus other equipment in the rack do not overload the supply circuits and/or wiring.

 <b>CAUTION</b>
<p><b>If using a power strip or similar supply, make sure the power requirements of the chassis, plus the cumulative power draw of any other equipment in the rack, do not overload the supply circuit.</b></p>

 <b>WARNING</b>
<p><b>For safe operation, this equipment must be properly grounded.</b></p> <p>The chassis should be reliably earth grounded to the rack equipment. This earth ground connection must be maintained when supply connection is other than direct connection to the branch circuit.</p>

## **RACK MOUNTING AND VENTILATION REQUIREMENTS:**

If you are rack-mounting the Firefly base unit:

1. Always stack the rack from the bottom up to ensure a stable and safe rack.
2. The installation of the Firefly and other units within the rack should not reduce the airflow within the rack. The maximum recommended ambient temperature for the Firefly is 100.4 degrees Fahrenheit (38 degrees Celsius).

3. Determine that the cumulative power requirements of the Firefly plus the other equipment in the rack do not overload the rack supply circuit and/or wiring.
4. When installing, consider the location of the Firefly(s) in relation to other devices located in an adjacent rack. Ensure that the Firefly air intake is not drawing directly upon heated air from another unit.  
Rack Depth: The minimum rack depth required to install the Firefly is 16 inches (41 cm). If cables are used, the rack should be EMI/RFI shielded. Ensure that the cables used meet EMI/RFI requirements and are shielded if exposed.  
Side Rails: The Firefly has side rails provided for mounting. If different rail mounts or sliding rails are used, consult the original manufacturer of this equipment to confirm they meet the weight and stress requirements in order to support the Firefly chassis.

## User Manual Regulatory Documentation

### CAUTION

**The CD-ROM/DVD-ROM drive contains a laser system and is a 'Class 1 Laser Product' under a U.S. Department of Health and Human Services (DHHS) Radiation Performance standard, according to the Radiation Control for Health and Safety Act of 1968.**

Should a unit ever require maintenance, contact an authorized repair location.

### CAUTION

**There is danger of explosion if the battery is incorrectly replaced.**

A lithium battery on the product provides backup power for the device's timekeeping capability. The battery has an estimated life expectancy of ten years. When the battery starts to weaken, the date and time may become incorrect. If the battery fails, the unit must be sent back to Visual Circuits for battery replacement.



## WARNING

**An improperly grounded power supply can result in electrical shock.**

The AC power cord provided with your system has a grounded plug. Always use a grounded power cord with a properly grounded wall outlet.

### **Class A Statement FCC Part 15 (EN61000-3-2)**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 (EN61000-3-2) of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

The Firefly complies with Part 15 (EN61000-3-2) of the FCC rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference that may cause undesired operation.



## WARNING

**Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### **EMC and Safety Directive Compliance**

The CE mark is affixed to this Visual Circuits Corporation product to confirm compliance with the following European Community Directives:



Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of Member States relating to electromagnetic compatibility.


And

Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits:

Each amended by Council Directive 93/68/EEC of 22 July 1993 on the harmonization of CE marking requirements.

### **Class A Warning (EN55024, EN55022)**

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

 <b>WARNING</b>
<p><b>Failure to provide adequate surge protection may cause damage to the Firefly.</b> Visual Circuits does not warranty damage caused by electrical surges to the system. Surge protection should be provided when connecting any peripheral device and power to the system.</p>

All specifications are subject to change without notice.





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# WELCOME TO FIREFLY

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Thank you for purchasing Firefly. Our design goal in the creation of Firefly was to develop a media player for A/V professionals that combines the ease and familiarity of an industrial DVD player with the flexibility and control of a disk-based, multichannel MPEG-2 decoder. To reach this end, Firefly incorporates the best of both types of players. From the world of DVD players you will find familiarity in Firefly's IR remote control interface, standard player controls and the ease of "drop the disc in and hit play". To these functions we've added 1, 2 or 4-channel playback, an on-screen graphical user interface, multichannel playlist creation, time/date scheduling, graphic & text overlay capability, remote content updating, network compatibility and a web-based "control and monitor" interface. In addition, Firefly is upgradeable by purchasing a pre-programmed Smart Card.

The result is a new-generation of commercial media players that fit into a wide variety of stand alone or network attached applications, from trade shows and exhibitions to retail merchandising, education and training, corporation communications and digital signage.

Firefly will continue to develop and evolve as a product, just as we know that the demands of A/V contractors will continue to evolve. Keep up with our latest product offerings by checking our all *NEW* website at [www.visualcircuits.com](http://www.visualcircuits.com).





# QUICK START GUIDE

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This Quick Start Guide is intended to provide a brief overview of the major features of the Firefly Media Player. Comprehensive user and technical information can be found in the main body of the Firefly User Manual.

## How to Plug & Play

The Firefly comes loaded with sample videos that are useful as you become familiar with Firefly's features and for diagnostic purposes. Video playback is typically controlled through a "playlist" that defines which videos are played on which channels and in what order. Only one playlist can be active at any time, though any number of playlists can be stored on Firefly for later use. Whenever Firefly is turned on, the playlist that was last used is reloaded and playback begins automatically.

The default active playlist for a new Firefly is called "factory.fpl", which alternates between a spinning Visual Circuits logo and a demonstration video. The fastest way to test Firefly is to simply plug it in, connect the cables and turn it on.

1. Connect the power cable to the back of the Firefly and plug it in to your power source.
2. Connect your video cables to the back of the Firefly following the *Firefly Video Connections Guide*, on page 5.

Note that Firefly's default factory setting plays composite and s-video NTSC and line-level audio on all channels. If your application requires you to setup Firefly using a different video standard and/or video output type, you will need to use the Front Panel Display to change the system settings as needed. Consult the section on *Video Settings* on page 76 within the main body of the user manual for more information about changing these settings.

- ❑ **For Composite monitors:** Connect a BNC-ended composite cable (not included) to the corresponding Channel 1 composite connector on the back of the Firefly. Connect additional video cables for Channels 2, 3 and 4 (if desired).
- ❑ **For S-Video monitors:** Connect a BNC-ended Y s-video cable (not included) to the corresponding Channel 1 chroma (C) and luma (Y) connectors on the back of the Firefly. Connect additional video cables for Channels 2, 3 and 4 (if desired).
- ❑ **For Component monitors:** Connect BNC-ended component cables (not included) to the corresponding Pr, Y and Pb connectors on the back of the Firefly. Connect additional video cables for Channels 2, 3 and 4 (if desired).
- ❑ **For RGB monitors:** Connect a a BNC-ended RGB cable (not included) to the corresponding red (R), green (G) and blue (B) connectors on the back of the Firefly. Connect additional video cables for Channels 2, 3 and 4 (if desired).

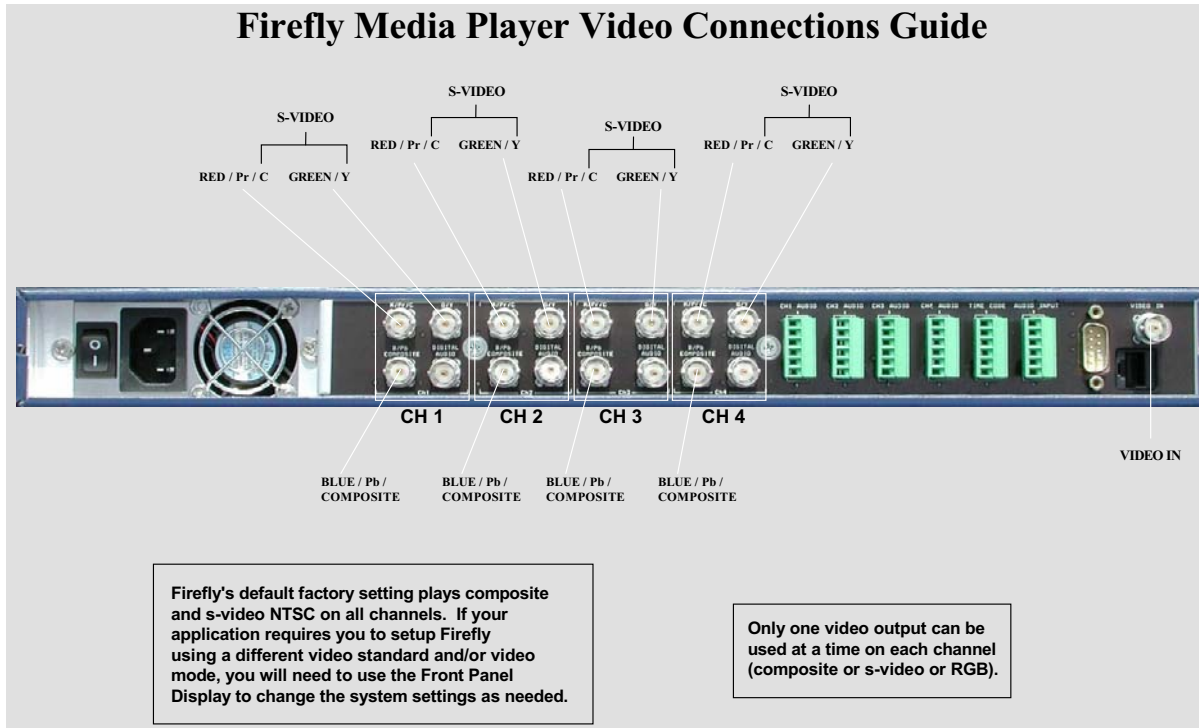
#### NOTE

You can configure the Firefly video output type on an independent, channel-by-channel basis. (Example: CH1 & 2: Composite monitors; CH: 3: Component monitor; CH4: RGB monitor). Configuring the video output type(s) is found in Firefly System Settings: Video menu, which is accessible using the remote control, front panel or WebView.

See *Channel 1, 2, 3, 4 Video Output* on page 77 in the main body of the user manual for information on selecting the video output type(s) using the remote control.



Figure 1. Firefly Video Connections Guide.



**IMPORTANT**

Only one video output, composite or s-video or RGB (sync on green), on each channel can be used on Firefly at a time. Using more than one will cause video playback to be dim with weak color.

3. Connect your audio cables to the back of the Firefly following the *Firefly Audio Connections Guide* on page 7.
  - ❑ **To create an unbalanced audio connection** on channel 1, connect audio cables with stranded wire ends to terminal 1 (CH 1 LEFT +) and terminal 4 (CH 1 RIGHT +), as well as to the designated ground terminals 3 & 6. Connect to the other corresponding LEFT + and RIGHT + terminals and ground terminals for Channels 2, 3 and 4 (if desired).
  - ❑ **To create a balanced audio connection** on channel 1, connect audio cables with stranded wire ends to the corresponding output terminals as noted in the *Firefly Audio Connections Guide*. Repeat for Channels 2, 3 and 4 (if desired).
  - ❑ **To create a S/PDIF digital audio connection** on channel 1, connect a BNC-ended audio cable to CH 1 Digital Audio as noted in the *Firefly Audio Connections Guide*. Connect to the other corresponding Digital Audio connectors for Channels 2, 3 and 4 (if desired).

Figure 2. Firefly Audio Connections Guide

## Firefly Media Player Audio Connections Guide

For unbalanced audio, connect to terminals 1 & 4 for each channel.

**CHANNEL 1**

TERMINAL	DESCRIPTION
1	CH 1 LEFT +
2	CH 1 LEFT -
3	CH 1 GROUND
4	CH 1 RIGHT +
5	CH 1 RIGHT -
6	CH 1 GROUND

**CHANNEL 2**

TERMINAL	DESCRIPTION
1	CH 2 LEFT +
2	CH 2 LEFT -
3	CH 2 GROUND
4	CH 2 RIGHT +
5	CH 2 RIGHT -
6	CH 2 GROUND

**CHANNEL 3**

TERMINAL	DESCRIPTION
1	CH 3 LEFT +
2	CH 3 LEFT -
3	CH 3 GROUND
4	CH 3 RIGHT +
5	CH 3 RIGHT -
6	CH 3 GROUND

**CHANNEL 4**

TERMINAL	DESCRIPTION
1	CH 4 LEFT +
2	CH 4 LEFT -
3	CH 4 GROUND
4	CH 4 RIGHT +
5	CH 4 RIGHT -
6	CH 4 GROUND

**AUDIO INPUT**

TERMINAL	DESCRIPTION
1	AUDIO IN LEFT
2	GROUND
3	AUDIO IN RIGHT
4	GROUND
5	UNUSED
6	UNUSED

4. Connect the video and audio cables from the back of the Firefly to the video and audio inputs on the video monitor(s) and audio components (if applicable). Note that Firefly's default factory setting plays composite and s-video NTSC and line-level audio output on all channels.
5. Switch the power button on the back of Firefly to the ON position. Firefly will run through a short series of self-diagnostics upon startup before beginning automated playback.

# How to Use the Remote Control



## Player Controls

While Firefly is playing, point the remote control at the IR window on Firefly's front panel. Whenever you press any of the Player Control keys (located at the bottom of the remote control) the "Player Control Graphic Overlay" will appear, by default, over the output of Firefly channel one. While in player control mode, the remote control affects only the channel(s) highlighted by the overlay. Pressing the EXIT key on the remote control will cause Firefly to exit player control mode and to return to playback mode.

You may move the overlay from channel to channel by pressing the Channel + and Channel - keys or by pressing the channel number on the remote control while it remains pointed at the Firefly IR window.

**Figure 3.** Firefly IR Remote Control

While in player control mode, point the remote control at the Firefly IR window on Firefly and use the following keys:

- 1 = channel 1
- 2 = channel 2
- 3 = channel 3
- 4 = channel 4
- 5 = all channels

Symbol	Description
	Play
	Stop
	Pause
	Scan Reverse
	Scan Forward
 On Menu Navigation Keys	Skip Reverse (Previous)
 On Menu Navigation Keys	Skip Forward (Next)

**Table 1.** Firefly IR Remote Control Keys and Functions

NOTE
The Scan Reverse and Scan Forward will not operate when all channels are selected for simultaneous control.

**NOTE**

Whenever the IR remote control is in use (example: in player control mode), the front panel display menu six-button interface will not be available.

## **Menu Functions**

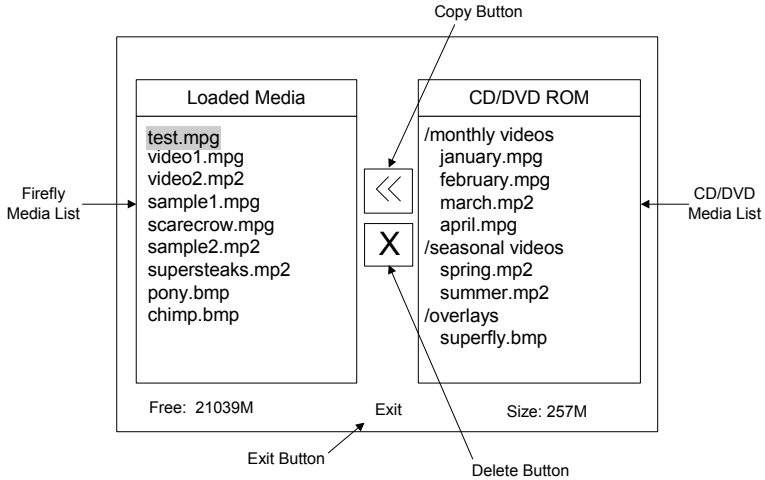
Pressing the MENU/SELECT key on the remote control provides access to the additional Firefly functions listed below. The menu and sub-menus appear as full-screen graphic overlays on Firefly video channel one. Please refer to the appropriate sections within this user manual for instructions on each of the functions listed below.

1. Playlist Editor
2. Schedule Editor
3. Playback Selector
4. Media Maintenance
5. System Settings (General, Video, Audio, External A/V, Control, Network, WebView, FTP, Logging, Multicast, Smart Card & Advanced)
6. Exit Menu

## **How To Put Media On Firefly From a CD or DVD**

1. Point the remote control at the IR window on Firefly and press the MENU/SELECT key. This will force the Main Menu options to appear as a full screen overlay on Firefly video channel one.

2. Press 4 to enter “Media Maintenance”. The left side of the display will show the list of media that currently reside on the Firefly. The right side of the display will be blank.
3. Next place the CD or DVD into the Firefly. After the system scans the disc (be patient, scanning can take 30 seconds or so), the right side of the graphic display will show the list of media available on the CD or DVD.



**Figure 4.** Media Maintenance Screen

Within the CD/DVD list, the entries may be organized by directories. These directories will be apparent because they will be preceded by a forward slash (example: “/seasonal videos”). Each of the videos belonging to that particular directory will be listed immediately after the directory name.

**NOTE**

Firefly does not play standard DVD movies. DVD discs for Firefly are DVD-R discs used to transfer media.



4. Use the menu navigation keys on the remote control to move up and down through the media lists and left and right between different portions of the graphic display. Note that the media lists may contain file directories. If directories exist, you will not need to open a directory folder to access the files within (like in a Windows application). Instead, the media files will be directly available immediately after each directory name.
5. Copy (<<) media from the CD to the Firefly or delete media (X) from the Firefly by highlighting the appropriate on-screen selection, first the media and then the action button, and pressing the MENU/SELECT key on the remote control.

## **How to Automatically Copy Media From a CD or DVD for Playback-“Drop and Go”**

The goal of “Drop and Go” is to allow you to place a CD or DVD into the Firefly tray and have the system automatically copy the media and then play it back on all four channels. No manual playlist creation or file copying is required.

### **Creating a Drop & Go CD/DVD**

1. Create four root-level directories on the Drop & Go CD/DVD, named Channel1, Channel2, Channel3 and Channel4. The directories must be on the root level and named as shown.
2. Place MPEG files into each directory as required. Files within each Drop & Go directory are played in alphanumeric order. Be sure to name files accordingly to match your desired playback sequence.

### **Playing a Drop & Go CD/DVD**

1. While Firefly is turned on and playing, open the CD/DVD tray.

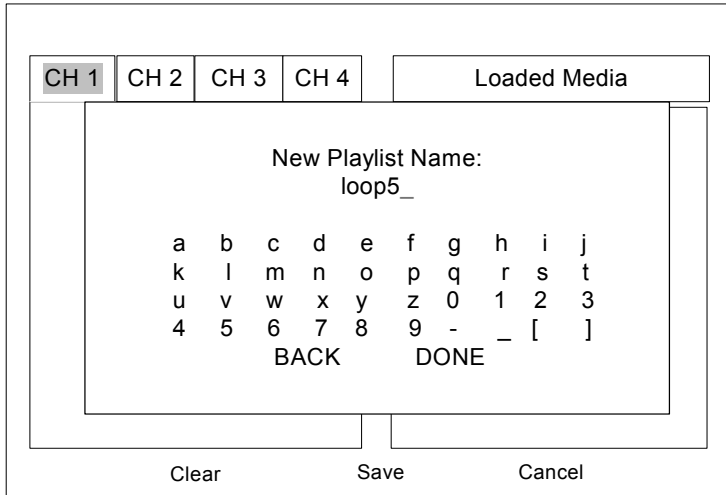
2. Place the Drop & Go CD/DVD in the tray and close the tray.
3. Firefly will scan the CD/DVD and will automatically copy the contents to its internal storage. Depending upon the amount of content on the CD/DVD, this process may take several minutes. During this time, the LCD on Firefly will display “Drop And Go”.
4. Once the media transfer is complete, Firefly will automatically play the contents within each directory on each channel in a continuous loop and will eject the CD/DVD.

## How To Create a Basic Playlist

Playing media on Firefly requires (a) that the MPEG videos actually reside on the Firefly and (b) that a valid playlist, also resides on the Firefly. The playlist can be created either directly on the Firefly using its remote control or on a separate computer using the WebView interface program (see *Using the WebView Interface* on page 116).

### Using the Remote Control

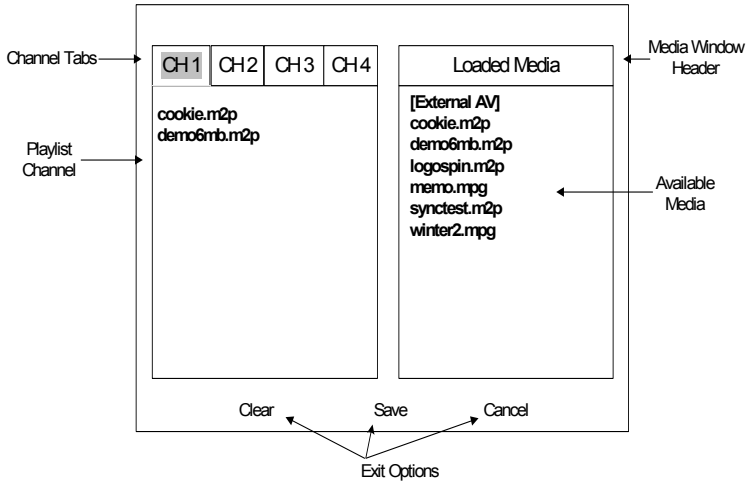
1. Point the remote control at Firefly’s IR window on the front panel and press the MENU/SELECT key. A graphical interface will appear on the output of Firefly video channel number one.
2. Use the navigation keys on the remote control to highlight “Playlist Editor” and press the MENU/SELECT key on the remote.
3. Move the highlight to “New Playlist” and press the MENU/SELECT key. A dialog box will appear asking “Do you want to create a new blank playlist?”. Press the MENU/SELECT key to answer “Yes”.
4. Using the navigation and MENU/SELECT buttons on the remote, create a name for the new playlist from the alphanumeric screen.



**Figure 5.** New Playlist Name Entry Screen

Select a maximum of 14 characters as needed. If you wish to delete a character, move the highlight down to BACK and press the MENU/SELECT key. Continue pressing the MENU/SELECT key to delete characters as needed. When you are finished, move the highlight to DONE and press the MENU/SELECT key.

- The graphical interface will now display separate tabs for each of the four Firefly video output channels on the left side and the list of available media on the right side.



**Figure 6.** Playlist Editor Screen

- Highlight the desired channel tab and press MENU/SELECT on the remote to select that channel.
- Use the navigation keys on the remote to move the highlight to the right side of the display.
- Use the navigation keys on the remote to highlight various media. After each media file is highlighted, press the MENU/SELECT or LEFT arrow key on the remote to add that file, in order, to the playlist for the selected channel.
- Continue this process until all channels (e.g., tabs) have been populated with media, in the order in which they are to be played.

6. When the playlist is complete, move the highlight to the Save option on the screen. Press the MENU/SELECT key on the remote. A dialog box will appear stating that the playlist is saved and will give you the option to “Select it to play” or to “Do not play it now”. Pressing the MENU/SELECT key on “Select it to play” will select the newly created playlist to be the active playlist (starting playback as soon as you exit). Pressing the MENU/SELECT key while the highlight is on “Do not play it now” will save the playlist for future use.
7. Press the EXIT key on the remote to exit and to begin automatic playback of a previously selected playlist or the newly created/selected playlist.

## Software Updating

Visual Circuits is continuously looking for ways to improve and expand its features and product performance. We have provided you with a variety of simple methods in which to keep your Firefly updated with the latest software for your application. Software updates can be obtained from our website at [www.visualcircuits.com](http://www.visualcircuits.com) or contact a Visual Circuits representative to obtain a CD/DVD or Smart Card media. Note that certain optional upgrades may only be available on CD/DVD or Smart Card media.

Software updates and upgrades are processed with the following Five methods.

1. CD/DVD ROM: Inserting a CD/DVD Updater Disc that contains a .upd file extension will automatically upgrade & restart the system. See *System Software Update Process* on page 204
2. Multicast (*optional*) updating: An active update that finds a .upd file will automatically update and restart the system. See *MULTICAST UPDATING* on page 212

3. HTTP/FTP updating: An active update that finds a .upd file in the /updates folder will automatically update & restart the system. See *Creating a Firefly FTP Update Account* on page 209
4. Smart Card: Typically used for “Feature Upgrades”. System updates and current playlist restarts when card is inserted or ejected. See *Smart Card* on page 105
5. Webview Firefly Update: Used to manually select the .upd file from your PC through the Webview interface. System automatically updates and restarts. See *Webview Software Update* on page 121

# ENCODING REQUIREMENTS AND RECOMMENDATIONS

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In order to ensure proper playback on the Firefly, the MPEG content must be encoded following a particular set of encoding requirements. The *Encoding Requirements*, as well as the *Encoding Recommendations*, listed below provide a brief set of criteria to create MPEG files that will be compatible with the Firefly playback system.

## Encoding Requirements

1. Files must be *program stream* MPEG2 or *system stream* MPEG1 of audio/video, or *elementary stream* MPEG2 or MPEG1 of video only or audio only.
2. Use 4:2:0, not 4:2:2 encoding.
3. In MPEG-2, both audio and video fields should be encoded. This is the normal default.
4. Audio only (Dolby Digital or MPEG Layer 2) files cannot be mixed with files containing videos (MPEG, MPEG2 program stream, video only).
5. Firefly – Standard IDE Hard Drive): The total bit rate of a Firefly player must not exceed 40 mbps across four channels (i.e. averaging 10 mbps per channel). Channels may be encoded at different bit rates (up to 15 mbps on a given channel) as long as 40 mbps is not exceeded across a single hard drive (4-channel player).
6. The presentation time stamp (PTS) values contained in the audio and video streams in a file must be continuous and increasing. In particular, the PTS values should not reset to 0 at any point in the file. The time between the first and last time stamps in a file should reflect the actual duration of the file.

- Files should be no less than 4 megabytes in size. If some of your files are smaller than 4 megabytes, use an editor to combine the files to create a single file at least 4 megabytes in size.
- Files should be no larger than 2 gigabytes in size.

## Encoding Recommendations

- Resolution: 720 X 480 or 704 X 480 in NTSC; 704 X 576 in PAL.
- Closed GOP (Group of Pictures) with an “I-frame” every 15 frames is recommended.
- The recommended audio bit rate is 384kbps and a sampling rate of 48khz. It is recommended to play back test files using the original source tapes to confirm audio levels *prior* to encoding an entire project. This will allow for calibration of the encoding system to obtain a standard audio level.
- Program stream files should have one end code (00 00 01 b9) at the very end of the file. The Firefly can handle files without end codes, but it is still a good idea to include one.
- The bit rate can affect the size and transferability of the files. The recommended bit rates for various types of video content are as follows:

Bit Rate	Video Content
4 mbps	Good quality with low motion
6 mbps	Good quality with typical motion
8 mbps	Good quality with high motion
10 mbps	High quality with demanding content

**Table 2.** Bit Rate Encoding Recommendations for Firefly



6. Although Firefly can transcode NTSC and PAL, it is recommended to encode to the video standard (NTSC or PAL) that you will be setting your Firefly to display.
7. When encoding files, annotate and store notes on the audio levels of both the source tape and input settings of the encoder. It will then be possible to verify audio levels of later encoding sessions. It is desirable to maintain a baseline audio level across all files of a presentation whether at single or multiple locations. If no encoding notes or data is available from previously encoded files, compare the files. When possible, measure audio levels of the source tapes and of the encoded files. At a minimum, listen to and compare files. Even if encoding is done at the same production facility, variances between sessions may occur. Once MPEGs are encoded, the audio level of a file cannot be changed unless the file is re-encoded or a new audio track is mixed.
8. MPEG files are constructed from intertwined (i.e. multiplexed) audio and video streams. The length of video and audio stream segments within MPEG files should be identical if possible. Ending the audio segment at a .5 second interval (i.e., at an “I-frame”) will ensure identical stream lengths, providing smooth and seamless looping playback.
9. When encoding SMPTE tracks it is recommended to encode these tracks "hot"--at approximately +6db. This adjustment can compensate for some SMPTE information that may be lost during compression. Not all encoders will respond in the same way. Sample testing should be done with all SMPTE tracks.
10. Standard color bars and audio test tones: MPEG files may be encoded along with the content or source files for reference and calibration. These encoded display test/tuning files should be separate files--not headers or footers of the presentation.

11. To play back still images or computer-based graphics, we recommend software encoders such as DVMPEG ([www.darvision.com](http://www.darvision.com)). Yet, whenever possible, hardware-based encoding systems are preferred.

**NOTE**

Multiplexing a blank audio track on all video only MPEG files is highly recommended.

# REMOTE CONTROL

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## Remote Control Basics

Much like a TV or DVD remote control, the Firefly comes with its own easy to use remote control. The remote control provides for a wide variety of options.

## Activating the Remote Control

In some situations there may be more than one Firefly in a given installation and there will be a need to control these players discretely even when they are all in range of a common remote control. In these instances, it is necessary to be able to individually activate and deactivate remote control response on each Firefly.

## Activating and Deactivating the Remote Control on a Specific Firefly

You can activate the Remote Control of any Firefly within range of the remote by entering the IR Address of the desired Firefly and pressing the CHAN+ key on the remote control. You can also deactivate the remote control of any Firefly within range of the remote by entering the IR address of the desired Firefly and pressing the CHAN- key. *For single digit addresses, you must type the 0 in front of it (e.g. Type 01 and then press the CHAN+ key).*

## Globally Activating and Deactivating all Firefly's

To command ALL Firefly's within range of the remote control to begin responding, enter the address 00 followed by the CHAN+ key on the remote control.

To command all Firefly's within range of the IR remote to cease responding, enter the address 00 followed by the CHAN- key on the remote control.

## Player Controls

You are able to access DVD-like controls for each channel of the Firefly, essentially operating the Firefly like four conventional DVD players. Functions such as the NEXT and PREVIOUS found on DVD's are available.

When you press either the RIGHT or LEFT player control keys on the remote control, a white border, channel identifier and playback status will be overlaid on the video. To change the border color, press the UP arrow key. Figure 7 on page 25 illustrates the overlay. This overlay will be continually maintained to represent the real-time conditions for that channel. The overlay will remain in place for as long as player control is active on that channel.

The initial overlay will appear on channel one by default. To change channels affected by the player controls, press the corresponding channel number (5 = all channels) or the CHAN + or - keys on the remote control.

### NOTE

Whenever the IR remote control is in use (example: in player control mode), Webview & the front panel display menu six-button interface will not function.



**Figure 7.** Player Control Display

## Player Operation

Once a channel(s) has been selected for manual player control, the keys on the lower portion of the remote control designated for player control will be active. The following section describes the function and operation of each player control key. They are very similar to the player controls of a conventional DVD player.

### NOTE

The Scan Forward and Scan Reverse keys only operate when controlling one channel at a time. All other player controls can be used when multiple channels are selected.

## **Play**

Pressing the PLAY key will cause all selected channels to begin playing from the current video file position. If one or more of the selected channels are already playing at the time this command is received, these channels will continue playing and will be unaffected by the command.

## **Stop**

Pressing the STOP key will cause all selected channels to cease playback and return to the beginning of their playlist, remaining that way until a further command is received. If one or more of the selected channels is already stopped at the time this command is received, these channels will remain stopped and will be unaffected by the command. If a selected channel is paused or scanning forward or backward at the time this command is received, that operation will be interrupted. That channel will be returned to the beginning of its playlist where it will remain until a further command is received. Moreover, once stopped, the selected channels will display a black screen.

## **Pause**

If a channel is not presently paused and receives a pause command, it will enter the pause mode. If a channel is already paused at the time it receives a pause command, it will move forward a single step. Press play to resume normal playback.

## **Scan Forward**

The scan forward command will be triggered by the F.F. (>>) key on the remote control and will sequentially advance the content forward at a rapid rate. The status of the scan forward operation will be displayed at the bottom of the screen via a status bar and a time/frame indicator. The background will be composed of a still image representing the exact place where the fast forward key was first pressed. Therefore, the advancing or fast forwarded video will

not be displayed. To resume normal playback, press the PLAY key or the F.F. key again. To reverse or rewind the content, press the REW key. Moreover, note that the fast forward function cannot go past the start or end of the current file and that it only operates on one channel at a time.

## **Scan Reverse**

The scan reverse command will be triggered by the REW (<<) key on the remote control and will sequentially move the content backwards at a rapid rate. The status of the scan reverse operation will be displayed at the bottom of the screen via a status bar and a time/frame indicator. The background will be composed of a still image representing the exact place where the rewind key was first pressed. Therefore, the reversing or rewinding video will not be displayed. To resume normal playback, press the PLAY key or the REW key again. To advance or fast forward the content, press the F.F. key. Moreover, note that the rewind function cannot go past the start or end of the current file and that it only operates on one channel at a time.

## **Skip Forward**

The skip forward command will be initiated by pressing the RIGHT arrow on the menu navigation keys section of the remote control and is similar to the skip forward function of a DVD player. When the skip forward command is received, selected channels will be stepped forward to the next video in the playlist.

## **Skip Reverse**

The skip reverse command will be initiated by pressing the LEFT arrow on the menu navigation keys section of the remote control and is similar to the skip reverse function of a DVD player. When the skip reverse command is received, selected channels will be stepped back to the beginning of the video. As with CD and DVD players, there will be a “double-click” window that allows you to skip backward to the previous video by pressing skip reverse while within the first few seconds of a video.



## Menu Options

The Firefly Main Menu is accessed by pressing the MENU/SELECT key on the remote control while in either regular playback, Drop & Go or Player Control mode. When the MENU command is received, the menu will be displayed.

While in the menu options, the playback activity that was in progress will be suspended. Channel 1 will display the Firefly Main Menu.

### Firefly Main Menu

The Firefly Main Menu includes six options:

1. Playlist Editor
2. Schedule Editor
3. Playback Selector
4. Media Maintenance
5. System Settings (General, Video, Audio, External Control, Network, Logs, WebView, FTP, HTTP, Multicast, Smart Card & Advanced)
6. Exit Menu

You can scroll through these options with the UP and DOWN arrow keys on the menu navigation section of the remote control. When you have highlighted the desired option, press the MENU/SELECT key to select that option. You may also directly select any menu option by pressing the associated number key on the remote control.

## **Exiting the Firefly Main Menu**

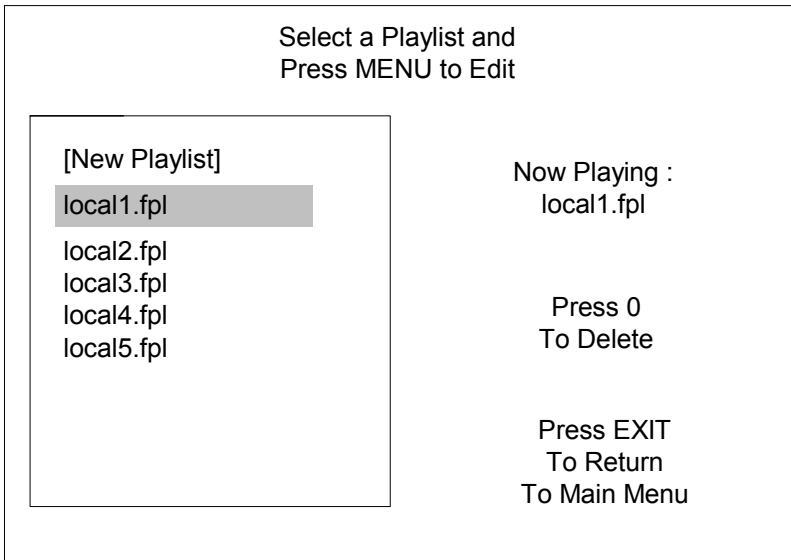
You can exit the Firefly Main Menu and return to normal video playback by scrolling to the “Exit Menu” option then pressing MENU/SELECT. You can also exit by simply pressing the EXIT key on the menu navigation section of the remote. Note that if there is no content selected or scheduled to play, the screen will be black.

## **Playlist Editor**

Within the Playlist Editor, you will be able to arrange videos on the Firefly into a playlist. A playlist is essentially a group of videos arranged in a particular playback sequence. A playlist can be used for immediate playback or saved on the Firefly for future playback.

In addition, within the Playlist Editor, you will be able to utilize graphic overlays. A graphic overlay is a static image (.bmp, .jpg, .gif, .tif, .tga or .png) placed over an associated video. You can assign individual graphic overlays to specific videos within a playlist or to all videos within a playlist if desired. The graphic overlay feature provides an effective way to display a company logo, sale sign or any other image over your regular video playback.

Before going into the actual Playlist Editor, you will be routed to the Playlist Chooser screen.

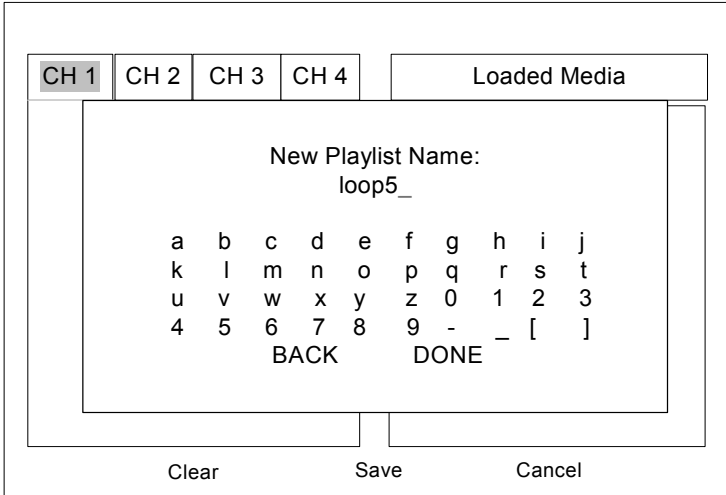


**Figure 8.** Playlist Editor Chooser Screen

In this screen you will have the option to start creating a new playlist, start editing an existing playlist or to delete an existing playlist.

**To start creating a new playlist:**

- ❑ Use the UP and DOWN keys on the remote control to highlight “New Playlist” and then press the MENU/SELECT key. A dialog box will appear asking “Do you want to create a new blank playlist?”. Press the MENU/SELECT key to answer “Yes”.
- ❑ Use the menu navigation keys and MENU/SELECT key on the remote to create a name for the new playlist from the alphanumeric screen.



**Figure 9.** New Playlist Name Entry Screen

Select a maximum of 14 characters as needed. If you wish to delete a character, move the highlight down to BACK and press the MENU/SELECT key. Continue pressing the MENU/SELECT key to delete characters as needed. When you are finished, move the highlight to DONE and press the MENU/SELECT key.

The graphical interface will now display the main Playlist Editor screen comprised of separate tabs for each of the four Firefly video output channels on the left side and the list of available media on the right side.

**To start editing an existing playlist:**

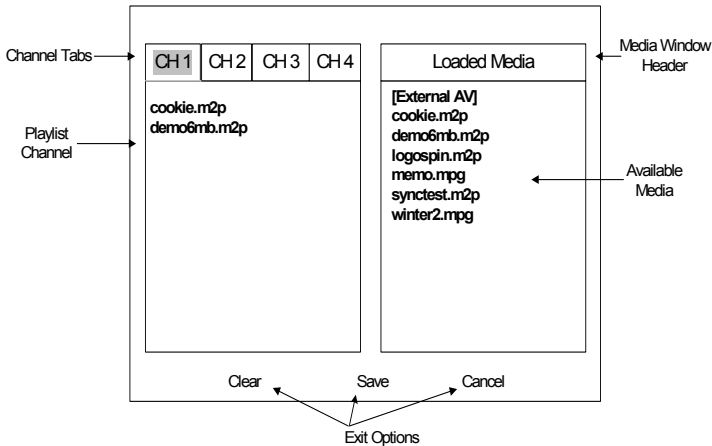
- ❑ Use the UP and DOWN arrow keys on the remote control to highlight the playlist you would like to edit and then press the MENU/SELECT key.

The graphical interface will now display the main Playlist Editor screen comprised of separate tabs for each of the four Firefly video output channels on the left side and the list of available media on the right side.

## To delete an existing playlist:

- ❑ Use the UP and DOWN arrow keys on the remote control to highlight the playlist you would like to delete and then press the 0 key on the remote.

The playlist will be deleted from the Firefly.



**Figure 10.** Playlist Editor Screen

## Adding Videos to a Playlist

1. The Channel 1 (CH1) tab should be highlighted as well as selected. If it is not, you will need to press the RIGHT arrow key until the "Ch1" tab is highlighted and then press the MENU/SELECT key to select the playlist channel. You may also press the number of the channel on the keypad of the remote to highlight and select the channel at the same time.

2. To browse for videos for “CH1”, press the RIGHT arrow key until “Loaded Media” is highlighted. Then press the DOWN arrow key to scroll through the list of Loaded Media. Once you reach the last media file in the list, you can press the UP arrow to scroll back up through the list. *In instances where there is more than one page of “Loaded Media”, you can use the FF and REW keys to scroll up and down through the “Loaded Media” by page.*
3. To copy a video to “CH1”, highlight the desired video and press the MENU/SELECT key or LEFT arrow key on the remote. You will then see the name of the video appear at the end of the list on the left side of the monitor in the Playlist Channel. Repeat this step to copy additional videos to “CH1”.
4. Once you have completed copying videos to “CH1”, you can move on to Channels 2, 3 and 4 to copy videos.

#### NOTE

While working in the Playlist Channel or the Loaded Media list, pressing the EXIT key on the remote control is a quick way to jump back up to the header of the list.

## Removing Videos from a Playlist

Pressing the right arrow key while the highlight is on a video in the playlist channel for a channel tab (ex. “CH1”) will remove the highlighted video from the playlist (not from the Firefly entirely). Repeat this process to remove additional videos from the playlist.

## Moving Videos within a Playlist

Frequently you may determine that you would like to change the order of the videos to be played in a given playlist.

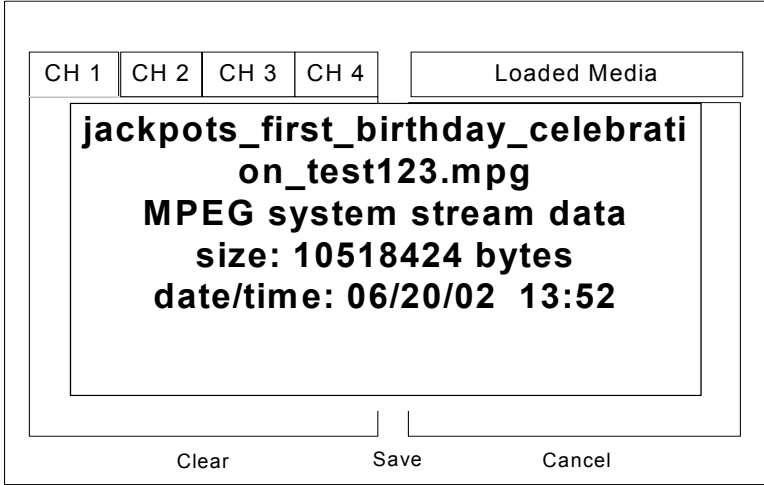
To move the location of a video within a playlist:

1. Scroll through the Playlist Channel list using the UP and DOWN arrow keys to put the highlight on the video file to be moved.
2. When you have highlighted the desired video file, press the MENU/SELECT key on the remote. The text for that video file changes to green indicating that the video is selected. If you accidentally select the wrong media file, press the MENU/SELECT key again while the highlight is on that media file to de-select it.
3. Then, using the UP and DOWN arrow keys, move the highlighted video to your desired location in the playlist.
4. Once in the proper location, press the MENU/SELECT key to de-select the file. This will leave it in your desired “slot” within the playlist.
5. Continue this process to move additional videos within a playlist.

## Viewing Media Information

Because the visible space in the Playlist Channel and Loaded Media lists is limited, you may not be able to see the entire name of a video or graphic overlay. The Media Information feature is available to help you view basic information about media loaded on the Firefly. This window will show up to 60 characters for the name, file type description (if available), size of the media (in bytes) and the date and time the media was transferred to the Firefly.

You may obtain information about any video or graphic overlay listed under the Playlist Channel and Loaded Media list by placing the highlight on the media and then **pressing the 0 button on the remote control**. After pressing the 0 button, the following window will be displayed:



**Figure 11.** Playlist Editor Media Information Window

## Shuffling Video Playback on a Channel

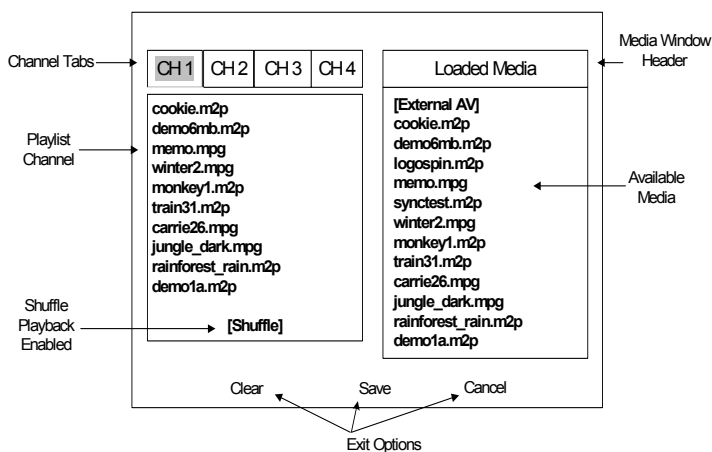
Occasionally, you may want to vary the playback order of your videos for a given playlist. The Shuffle playback feature within the Playlist Editor allows you to do just that. By activating Shuffle playback, videos within the playlist you are working with will be played back in random order.

In addition, keep in mind that Shuffle is set on a channel-by-channel basis. This means that if you would like the playlist's videos to have randomized playback on all 4 channels, you will need to activate Shuffle for each individual channel. Alternatively, if desired, you may shuffle the playback order for any other combination of channels, while maintaining the regular playback order for the others.

**To turn on Shuffle playback for a playlist on a specific channel:**



1. (From within the Playlist Editor main screen) Place the highlight on the desired Channel number header (for example, on “CH 1”).
2. Press the UP arrow on the remote control. You will notice that [Shuffle] will appear on the bottom of the playlist channel indicating that Shuffle playback has been activated for that particular channel.



**Figure 12.** Playlist Editor Screen With Shuffle Playback Enabled

### To turn off Shuffle playback for a playlist on a specific channel.

1. Place the highlight on the desired Channel number header (for example, on “CH1”).
2. Press the UP arrow on the remote control. You will notice that [Shuffle] will disappear from the bottom of the playlist channel indicating that Shuffle playback has been deactivated for that particular channel.

## Adding Graphic Overlays to Videos within a Playlist

Using the graphic overlays feature in Firefly is a great way to add a company logo, sale sign or any other image (.bmp, .jpg, .gif, .tif, .tga or .png) on top of your video playback. Because the graphic overlays are video file specific, you will be able to assign individual graphic overlays to specific videos within a playlist, or to all videos within a playlist if desired. Moreover, as described in *Working with Graphic Overlays in a Playlist* on page 40, you will have the option to customize the transparency level, key color, fade in and out times and the position on the screen that the graphic overlays will appear in.

The process for adding graphic overlay files to a playlist is basically the same as the process of adding video files to a playlist. The one significant difference, however, is that graphic overlays are always linked to particular videos.

To add a graphic overlay to a video within a playlist, follow the steps below:

1. (In the Playlist Editor main screen) The tab of the channel you would like to start with should be highlighted as well as selected. If it is not, you will need to press the RIGHT arrow key until the channel tab is highlighted and then press the MENU/SELECT key to select the playlist channel. You may also press the number of the channel on the keypad of the remote to highlight and select the channel at the same time.
2. To browse for graphic overlays for your desired channel, press the RIGHT arrow key until "Loaded Media" is highlighted. Then press the DOWN arrow key to scroll through the list of Loaded Media. Once you reach the last media file in the list, you can press the UP arrow to scroll back up through the list. *In instances where there is more than one page of "Loaded Media", you can use the FF and REW keys to scroll up and down through the "Loaded Media" by page.*

3. To copy a graphic overlay to your desired channel, highlight the desired graphic overlay file and press the MENU/SELECT key or LEFT arrow key on the remote. When adding a graphic overlay, it will always appear at the bottom of the Playlist Channel.
4. Use the UP arrow key or EXIT key to move the highlight to the “Loaded Media” header. Then use the LEFT arrow key to move over to the Playlist Channel.
5. Scroll through the list using the UP and DOWN arrow keys to put the highlight on the graphic overlay file to be assigned to a video.
6. When you have highlighted the desired graphic overlay file, press the MENU/SELECT key on the remote. The text for that graphic overlay changes to a green indicating that the graphic overlay is selected. If you accidentally select the wrong file, press the MENU/SELECT key again while the highlight is on the correct one to de-select it.
7. Then, using the UP and DOWN arrow keys, move the highlighted graphic overlay to your desired location in the playlist. The graphic overlay must be positioned directly below the video you wish to associate it with.
8. Once in the proper location, press the MENU/SELECT key to de-select the file. This will leave it attached to your desired video within the playlist.
9. Repeat steps 2 through 8 to copy and assign additional graphic overlays to videos on your initial desired channel.
10. Once you are done copying and assigning graphic overlays to videos within your initial channel, you can move on to the other three channels, if desired.

## Removing Graphic Overlays from a Playlist

Pressing the right arrow key while the highlight is on the graphic overlay within a playlist channel for a channel tab (ex. “CH1”) will remove the highlighted selection from the playlist (not from the Firefly entirely). Repeat this process to remove additional graphic overlays from the playlist.

## Working with Graphic Overlays in a Playlist

As previously noted, graphic overlays exist in a playlist as attributes of specific video entries. The only image types that are compatible with Firefly are .bmp, .jpg, .gif, .tif, .tga or .png.

Graphic Overlay Properties	
Overlay Name:	VCCdemo.bmp
Vertical:	Top
Horizontal:	Right
Key Color:	None
Key R:	0
Key G:	0
Key B:	0
Transparency %:	10
Fade In Seconds:	1
Fade Out Seconds:	1
	Exit

**Figure 13.** Graphic Overlay Properties Screen

**NOTE**

While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed under "Loaded Media" will appear with ".bmp" as their extension.

If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

**To access the Graphic Overlay Properties screen, position the highlight on the desired graphic overlay file in the playlist channel and then press the MENU/SELECT key twice.**

Within the Graphic Overlay Properties screen, you move from field to field using the UP and DOWN arrows key on the remote. Once within a field, you adjust the values using the LEFT and RIGHT arrow keys or the number keys (for applicable fields where a numerical value is required).

The process for altering the characteristics of a specific graphic overlay is as follows:

1. If desired, select the vertical position on the screen where you would like to have the graphic overlay located (top, center or bottom).
2. If desired, select the horizontal position on the screen where you would like to have the graphic overlay located (left, center or right).

3. If desired, adjust the key color. The key color property deals with blocking out or cropping specified colors within the graphic overlays. For example, if the image you are using is your company logo (in color) and is placed on top of a white rectangular background, you may only want to display the company logo, instead of the logo on top of the white background.

Within the key color property, there are three options: None, Auto Key or RGB. You can choose None to not use the key color option at all. You can choose Auto Key have the system automatically “make transparent” the background color. The system selects the color in the upper left most corner of the image to determine which color to remove. In most instances, Auto Key will be the easiest to use and most effective “make transparent” method. Or you can choose to manually set the RGB (Red, Green and Blue) key color level. The RGB option requires you to know the specific RGB value of the color you would like to “make transparent”.

**NOTE**

Use a solid background (one color) in your graphic overlays for the Auto key feature to work properly.

**NOTE**

Entering your own RGB values for the key color feature only works with 8 bit bitmap graphics less than or equal to 720x480 resolution.

4. If desired, select a level of transparency between 0 and 100%. This value will adjust to what extent the graphic overlay covers the video below. If you want the graphic overlay to blend in with the video, you may select a higher transparency level. Conversely, if you would like the graphic overlay to stand out, you may select a lower or zero-value transparency level.
5. If desired, adjust the rate (in seconds) at which you would like the graphic overlay to fade in on the screen.
6. If desired, adjust the rate (in seconds) at which you would like the graphic overlay to fade out on the screen.
7. You may exit and return to the Playlist Editor by pressing the MENU/SELECT key while the highlight is on “Exit” or by simply pressing the EXIT key on the remote control. If for some reason you are not satisfied with the changes you made, go back into the Graphic Overlay Properties screen to make the necessary changes or remove and reapply the graphic overlay to begin again.

After you have adjusted the graphic overlay properties, the specific graphic overlay you were just dealing with and all subsequent graphic overlays you add to playlists will be set according to these properties. This is, however, only until you adjust the properties for another graphic overlay. At that point, the newly adjusted properties will be applied to all subsequent graphic overlays.

**NOTE**

If your use of Firefly requires frequent changes to the graphic overlay properties, you may want to use the WebView interface (see *Working With Graphic Overlays in a Playlist* on page 131) to be able to more effectively manipulate these settings.

## Creating an External A/V Playlist

Using the external audio/video feature is a great way to insert external programming and special events into your presentation mix using the Firefly Media Player network. This feature allows you to schedule live audio and video playback, such as a satellite or cable television broadcast, or switch to local or national programming in the event of breaking news or an emergency. The “scheduling” of the external A/V events is accomplished by inserting the external A/V event(s) into a playlist and then scheduling the playlist using the schedule editor.

### NOTE

External Audio/Video is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the External A/V feature (menu items are “grayed out”) and you would like to purchase it, contact a Visual Circuits representative at 1-800-250-5533.

### NOTE

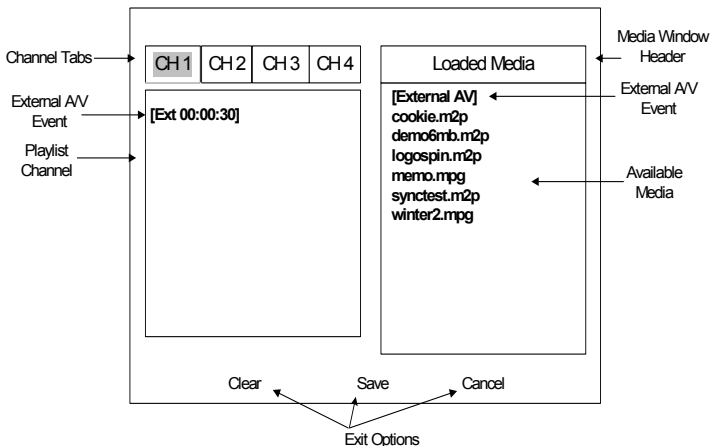
Genlock must be turned on in the Firefly system settings for external audio/video switching to work properly. See *Genlock* on page 79 for details on how set this parameter.

If you do not genlock to the video input, the Firefly system will turn this parameter on temporarily for the duration of the playlist; however, note that this temporary setting switch may cause picture roll to occur at the beginning and/or end of the playlist.



If you plan on having external audio and/or video playing for an extended period of time, the easiest way to set this up is as follows:

1. Create a new playlist and name it something descriptive, such as “External AV 1”.
2. (In the Playlist Editor main screen) The tab of the channel you would like to start with should be highlighted as well as selected. If it is not, you will need to press the RIGHT arrow key until the channel tab is highlighted and then press the MENU/SELECT key to select the playlist channel. You may also press the number of the channel on the keypad of the remote to highlight and select the channel at the same time.
3. Press the RIGHT arrow key until “Loaded Media” is highlighted. Then press the DOWN arrow key to scroll down to the listing [External AV].
4. To insert an external A/V event to your desired channel, highlight the [External AV] listing and press the MENU/SELECT key or LEFT arrow key on the remote. When adding an external A/V event, it will always appear at the bottom of the Playlist Channel.



**Figure 14.** Playlist Editor Screen With External A/V Playlist

5. Repeat steps 1 through 3 to add additional external A/V events to any of the other channels, if desired.
6. Save the playlist and exit the Playlist Editor.
7. Go into the Schedule Editor and schedule the “External AV 1” playlist for your desired time slot, such as from 12:00 to 17:00 (see *Schedule Editor* on page 52 for details on scheduling).

## **Adding External A/V Events to a Playlist**

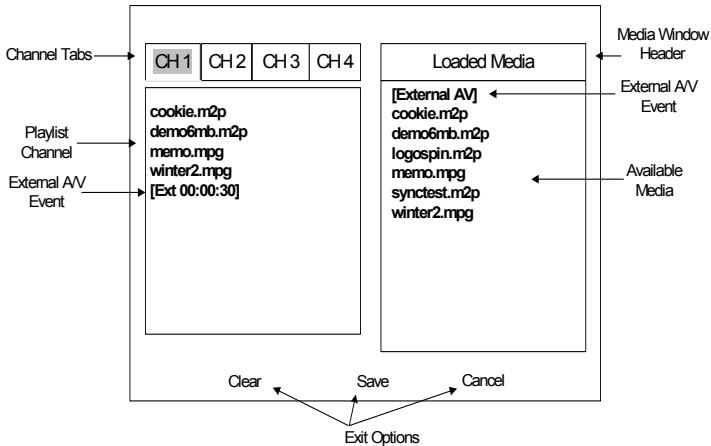
If your application for utilizing the external audio/video feature involves playing back regular internal videos with an occasional insertion of external audio and/or video, you may want to add external A/V events to an existing playlist.

The process for adding external A/V events to a playlist is similar to the process of adding video files to a playlist.

To add an external A/V event to a playlist, follow the steps below:

1. (In the Playlist Editor main screen) The tab of the channel you would like to start with should be highlighted as well as selected. If it is not, you will need to press the RIGHT arrow key until the channel tab is highlighted and then press the MENU/SELECT key to select the playlist channel. You may also press the number of the channel on the keypad of the remote to highlight and select the channel at the same time.
2. Press the RIGHT arrow key until “Loaded Media” is highlighted. Then press the DOWN arrow key to scroll down to the listing [External AV].

- To insert an external A/V event to your desired channel, highlight the [External AV] listing and press the MENU/SELECT key or LEFT arrow key on the remote. When adding an external A/V event, it will always appear at the bottom of the Playlist Channel.



**Figure 15.** Playlist Editor Screen With External A/V Event

- Repeat steps 1 through 3 to add additional external A/V events to the playlist on your initial channel or any of the other channels, if desired.

See *Moving External A/V Events within a Playlist* on page 48 for details on moving the external A/V event(s) to a different location within the playlist.

See *Editing External A/V Events within a Playlist* on page 48 for details on editing the audio, video and duration properties of external A/V event(s).

## Removing External A/V Events from a Playlist

Pressing the right arrow key while the highlight is on the external A/V event within a playlist channel for a channel tab (ex. “CH1”) will remove the highlighted selection from the playlist.

Repeat this process to remove additional external A/V events from the playlist.

## **Moving External A/V Events within a Playlist**

You may determine that you would like to change the location of an external A/V event within a given playlist.

To move the location of an external A/V event within a playlist:

1. Scroll through the Playlist Channel list using the UP and DOWN arrow keys to put the highlight on the external A/V event to be moved.
2. When you have highlighted the desired external A/V event, press the MENU/SELECT key on the remote. The text for that listing changes to green indicating that the external A/V event is selected. If you accidentally select the wrong listing, press the MENU/SELECT key again while the highlight is on that listing to de-select it.
3. Then, using the UP and DOWN arrow keys, move the highlighted external A/V event to your desired location in the playlist.
4. Once in the proper location, press the MENU/SELECT key to de-select the listing. This will leave it in your desired “slot” within the playlist.
5. Continue this process to move additional external A/V events within a playlist, if desired.

## **Editing External A/V Events within a Playlist**

The External A/V Event Properties screen is available for you to view and/or set the basic properties of an external A/V event. Within this screen, you will be able to set the external A/V event duration, select or deselect external audio and select or deselect external video.

You may obtain information or set the basic properties of any external A/V event listed under the Playlist Channel list by placing the highlight on the “[Ext 00:00:30]” listing and then pressing the MENU/SELECT key once on the remote control to select it and then a second time to enter the External A/V Event Properties screen.

After pressing the key sequence above, the following screen will be displayed:

External A/V Event Properties	
Duration:	00:15:30
External Audio:	<input checked="" type="checkbox"/>
External Video:	<input checked="" type="checkbox"/>
Exit	

**Figure 16.** External A/V Event Properties Screen

**Duration:**

Set the external A/V event duration by using the UP, DOWN, LEFT and RIGHT arrow keys on the remote. Select the number of hours, minutes and seconds (HH:MM:SS) for the external A/V event to take place.

**External Audio:**

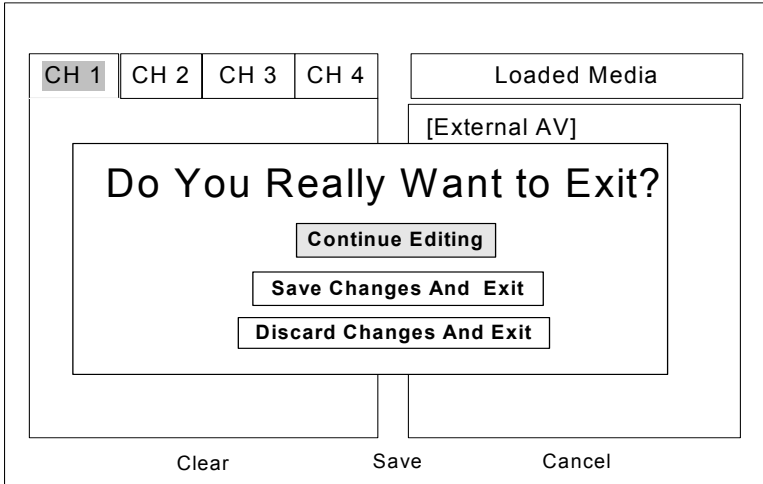
Turn this option on or off using the MENU/SELECT key on the remote. A checked box indicates that audio for the external event is selected and an unchecked box indicates that audio for the external video is not selected.

**External Video:**

Turn this option on or off using the MENU/SELECT key on the remote. A checked box indicates that video for the external event is selected and an unchecked box indicates that video for the external video is not selected.

## Exiting the Playlist Editor

At any point while working with the Playlist Editor you may exit and return to the main menu by pressing the EXIT key. If you are within the Playlist Selections list or Loaded Media list, you will need to press EXIT twice. The first time you press the EXIT key will bring you to the header of the list. When you press EXIT again, a dialog box will appear as shown below:



**Figure 17.** Exit Playlist Editor Dialog Box

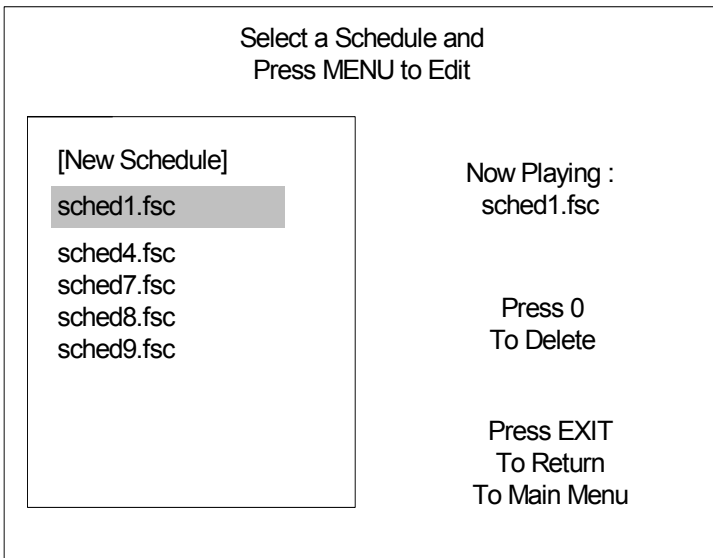
- ❑ The “Continue Editing” option is highlighted as the default answer when this dialog box appears. You may scroll between the options with the UP and DOWN arrow keys on the menu navigation section of the remote control. Once the desired option is highlighted, press MENU/SELECT to accept that selection.
- ❑ If you choose the “Save Changes & Exit” option, the edited playlist is saved. You are then returned to the main menu.
- ❑ If you choose the “Discard Changes & Exit” option, all changes made to the playlist during this editing session are discarded. You are then returned to the main menu.
- ❑ If you choose the “Continue Editing” option, the dialog box is cleared from the screen and you are returned to the editor.

## Schedule Editor

Within the Schedule Editor, you will be able to work with playback schedules. A schedule is a group of one or more playlist events. An event is composed of a single playlist with adjustable playback properties. Beyond simple start and stop times, events can be set to play on certain days of the week, interrupt other events, play just once or at certain repeating intervals.

In addition, the Video Dates Editor (a feature within the Schedule Editor), allows you to assign a specific start date, end date or both a start *and* an end date for an individual video. This is especially useful when you have time sensitive media that you cannot have played before a certain date, after a certain date or outside a certain date range.

Before going into the actual Schedule Editor, you will be routed to the Schedule Chooser screen.



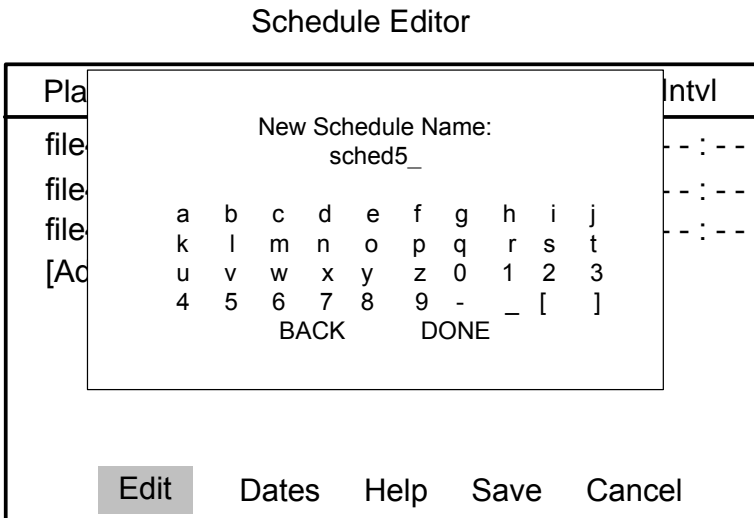
**Figure 18.** Schedule Editor Chooser Screen



In this screen you will have the option to start creating a new schedule, to start editing an existing schedule or to delete an existing schedule.

### To start creating a new schedule:

- ❑ Use the UP and DOWN arrow keys on the remote control to highlight “New Schedule” and then press the MENU/SELECT key. A dialog box will appear asking “Do you want to create a new blank schedule?”. Press the MENU/SELECT key to answer “Yes”.
- ❑ Use the menu navigation keys and MENU/SELECT key on the remote to create a name for the new schedule from the alphanumeric screen.



**Figure 19.** New Schedule Name Entry Screen

Select a maximum of 14 characters as needed. If you wish to delete a character, move the highlight down to BACK and press the MENU/SELECT key. Continue pressing the MENU/SELECT key to delete characters as needed. When you are finished, move the highlight to DONE and press the MENU/SELECT key.

The graphical interface will now display the main Schedule Editor screen.

### **To start editing an existing schedule:**

- ❑ Use the UP and DOWN arrow keys on the remote control to highlight the schedule you would like to edit and then press the MENU/SELECT key.

The graphical interface will now display the Schedule Editor screen.

### **To delete an existing schedule:**

- ❑ Use the UP and DOWN arrow keys on the remote control to highlight the schedule you would like to delete and then press the 0 key on the remote.

The schedule will be deleted from the Firefly.

## Schedule Editor

Playlist	Start	Stop	SMTWTFS	I O Intvl
file4	08:00	12:00	x x x - - x -	x x - - : - -
file5	12:00	17:30	x x x - - x -	x x - - : - -
file6	17:30	22:00	x x x - - x -	x x - - : - -
[Add Event]		[Delete Event]		
<input type="button" value="Edit"/> <input type="button" value="Dates"/> <input type="button" value="Help"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/>				

**Figure 20.** Schedule Editor Screen

Once you are in the Schedule Editor screen, you will have to option to: add an event to a schedule, delete an event from a schedule, or edit an event within a schedule. In addition, using the Video Date Editor, you will be able to assign date rules to individual videos if desired.

Each of the major tasks in the Schedule Editor involve adjusting the event property fields. The following table provides basic overviews and examples for each of the event property fields:

Property	Description
<b>Playlist</b>	<b>Designates which playlist to play.</b> <i>Example: "I'd like to have my product demonstration playlist selected to play".</i>

Property	Description
<b>Start</b>	<p><b>Designates time to start playing playlist.</b></p> <p><i>Example: "I'd like to have my playlist start playing at 9:00".</i></p>
<b>Stop</b>	<p><b>Designates time to stop playing playlist.</b></p> <p><i>Example: "I'd like to have my playlist stop playing at 18:00".</i></p>
<b>SMTWTFS</b>	<p><b>Designates days of week to play playlist.</b></p> <p><i>Example: "I'd like to have my playlist play only on Thursdays, Fridays and Saturdays".</i></p>
<b>I (Interrupt)</b>	<p><b>Option to cut off video playing in previous playlist instead of waiting for video to finish playing.</b></p> <p><i>Example: "I'd like to have the video in my sales promotion playlist interrupt the video in my product demonstration playlist".</i></p>
<b>O (Play Once)</b>	<p><b>Option to play playlist exactly once and then return to previously scheduled playlist.</b></p> <p><i>Example: "I'd like to play my one hour specials playlist just once during the business day".</i></p>
<b>Intvl (Interval)</b>	<p><b>Option to repeat a "play once" event periodically at a specified interval.</b></p> <p><i>Example: "I'd like to play my one hour specials playlist once every 2 hours throughout the business day".</i></p>

**Table 3.** Event Property Field Examples

## Adding an Event to a Schedule

To add an event to a schedule:

1. Using the LEFT and RIGHT arrow keys, position the highlight on the “Edit” option at the bottom of the screen and then press MENU/SELECT.
2. Using the menu navigation keys, position the highlight on the “Add Event” option and then press MENU/SELECT.
3. Edit the event properties as described below.
  - a. **Playlist:** Press the MENU/SELECT key while the highlight is on the playlist field. Then use the UP and DOWN arrow keys to highlight your desired playlist and press the MENU/SELECT key to select it. When done, press the RIGHT arrow key to advance to the next field.

### Schedule Editor

Playlist	Sta	Playlist Select	FS	I	O	Intvl
file4	08:0	file3.fpl	K-	x	x	--:--
file5	12:0	file4.fpl	K-	x	x	--:--
file6	15:3	file5.fpl	K-	x	x	--:--
[Add Event]		file6.fpl				
		local9.fpl				
		Edit	ve			Cancel

**Figure 21.** Playlist Selector Window

- b. **Start:** Use the number keys and RIGHT arrow key to set the specific start time (24-hour clock) for the playlist. When done, press the RIGHT arrow key to advance to the next field.
  - c. **Stop:** Use the number keys and RIGHT arrow key to set the specific stop time (24-hour clock) for the playlist. When done, press the RIGHT arrow key to advance to the next field.
  - d. **SMTWTFS:** Press the MENU/SELECT key to choose which days of the week the playlist will play on. “x” indicates the day is selected and “-” indicates the day is not selected. When done, press the RIGHT arrow key to advance to the next field.
  - e. **I (Interrupt):** Press the MENU/SELECT key to choose to have the first video in a scheduled playlist start playing precisely at its schedule time (interrupting or “cutting off” the video playing in the previously scheduled playlist). This is useful if you have a time sensitive playlist. “x” indicates that “Interrupt” is selected, interrupting the previous video and “-” indicates that “Interrupt” is not selected, allowing a smooth transition to the first video in the next playlist. When done, press the RIGHT arrow key to advance to the next field.
  - f. **O (Play Once):** Press the MENU/SELECT key to choose to have the playlist played back only once (regardless of its time allotment). “x” indicates that “Play Once” is selected and “-” indicates that “Play Once” is not selected. When done, press the RIGHT arrow key to advance to the next field.
  - g. **Intvl (Interval):** Press the MENU/SELECT key to choose to have a “Play Once” event played back once at a designated time interval. Use the number keys and RIGHT arrow key to set the interval time.
4. Using the menu navigation keys on the remote, move the highlight to “Save” at the bottom of the screen and press the MENU/SELECT key.

5. A dialog box will appear stating that the schedule is saved and will give you the option to “Select it to play” or to “Do not play it now”. Pressing the MENU/SELECT key on “Select it to play” will select the newly created playlist to be the active playlist (starting playback as soon as you exit). Pressing the MENU/SELECT key while the highlight is on “Do not play it now” will save the playlist for future use.

## **Deleting an Event from a Schedule**

To delete an event from a schedule, use the following steps:

1. Using the LEFT and RIGHT arrow keys, position the highlight on the “Edit” option at the bottom of the screen and then press the MENU/SELECT key.
2. Using the menu navigation keys, position the highlight on “Delete Event” and then press the MENU/SELECT key. The highlight will now be in “delete mode”, highlighting all event fields across a given event.
3. Using the UP and DOWN arrow keys, locate the event to be deleted. Position the highlight on the event line and press the MENU/SELECT key to delete it from the schedule.
4. Using the menu navigation keys on the remote control, move the highlight to “Save” at the bottom of the screen and press the MENU/SELECT key.
5. A dialog box will appear stating that the schedule is saved and will give you the option to “Select it to play” or to “Do not play it now”. Pressing the MENU/SELECT key on “Select it to play” will select the newly created playlist to be the active playlist (starting playback as soon as you exit). Pressing the MENU/SELECT key while the highlight is on “Do not play it now” will save the playlist for future use.

## **Editing an Event within a Schedule**

To edit an event within a schedule, use the following steps:

1. Using the LEFT and RIGHT arrow keys, position the highlight on the “Edit” option at the bottom of the screen and then press the MENU/SELECT key.
2. Using the UP and DOWN arrow keys, locate the event to be edited.
3. Edit any or all of the event properties, if desired, as described below.
  - a. **Playlist:** Press the MENU/SELECT key while the highlight is on the playlist. Then use the UP and DOWN arrow keys to highlight your desired playlist and press the MENU/SELECT key to select it. When done, press the RIGHT arrow key to advance to the next field.
  - b. **Start:** Use the number keys and RIGHT arrow key to set the specific start time for the playlist. When done, press the RIGHT arrow key to advance to the next field.
  - c. **Stop:** Use the number keys and RIGHT arrow key to set the specific stop time for the playlist. When done, press the RIGHT arrow key to advance to the next field.
  - d. **SMTWTFS:** Press the MENU/SELECT key to choose which days of the week the playlist will play on. “x” indicates the day is selected and “-” indicates the day is not selected. When done, press the RIGHT arrow key to advance to the next field.
  - e. **I (Interrupt):** Press the MENU/SELECT key to choose to have the first video in a scheduled playlist start playing precisely at its schedule time (interrupting or cutting off the video playing in the previously scheduled playlist). This is useful if you have a time sensitive playlist. “x” indicates that



- “Interrupt” is selected, interrupting the previous video and “-” indicates that “Interrupt” is not selected, allowing the video to finish playing before the new playlist begins playing. When done, press the RIGHT arrow key to advance to the next field.
- f. **O (Play Once):** Press the MENU/SELECT key to choose to have the playlist played back only once (regardless of its time allotment). “x” indicates that “Play Once” is selected and “-” indicates that “Play Once” is not selected. When done, press the RIGHT arrow key to advance to the next field.
  - g. **Intvl (Interval):** Press the MENU/SELECT key to choose to have a “play once” event played back once at a designated time interval. Use the number keys and RIGHT arrow key to set the interval time.
4. Using the menu navigation keys on the remote control, move the highlight to “Save” at the bottom of the screen and press the MENU/SELECT key.
  5. A dialog box will appear stating that the schedule is saved and will give you the option to “Select it to play” or to “Do not play it now”. Pressing the MENU/SELECT key on “Select it to play” will select the newly created playlist to be the active playlist (starting playback as soon as you exit). Pressing the MENU/SELECT key while the highlight is on “Do not play it now” will save the playlist for future use.

## Assigning Dates for Video Playback

The Video Dates Editor allows you to designate the actual date(s) a particular video is allowed to play. By selecting a start date, an end date or both a start *and* an end date you can establish a “date rule” for the playback of a particular video.

Video Dates Editor

Video Name	Start Date	Stop Date
proddemo2.mpg	02/01/03	-- / -- / --
market31.mpg	-- / -- / --	05/31/03
janpromo.mpg	01/01/03	01/31/03
jackpot7.mpg	01/01/03	01/07/03
[Add]	[Delete]	

**Figure 22.** Video Dates Editor Screen

Depending on your application, you may have a need for using any or all of the three previously mentioned date rules. The table below provides some “real world” examples for using the Video Dates Editor:

Start Date	Stop Date	Description
02/01/03	- - / - - / - -	<p><b>Start date with no stop date.</b></p> <p><i>Example: “I want my product demonstration video available to playlists the day the product is released, but no sooner than that”.</i></p>

Start Date	Stop Date	Description
--/--	05/31/03	<b>No start date with stop date.</b> <i>Example: "I want my new marketing campaign video available to playlists from now until the end of the spring months".</i>
01/01/03	01/31/03	<b>Both start date and stop date.</b> <i>Example: "I want my January promotions video available to playlists only during the month of January".</i>

**Table 4.** Video Date Rule Examples

**To add a date rule for a video, use the following steps:**

1. (From the Schedule Editor main screen) Using the LEFT and RIGHT arrow keys, position the highlight on the "Dates" option at the bottom of the screen and then press the MENU/SELECT key. The Video Dates Editor screen will be displayed.
2. Using the menu navigation keys, position the highlight on "Add" and then press the MENU/SELECT key. The Video Selector screen will appear.
3. Using the UP and DOWN arrow keys, position the highlight on the video you would like to assign a date rule to and then press MENU/SELECT.
4. If desired, use the number keys and RIGHT arrow key to set the specific start date for the video. When done, press the RIGHT arrow key to advance to the next field.
5. If desired, use the number keys and RIGHT arrow key to set the specific stop date for the video.
6. Repeat steps 2 through 5 to add date rules to additional videos if desired. When you are done, press the EXIT key to return to the Schedule Editor main screen.

**To delete a date rule for a video, use the following steps:**

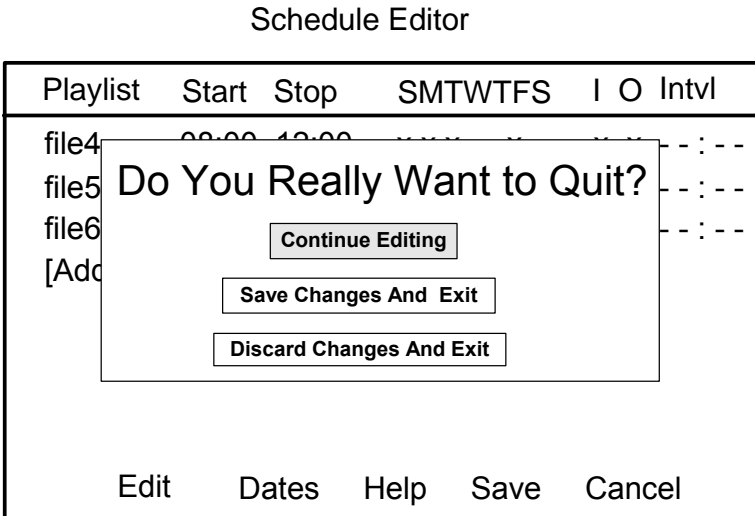
1. (From the Schedule Editor main screen) Using the LEFT and RIGHT arrow keys, position the highlight on the “Dates” option at the bottom of the screen and then press the MENU/SELECT key. The Video Dates Editor screen will be displayed.
2. Using the menu navigation keys, position the highlight on “Delete” and then press the MENU/SELECT key.
3. Using the UP and DOWN arrow keys, position the highlight on the video you would like to delete the date rule for and then press MENU/SELECT.
4. Repeat steps 2 and 3 to delete date rules for additional videos if desired. When you are done, press the EXIT key to return to the Schedule Editor main screen.

**To edit a date rule for a video, use the following steps:**

1. (From the Schedule Editor main screen) Using the LEFT and RIGHT arrow keys, position the highlight on the “Dates” option at the bottom of the screen and then press the MENU/SELECT key. The Video Dates Editor screen will be displayed.
2. Using the UP and DOWN arrow keys, position the highlight on the video you would like to edit the date rule for.
3. If desired, use the number keys and RIGHT arrow key to set or edit the specific start date for the video. When done, press the RIGHT arrow key to advance to the next field.
4. If desired, use the number keys and RIGHT arrow key to set or edit the specific stop date for the video.
5. Repeat steps 2 through 4 to edit date rules for additional videos if desired. When you are done, press the EXIT key to return to the Schedule Editor main screen.

## Exiting the Schedule Editor

At any point while you are working within the Schedule Editor you may exit and return to the main menu by pressing the EXIT key on the remote control. When the EXIT key is pressed, a dialog box appears as shown below:

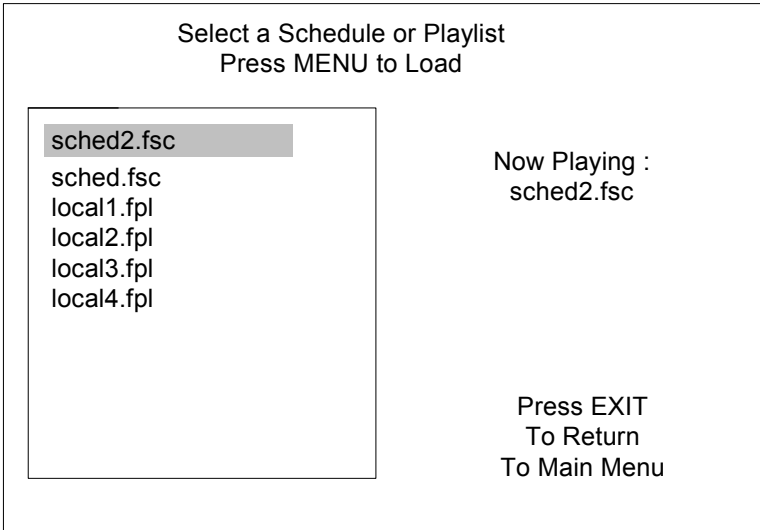


**Figure 23.** Exit Schedule Editor Dialog Box

## Playback Selector

The Playback Selector allows you to select a different playlist or schedule to play back on the Firefly.

After selecting the Playback Selector from the Firefly main menu, the following screen will be displayed:



**Figure 24.** Playback Selector Screen

### **Loading a Playlist or Schedule**

A list of playlists and schedules located on the Firefly will be listed in the box located on the left.

Use the UP and DOWN arrow keys to highlight the desired playlist or schedule and then press the MENU/SELECT key.

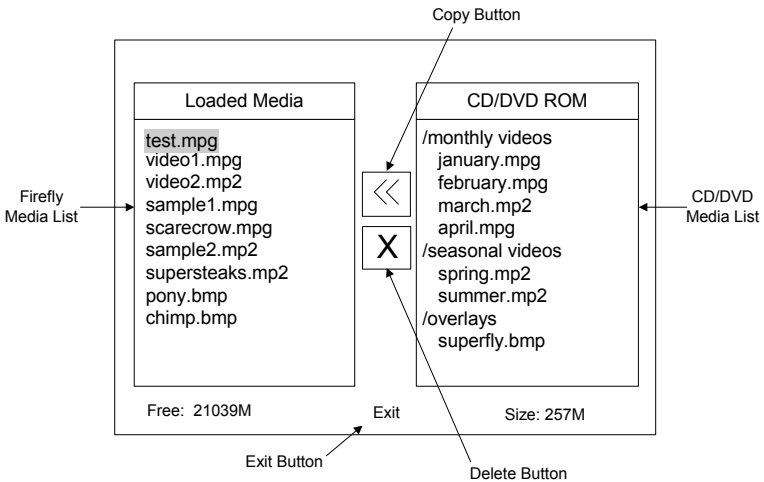
Once you have selected a playlist or schedule, you will be returned to the Firefly main menu. Once you exit the main menu, the loaded playlist will begin playing or the loaded schedule will begin playing (when scheduled).

**NOTE**

Playlists and schedules can not be deleted in the Playback Selector screen. The delete option will only be available while in the Playlist Editor or Schedule Editor screens.

**Media Maintenance**

The “Media Maintenance” screen enables you to manually copy media from a CD or DVD to Firefly, and to delete unwanted media. Upon selecting the “Media Maintenance” option from the main menu, the following screen will be displayed:



**Figure 25.** Media Maintenance Screen

You will be able to move between “Loaded Media”, “CD/DVD ROM”, and the buttons on the screen using the LEFT and RIGHT arrow keys on the menu navigation section of the remote control.

You can scroll within the media lists and buttons using the UP and DOWN arrow keys on the remote control.

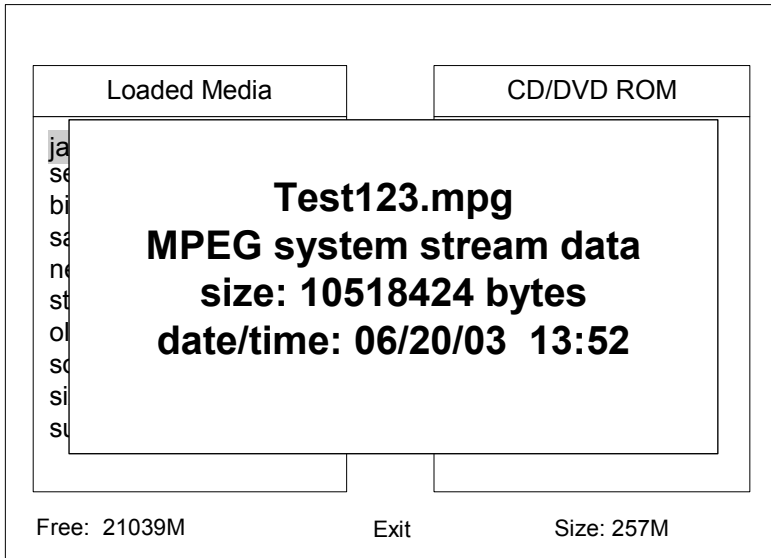
Within the CD/DVD ROM list, the entries may be organized by directories. These directories will be apparent because they will be preceded by a forward slash (example: “/seasonal videos”). Each of the videos belonging to that particular directory will be listed immediately after the directory name.

In cases where there is more than one page of media located on either the “Loaded Media” or “CD/DVD ROM” windows, you can use the F.F. (>>) key on the remote to scroll down by page or the REW (<<) key to scroll up by page.

Because the visible space in the Loaded Media and CD/DVD ROM lists is limited, you may not be able to see the entire name of a video or graphic overlay. The Media Information feature is available to help you view basic information about media loaded on the Firefly or on a CD/DVD in the Firefly. This window will show up to 60 characters for the name, in addition to the size of the media (in bytes) and the date and time the media was transferred to the Firefly.

You may obtain information about any video or graphic overlay listed under the Loaded Media list or CD/DVD ROM list by placing the highlight on the media and then **pressing the 0 button on the remote control**. After pressing the 0 button, the following window will be displayed:





**Figure 26.** Media Maintenance Media Information Window

## Selecting Files to Copy or Delete

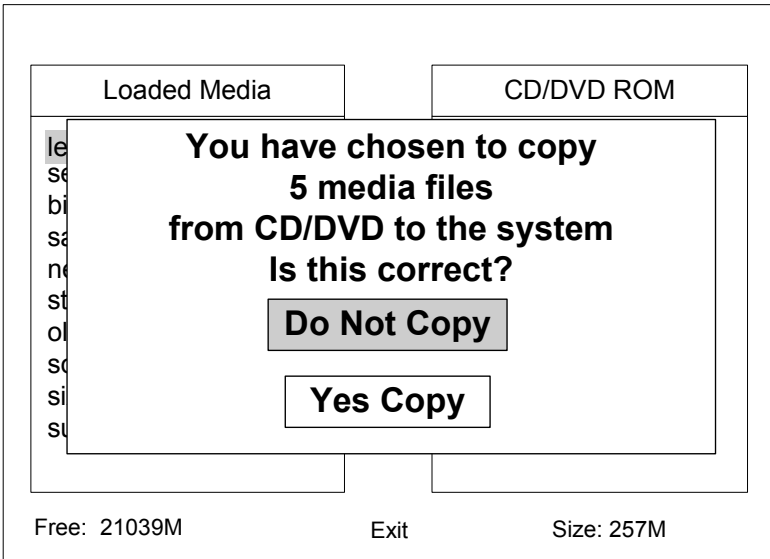
To select a group of media files to copy or delete:

- ❑ Scroll through the CD/DVD media list to put the highlight on the media file to be selected. Note that the media list may contain file directories. If directories exist, you will not need to open a directory folder to access the files within (like in a Windows application). Instead, the media files will be directly available immediately after each directory name.
- ❑ When you have highlighted your desired media file, press the MENU/SELECT key on the remote control. The text for that media file changes to a green indicating that the media file is selected.

- ❑ Then continue to scroll through the list selecting other media in the same fashion until all the media to be copied or deleted are green. If you accidentally select the wrong media file, press the MENU/SELECT key again while the highlight is on that media file to de-select it.

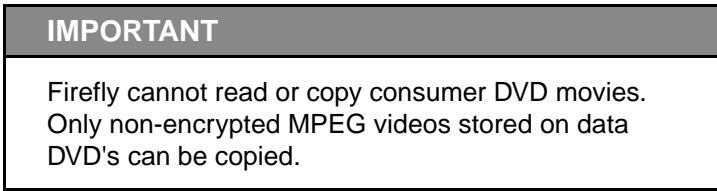
## Copying Selected Files

Once a media file or group of media files have been selected from the “CD/DVD ROM” window for copying to Firefly, you can copy by moving the highlight to the COPY (<<) button and pressing the MENU/SELECT key on the remote control. A dialog box will appear asking for confirmation of the copy operation:

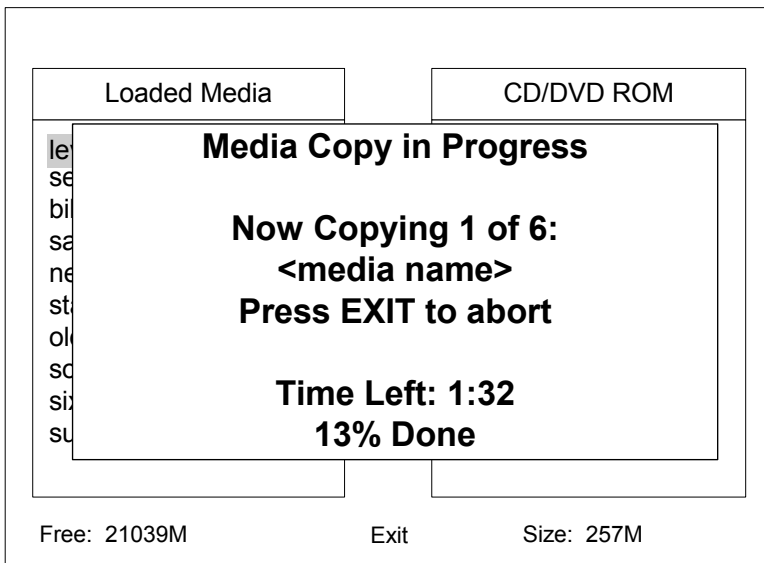


**Figure 27.** Copy Confirmation Dialog Box

The 5 represents the number of media files to be copied. The highlight, by default, appears on the “Do Not Copy” option. You can move between the two options using the UP and DOWN arrow keys on the menu navigation section of the remote control. When your desired choice is highlighted, press the MENU/SELECT key on the remote control to confirm the selection.



If the “Yes Copy” option is selected, the confirmation dialog box is replaced with a copy progress dialog box as shown below:



**Figure 28.** Copy Progress Dialog Box

The <media name> field is updated as media are copied. “Time Left” and “% Done” allow you to see the progress of the file currently being copied (not all of the files selected to copy) to the Firefly.

**NOTE**

While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed under “Loaded Media” will appear with “.bmp” as their extension.

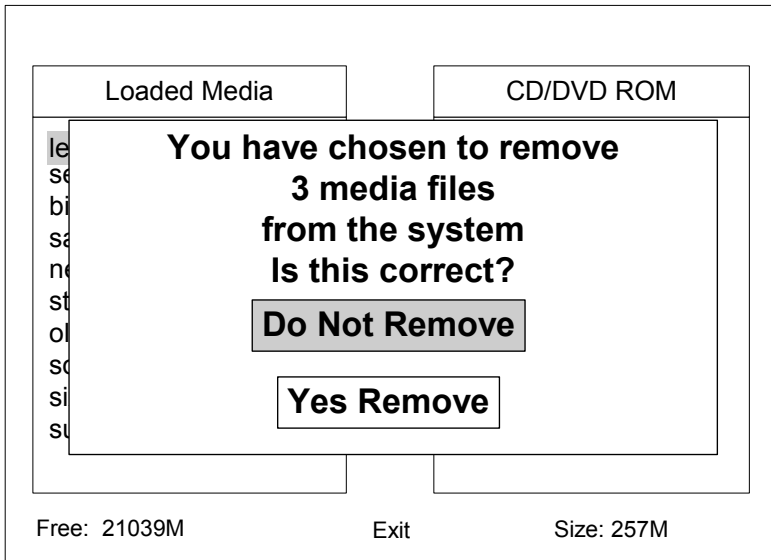
If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

At any time, you may abort the procedure by pressing the EXIT key. After all media have been copied, you will be returned to the “Media Maintenance” screen.

### **Deleting Selected Files**

To delete media files from the Firefly, you will first need to select them. Follow *Selecting Files to Copy or Delete* on page 69 to select the files you wish to delete.

Once you have selected a media file or group of media files from the “Loaded Media” window, you can delete them by moving the highlight to the DELETE (X) button and pressing the MENU/SELECT key on the remote control. A dialog box will appear asking for confirmation of the delete operation:



**Figure 29.** Delete Confirmation Dialog Box

The 3 represents the number of media files to be deleted. The highlight, by default, appears on the “Do Not Remove” option. You can move between the two options using the UP and DOWN arrow keys on the menu navigation section of the remote control. When your desired choice is highlighted, press the MENU/SELECT key on the remote control to confirm the selection.

## System Settings

Within the System Settings screens, you can move from field to field using the UP and DOWN arrows key on the remote. Once the highlight is on the name of the field you wish to edit, press the RIGHT arrow key to enter the field. Next, make your desired changes using the UP and DOWN arrow keys and when done, press the LEFT arrow key to save your changes and to return to the field name.

To delete a character in a system setting value field using the remote control (for example to change the Network: IP Address or the WebView: Username), position the highlight on the character proceeding the character(s) you would like to delete and then press the MENU/SELECT key. The character(s) to the right of the highlight will be deleted.

If at any time you wish to cancel changes made while you are in a field, simply press the EXIT key.

To exit the entire System Settings menu, use the LEFT and RIGHT arrow keys to position the highlight on “Exit” and then press the MENU key.

Within the System Settings menu, the following options are available:

## General Settings

\* - Indicates Factory Default

<b>General</b>	Video	Audio	Ext	Control	Net	Logs
WebView	FTP	HTTP	MCast	SCard	Adv	Exit
<b>General Settings</b>						
Site ID:	-					
Date/Time:	10/14/03 19:37					
Time Zone:	*GMT -06:00 Central US					
IR Address:	*01~20					
IR Timeout:	*No Timeout,1,5,15,30min					
Version:	3.2					
Uptime:	103d 5h 4m					

**Figure 30.** General Settings Screen

## **Site ID**

The Site ID uniquely identifies the Firefly as it updates via FTP or CD/DVD-ROM. It is also used for Media Messenger software to enable automated management of content, playlists & schedule updates.

## **Date/Time**

Sets the Firefly internal clock for date and time.

## **Time Zone**

Allows you to select the appropriate time zone (measured in hours and minutes plus or minus Greenwich Mean Time) for where the Firefly is being used.

## **IR Address**

In a multiple Firefly setup, you can assign each Firefly a matching or unique address number. This gives you the ability to enable or disable the IR function of any given address that you have commanded. This is especially useful to prevent or allow designated units to receive commands simultaneously. The IR address of the Firefly can be set to a number between and including 01-20.

## **IR Timeout**

For security purposes, this feature allows you to set a timeout for the remote control.

## **Version**

Displays the version of the Firefly (incorporating both hardware and software).

## Uptime

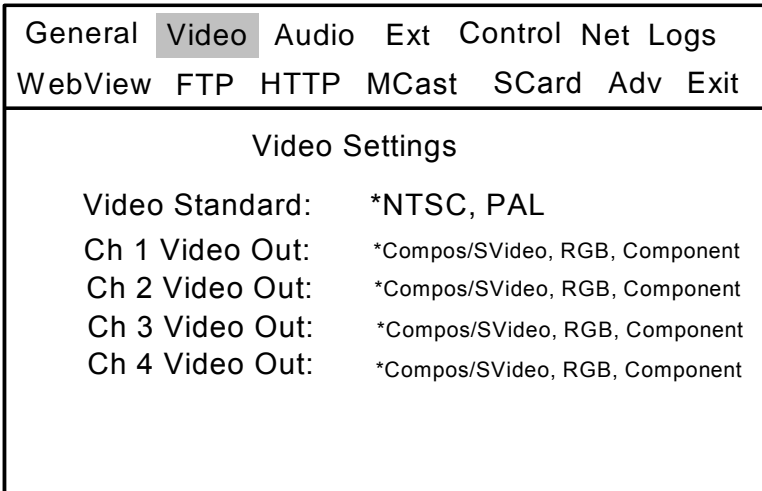
Displays the total amount of time in days, hours and minutes a Firefly has been playing without a shutdown.

## Play Test File (Menu Only Available Via Front Panel Interface)

Plays a test video until turned off. Resets any settings changed in advanced registry to default for test. This function is used to confirm whether cables are connected properly and if the player is functioning properly.

## Video Settings

\* - Indicates Factory Default



**Figure 31.** Video Settings Screen



## Video Standard

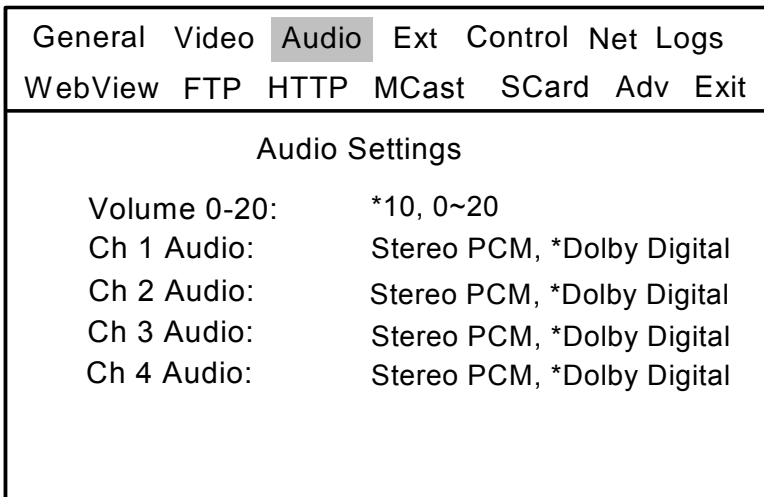
Selects the standard of video output: NTSC (USA) or PAL (European).

## Channel 1, 2, 3, 4 Video Output

Selects the type of video output for each channel: Composite/S-video, RGB (sync on green) or Component.

## Audio Settings

\* - Indicates Factory Default



**Figure 32.** Audio Settings Screen

## Volume

This setting allows you to set the volume level for audio played back on the Firefly (across all 4 channels). The default volume setting is 10 on the 0-20 scale.

## Channel 1, 2, 3, 4 Audio

On a channel by channel basis, Firefly gives you several audio output options depending on the configuration you use (see Table 5 below). Standard MPEG layer-2 files will output from both the digital and stereo analog outputs. Dolby Digital (AC3) files will output from the digital outputs only. However, by using the *optional* Dolby Digital Smart Card, you can “mix down” AC3 files to the stereo analog outputs. If your application requires a 2-channel (stereo) mix of AC3, please contact a Visual Circuits representative for more information.

<b>Firefly Audio Configurations</b>				
<b>Config</b>	<b>MPEG Audio Type</b>	<b>Firefly Audio Setting:</b>	<b>Digital Output</b>	<b>Stereo Analog Output?</b>
<b>1</b>	MPEG Layer 2 Stereo Audio	Dolby Digital	S/PDIF	Yes
<b>2</b>	MPEG Layer 2 Stereo Audio	Stereo PCM	S/PDIF	Yes
<b>3</b>	Dolby Digital Audio (AC3)	Dolby Digital	S/PDIF (Dolby Digital)	No
<b>4</b>	Dolby Digital Audio (AC3)	Stereo PCM (w/opt Upgrade)	S/PDIF Stereo	Yes (Decoded)

**Table 5.** Firefly Audio Configurations

<b>NOTE</b>
Firefly Dolby Digital D/A decoding is only available when using the <i>optional</i> Dolby Digital Smart Card (config #4).

## External A/V Settings

\* - Indicates Factory Default

General	Video	Audio	<b>Ext</b>	Control	Net	Logs
WebView	FTP	HTTP	MCast	SCard	Adv	Exit
External A/V Settings						
Genlock:		*Off, To Video Input				
Ch 1 A/V:		*Internal, External Only				
Ch 2 A/V:		*Internal, External Only				
Ch 3 A/V:		*Internal, External Only				
Ch 4 A/V:		*Internal, External Only				

**Figure 33.** External A/V Settings Screen

### Genlock

Allows you to genlock to an external source connected to the “Video In” jack on the back of the Firefly.

If you plan on utilizing the external A/V events feature, you should switch genlock on by selecting the “To Video Input” position. Genlocking will eliminate “picture roll” when switching to/from external video.

### Channel 1, 2, 3, 4 Audio/Video

The External A/V option allows you to switch between playing MPEGs internally or external A/V on a channel-by-channel basis.

When a channel is set to “External Only”, Firefly will only output the audio/video source connected to the Video In and Audio Input connectors, regardless of what is in the playlist/schedule.

If your Firefly already has this feature enabled, you may select “External Only” for a given channel to only have a continuous external feed. (Example: You always want local television, such as news and weather, playing on the Channel 4 monitors). If you do not want to have a continuous external feed, you may leave the setting to “Internal” and schedule external events (if desired) from within the playlist editor.

**NOTE**

External Audio/Video is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the External A/V feature (menu items are “grayed out”) and your application requires it, contact a Visual Circuits representative at 1-800-250-5533.

## Control Settings

\* - Indicates Factory Default

General	Video	Audio	Ext	Control	Net	Logs
WebView	FTP	HTTP	MCast	SCard	Adv	Exit
Control Settings						
Accept TCP/IP:		Yes,*No				
Auto Play:		*On, Off				
Baud Rate:		1200, 4800, *9600, 38400, 115200				
Data Bits:		5~*8				
Parity:		*None, Odd, Even				
LCD Echo:		*Off, On				

**Figure 34.** Control Settings Screen

### Accept TCP/IP

In conjunction with RS232 serial communication, TCP/IP allows the user to remotely operate the Firefly by sending operation commands through a network or locally using an external PC or show controller (see *External Control Commands* on page 225).

#### CAUTION

For security reasons, "Accept TCP/IP" is factory defaulted to "No". Be aware that if you decide to use this feature over a large network (namely the Internet), the potential for outside intervention (hacking) is greatly increased because there is literally no security (protection) on this port. Enabling this option will open port 2180.

## **Auto Play**

Upon initial start up, Firefly will begin playing the latest loaded playlist/schedule automatically. Following start up, if you choose to begin playback manually via External commands, you can default this option to “Off” to deactivate automatic playback.

## **Baud Rate**

Select an identical value to your external controller. The following options are available: 1200, 4800, 9600, 38400 & 115200.

## **Data Bits**

Select an identical value to your external controller. The following options are available: 5, 6, 7, & 8.

## **Parity**

Select an identical value to your external controller. The following options are available: None, Odd & Even.

## **LCD Echo**

When LCD is selected to “On”, any of the External command sets sent to the Firefly via RS232 - TCP/IP are registered to the front panel LCD. The LCD will echo on the top row of the screen and the bottom row will show the last command received in single quotes. If the command is more than 15 characters, it will register on both lines.

This is useful for debugging in a situation when device communications are not responding to serial commands. It is also useful as a feedback tool if the display monitors are not in range of viewing.

## Network Settings

\* - Indicates Factory Default

General	Video	Audio	Ext	Control	<b>Net</b>	Logs
WebView	FTP	HTTP	MCast	SCard	Adv	Exit

Network Settings	
Host Name:	firefly
Mode:	*None, DHCP, Static
IP Address:	-
Netmask:	-
Gateway:	-
Proxy Type:	*None
Proxy Address:	-
Enable NTP:	*No
NTP Server:	-
Enable SNMP:	*No
SNMP Network:	-
SNMP Netmask:	255.255.255.255
Community:	-
Security Name:	-
Auth Passphrase:	-
Priv Passphrase:	-

**Figure 35.** Network Settings Screen

IP addresses are assigned to computers that connect to an incoming connections computer in one of two ways:

- They are automatically allocated by DHCP.
- They are assigned based on a range of addresses that is defined in the TCP/IP properties for the incoming connection.

If you want to specify a range of IP addresses, you must provide a starting IP address and an ending IP address for the range. Network

and Dial-up Connections calculates the number of addresses that can be used within the starting and ending addresses of the range. If the incoming connections computer is attached to another network, and the specified address range consists of a subset of IP addresses for the network to which the computer is attached, you must ensure that the addresses in the range are not already assigned to other TCP/IP nodes within the attached network. This is recommended because using a subset of the larger network addresses requires less manual configuration of the intranet nodes.

If you must use a range of addresses that is not a subset of the network to which the incoming connections computer is attached, then steps must be taken to ensure that computers on the network attached to the incoming connections computer can reach the incoming connection clients. To do this, you can create a route to the incoming client computers on the intranet computers by configuring your intranet hosts with the IP address of the incoming connections computer as a default gateway.

- ❑ If your intranet hosts are configured to obtain an IP address automatically and a Dynamic Host Configuration Protocol (DHCP) server is present, you can configure your DHCP server to assign the default gateway.
- ❑ If your intranet hosts are configured to obtain an IP address automatically and a DHCP server is not present (you are using the Automatic Private IP Addressing feature of Windows 2000 and Windows 98), then you must manually configure all of your intranet hosts with an IP address, subnet mask, and default gateway. *See your Network Administrator for further information.*

## Host Name

Choose a unique name that identifies each Firefly unit on the network.



## Mode

DHCP (Dynamic Host Configuration Protocol) - A TCP/IP service protocol that offers dynamic leased configuration of host IP addresses and distributes other configuration parameters to eligible network clients. DHCP provides safe, reliable, and simple TCP/IP network configuration, prevents address conflicts, and helps conserve the use of client IP addresses on the network. DHCP uses a client/server model where the DHCP server maintains centralized management of IP addresses that are used on the network. DHCP-supporting clients can then request and obtain lease of an IP address from a DHCP server as part of their network start up process. *See your Network Administrator for further information.*

STATIC -For a local area connection (LAN), in IP address, Subnet mask, and Default gateway, type the IP address, subnet mask, and default gateway addresses. For all other connections, in IP address, type the IP address. *See your Network Administrator for further information.*

## IP Address

A 32-bit address used to identify a node on an IP internetwork. Each node on the IP internetwork must be assigned a unique IP address, which is made up of a network identifier and a host identifier. This address is typically represented in dotted-decimal notation, with the decimal value of each octet separated by a period, for example, 192.168.7.27.

NOTE
Press the "STOP" button on the Firefly remote control to create a period ( . ) within the IP address.

**NOTE**

To delete a character in a system setting value field using the remote control (for example to change the IP Address), position the highlight on the character preceding the character(s) you would like to delete and then press the MENU/SELECT key. The character(s) to the right of the highlight will be deleted.

You can configure the IP address statically or dynamically through DHCP. *See your Network Administrator for further information.*

**Netmask**

Most TCP/IP networks use subnets in order to effectively manage routed IP addresses. For the range that you specified in From and To, Windows 2000 calculates the closest matching subnet. The range of addresses in the closest matching subnet may exceed the range that you specified. Unless the addresses specified in From and To are subnet boundaries, the range based on the calculated subnet will be larger than the range that you specified. To avoid this, specify a range that falls on subnet boundaries. For example, if you are using the 10.0.0.0 private network ID for your intranet, a range that falls on subnet boundaries is 10.0.1.168 to 10.0.1.175. Or, if you are using the 192.168.0.0 private network ID for your intranet, a range that falls on subnet boundaries is 192.168.1.0 to 192.168.1.255. *See your Network Administrator for further information.*

**Gateway**

A service that allows Firefly to connect to other servers. Creating a gateway also allows client computers running only Microsoft client software to access server resources through the gateway. *See your Network Administrator for further information.*

## **Proxy Type**

Allows you to select the type of proxy (None, Socks4, Socks5, USER usr@hst p, USER usr@hst:p, SITE usr@hst p, SITE usr@hst:p, NetCache or NAT Firewall).

Note: The NAT Firewall setting will put the FTP client in passive mode.

## **Proxy Address**

Allows you to enter the address for the proxy (in IP format).

## **Enable NTP (Network Time Protocol)**

Allows you to enable or disable the NTP time synchronization feature.

## **NTP Server**

The IP address of the NTP server the Firefly will time-sync with on the network.

## **Enable SNMP (Simple Network Management Protocol)**

Allows you to enable or disable the SNMP feature. SNMP can be used to monitor the Firefly on your network. You can also retrieve and change settings on the Firefly in addition to monitoring the unit by using the Firefly MIB file.

## **SNMP Network**

Designates the IP address of the system(s) you wish to be able to monitor and change settings on the Firefly. Notation must be dotted-decimal as with all IP settings on the Firefly. To allow an individual machine to control the Firefly, set to a specific IP address, (Ex. 1- 192.168.0.100). To allow a group of machines to control the Firefly, set the IP to a range, (Ex. 2 - 192.168.0.0).

## **SNMP Netmask**

Designates the Netmask information for the system(s) that will be able to monitor and control the Firefly. So for the individual example above you would set, (Ex. 1- 255.255.255.255) and for the range example above (Ex. 2- 255.255.255.0).

## **Community**

The SNMP Community name defines the relationship between an SNMP server system (your Firefly) and the client systems. This acts like a password to control the clients' access to the Firefly.

## **Security Name**

SNMPv3 feature: Defines the security name for the authentication and encryption for SNMP transmissions.

## **Auth Passphrase**

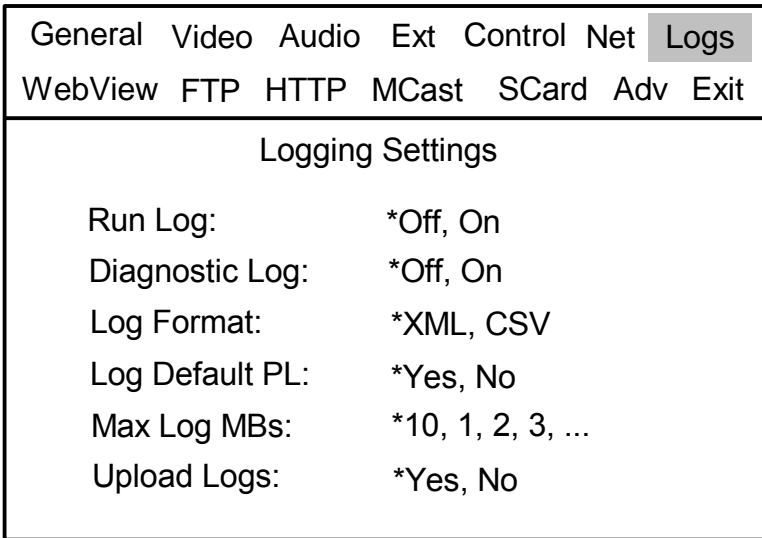
SNMPv3 feature: Provides authentication but no encryption on SNMP information.

## **Priv Passphrase**

SNMPv3 feature: Provides authentication and encryption on SNMP information.

## Logging Settings

\* - Indicates Factory Default



**Figure 36.** Logging Settings Screen

### Run Log

Allows you turn “On” or “Off” the run log. The run log provides a record of which videos played (with which graphic overlays, if applicable), on which channels, starting at what dates/times, playing back what percentage of the video and for how long.

### Diagnostic Log

Allows you turn “On” or “Off” the diagnostic log. The diagnostic log can be used to view a record of all media update transactions and any system errors on a Firefly.

Information contained in the diagnostic log include:

- ❑ FTP/DVD Updating data: Tracks date, time of connection/disconnection, errors- yes/no, files, sizes, percent transferred and FTP permission errors.
- ❑ Storage Cleanup data: Records what media have been deleted by the automatic storage cleanup routine, including file names, sizes and dates.
- ❑ Missing Elements Log: Records all missing media referenced by an active playlist or schedule, including date, time and file element.
- ❑ Error Summary data: Records important user player diagnostic information, including the number of system restarts, number of watchdog restarts, the player version, etc.
- ❑ Serial Commands: Records most incoming and outgoing external control commands.

## Log Format

Allows you to set the output format of the run log file to either .CSV or .XML.

### Sample from a .CSV format run log:

```
12-07-02 20:30:07,1,05saturn.mpg,3_ser220.BMP,1,00:01:01,100
```

### Sample from a .XML format run log:

```
<mpeg datetime="12-07-02 20:32:57" chan="1"  
filename="05saturn.mpg" overlay="3_ser220.BMP" loop="1"  
duration="00:01:01" percent="100" />
```

The format of the diagnostic log is in a simple “time - event” per line format.

## Log Default Playlist

Allows you to designate whether or not the default playlist playback is included in the playback log file data. Choosing “Yes” includes the default playlist in the playback data. Conversely, choosing “No” excludes the default playlist from the log file data.

If you are not using the scheduling feature (single playlist mode), note that the playlist will not be logged.

## Max Log MBs

Allows you to set a value (in megabytes) for the maximum size a log file is able to reach. The default value is 10 MB. You may want to keep this value relatively small if you wish to maintain a large amount of free space for videos and graphic overlays. However, if you do not reserve enough space, Firefly will delete the oldest residing logs in order to make room for the new ones.

When the log files exceed the maximum amount of defined storage space, an automatic cleanup process will delete the oldest file as required to contain the total log file space under the set limits. In addition, files will be deleted after they are transferred to the FTP server or downloaded from the Firefly player.

## Upload Logs

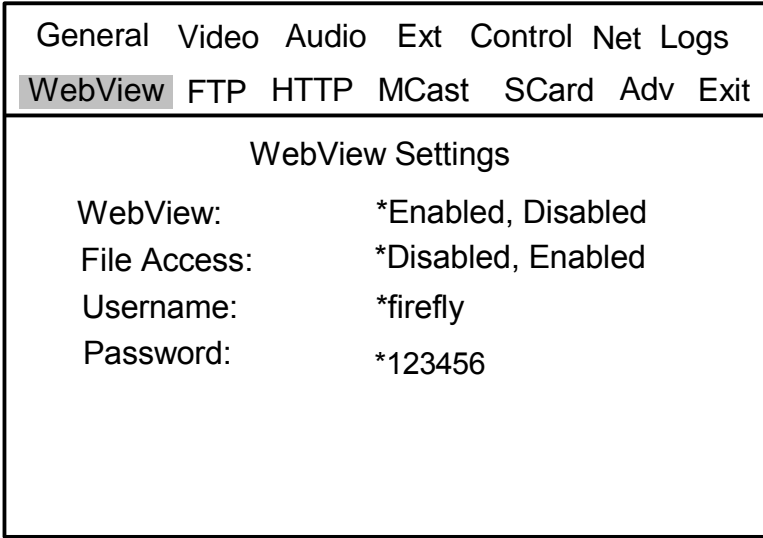
Allows “Yes” or “No” choice for uploading log files to the “logfiles” directory on your FTP server.

If you choose “Yes” to have the log files uploaded, you may download the log files to your choice of storage options, such as a database you have designated for Firefly media playback data, from your FTP server.

NOTE
After log files have been successfully uploaded to your FTP server, they will be deleted from the Firefly.

## WebView Settings

\* - Indicates Factory Default



**Figure 37.** WebView Settings Screen

### WebView

This feature gives the user access to Firefly over a network using a conventional web browser (see *WEBVIEW* on page 113).

### File Access

Accesses the Firefly directly with an FTP client.

### Username

Enter at least 6 (but no more than 15) alphanumeric characters here.



**NOTE**

The user name and password are used for *both* WebView and the FTP server.

**Password**

Enter at least 6 (but no more than 15) alphanumeric characters here.

**WARNING**

It is strongly recommended to change the user name and password from their original default values for system security.

## FTP Auto-Update Settings

\* - Indicates Factory Default

General	Video	Audio	Ext	Control	Net	Logs
WebView	<b>FTP</b>	HTTP	MCast	SCard	Adv	Exit
FTP Auto-Update Settings						
FTP IP Address:	-					
FTP Port:	-					
Username:	-					
Password:	-					
Directory:	-					
FTP Proxy Port:	-					
Update Interval:	*Disabled,30min, 1, 2, 4, 12 hr,1day,use fixed time					
Fixed Upd Time:	00:00					
FTP Update Now:	Initiate					

**Figure 38.** FTP Auto-Update Settings Screen

### FTP IP Address

Enter the FTP server IP Address here.

### FTP Port

Allows you to enter the port for the FTP server. If left blank during an update, this field will continue to show a blank value, and FTP will use port 21. Once you enter a value for the port and save, your new value will populate this field.

### Username

Enter the FTP server username here. Leave this blank if no username is present.

## **Password**

Enter the FTP server password name here. Leave this blank if no user password is present.

## **Directory**

It is advised that you leave this blank and use the home directory of your FTP account to place your media, playlists, schedules and/or updates folders. In the case where you are using multiple Firefly's with different content for each unit, single and or multiple directories can come in handy.

## **FTP Proxy Port**

Allows you to enter the port for the FTP proxy.

## **Update Interval**

Allows you to schedule FTP updates every 30 minutes, 1, 2, 4 or 12 hours, 1 day or at a fixed time.

## **Fixed Update Interval**

Allows you to set an actual fixed time (on an hourly basis) for an FTP update (Example: 14:00). In order for this feature to be accessible, you must have the Update Interval set to "Use fixed time".

## **FTP Update Now**

By pressing the MENU/SELECT button while the highlight is on "Initiate", the Firefly will immediately download any new media, playlists, schedules and/or updates. The front panel LCD will indicate update status during the update. Multicast Settings

## HTTP Auto-Update Settings

\* - Indicates Factory Default

General	Video	Audio	Ext	Control	Net	Logs
WebView	FTP	HTTP	MCast	SCard	Adv	Exit
HTTP Auto-Update Settings						
HTTP IP Address:	-					
HTTP Port:	-					
HTTP Proxy Port:	-					
HTTP Directory:	-					
Update Interval:	*Disabled,30min, 1, 2, 4, 12 hr,1day,use fixed time					
Fixed Upd Time:	00:00					
HTTP Update Now:	Initiate					

**Figure 39.** HTTP Auto-Update Settings Screen

### HTTP Address

Enter the HTTP server IP Address here.

### HTTP Port

Allows you to enter the port for the HTTP server. If left blank during an update, this field will continue to show a blank value, and HTTP will use port 80. Once you enter a value for the port and save, your new value will populate this field.

### HTTP Proxy Port

Allows you to enter the port for the HTTP proxy.

## **HTTP Directory**

It is advised that you leave this blank and use the home directory of your HTTP account to place your media, playlists, schedules and or updates folders. In the case where you are using multiple directories can come in handy.

## **Update Interval**

Allows you to schedule HTTP updates every 30 minutes, 1, 2, 4 or 12 hours, 1 day or at a fixed time.

## **Fixed Update Interval**

Allows you to set an actual fixed time (on an hourly basis) for an HTTP update (Example: 14:00). In order for this feature to be accessible, you must have the Update Interval set to “Use fixed time”.

## **HTTP Update Now Button**

By pressing this button in Webview will initiate the Firefly to immediately download any new media, playlists, schedules and or updates.

## Multicast

\* - Indicates Factory Default

General	Video	Audio	Ext	Control	Net	Logs
WebView	FTP	HTTP	<b>MCast</b>	SCard	Adv	Exit
Multicast Settings						
Client Enable:	*Disabled, Enabled					
Preset:	*1					
Listen Address:	-					
Listen Port:	-					
Transfer Order:	*Script Last, Package					
Reserve MBs:	-					
Delete Preset:	*Remove					

**Figure 40.** Multicast Settings Screen

### Client Enable

Allows option to enable or disable the KenCast™ multicast client.

Note that if you make changes to other Multicast settings, you must also toggle the Client Enable setting from “Disabled” to “Enabled” for the changes to apply.

For more information on multicasting, see *MULTICAST UPDATING* on page 212.

### Channel

Like presets, you can assign a Channel number for each “Listen” configuration. This allows you to easily recall up to 99 Channels of Listen Address & Port combinations.

Simply enter the desired Channel then enter the address & port addresses. Enter a Channel # to recall or edit settings at anytime.

### **Listen Address**

The IP address that the multicast client will listen on. The value must be a Class D multicast address, which will typical start with 224.xxx.xxx.xxx.

Because some addresses may be reserved (see below), consult your networking specialist for assistance.

224.0.0.0/24 is reserved by RFC.

224.0.1.0/24 is used by specific applications (NTP).

### **Listen Port**

The port address that the multicast client will listen on.

### **Transfer Order**

Allows the option to choose the order in which items are transferred: package mode (see page 213 for details) or script last mode (see page 214 details) .

#### **NOTE**

Multicasting is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the *optional* Multicasting feature (menu items are “grayed out”) and your application requires it, contact a Visual Circuits representative at 1-800-250-5533.

## Reserves MBs

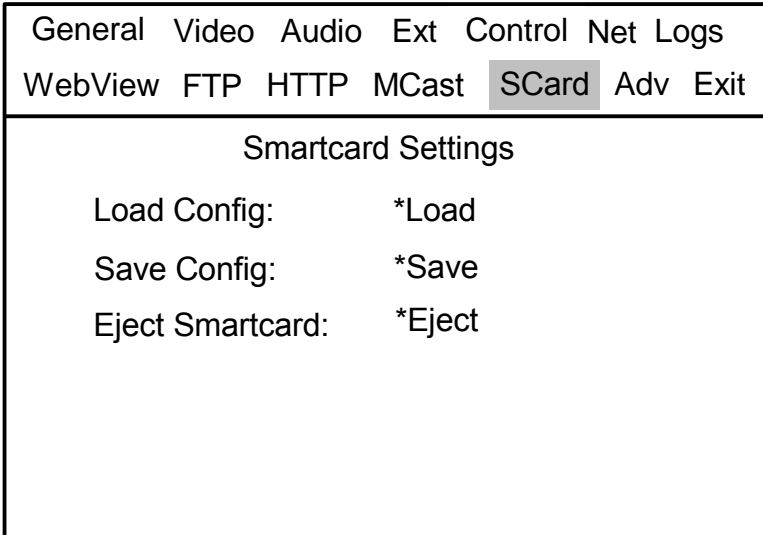
Allows you to allocate a fixed amount of Firefly’s internal storage space for receiving a multicast update. To determine this value, you will need to estimate the largest multicast update you will ever receive (example: 1000 MBs). Then, double that amount (example: 1000 MBs x 2 = 2000 MBs) to allow room for both the compressed archive and the extraction process. Once you have determined this value, enter it for the Reserve MBs.

## Delete Channel

Quickly defaults back to blank “Listen” fields for the chosen deleted Channel.

## Smart Card Settings

\* - Indicates Factory Default



**Figure 41.** Smart Card Settings Screen



## **Load Config**

Allows you to load the configuration (all system settings) from an inserted Smart Card onto your Firefly. Once loaded, the Firefly will detect the new system settings and change any necessary system settings according to the configuration stored on the Smart Card.

## **Save Config**

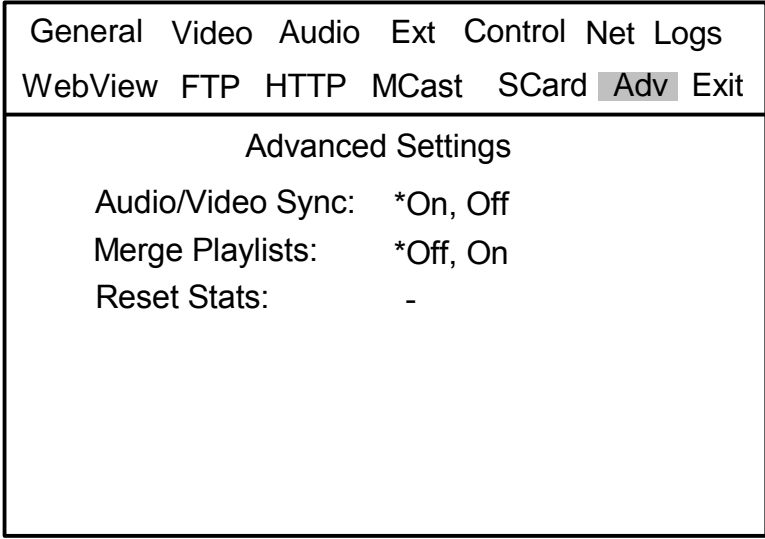
Allows you to save the current configuration of the Firefly (all system settings) to the Smart Card.

## **Eject Smart Card**

Allows you to eject an inserted Smart Card from the Firefly's internal Smart Card reader. (You may also eject the Smart Card using the front panel display on the Firefly. See *Ejecting the Smart Card* on page 110 for details).

## Advanced Settings

\* - Indicates Factory Default



**Figure 42.** Advanced Settings Screen

### Audio/Video Sync

Turns audio/video synchronization on and off. Turning the audio to video synchronization or “lip sync” off, sometimes eliminates stuttering video playback. This may however result in poor audio to video synchronization. Consult with a Visual Circuits representative if the problem continues.

### Merge Playlists

The behavior of the “Merge Playlists” feature depends upon which mode you are in (Single Playlist Mode vs. Schedule Mode) with your Firefly.

If you are in “Single Playlist Mode”, the existing playlist is ignored, i.e., the incoming playlist is merged with the current playing one regardless of the playlist filename.

If you are in “Schedule Mode”, if a new playlist has the same filename as a playlist already on the system, then any empty channels on the new playlist will utilize the channels from the original playlist.

## Statistics

Basic system statistics (number of Watchdog Restarts and System Starts) as viewable in the WebView Diagnostics - General page may be reset to zero in this screen by moving the highlight to “Reset” and then pressing the MENU/SELECT key.

## Storage Settings (Menu Only Available Via Front Panel Interface)

Gives information on media stored on Firefly such as how much storage space a file uses, how much total storage space is available, and how to delete both files and playlists/schedules.

## Usage

Displays amount of storage space available and amount of storage space used.

Example:

Size	Used	Avail
31G	570M	30G

## Copy From CD/DVD

Displays media on CD/DVD. Allows you to copy media from CD/DVD to Firefly.

## List Media

Displays media on Firefly. These media may be included in a playlist/schedule.

Select media	Displays media size.
--------------	----------------------

Example:

Scale.mpg      Size: 8.0MB

## Delete Media

Displays media on Firefly.

Select media for deletion.	Confirm delete.
----------------------------	-----------------

Example:

Scale.mpg

## Delete Playlists/Schedules

Displays playlists/schedules on Firefly.

Select playlists/schedules for deletion.	Confirm delete.
--	-----------------

Example:

Test.fpl

# SMART CARD

---

## Overview

A Smart Card is a plastic card about the size of a credit card with an imbedded microchip that can be loaded with data and can be used for a variety of applications.

The Visual Circuits' application for using Smart Card technology is used in two ways: to license optional features for the Firefly Media Player and to save and load Firefly system setting configurations.

## Licensing Features

The licensing of features allows the you or your organization to purchase and then utilize different feature sets made available on a feature-by-feature basis.

The currently available optional features for the Firefly Media Player are as follows:

- External Audio/Video Switching
- Dolby Digital Audio Decoding To Analog
- Multicast Updating
- Four Channel Upgrade

As new product enhancements and updates are made available, you may have the opportunity of adding features to your Firefly Media Player by simply having your Visual Circuits Smart Card updated.

## Saving and Loading System Setting Configurations

The saving and loading capabilities of the Smart Card facilitates easy setup and configuration of multiple Firefly Media Players. Instead of manually setting each of the system settings on the Fireflies on your network, you can simply setup one Firefly and then copy its system settings configuration to the Smart Card.

Then, all you have to do is insert the Smart Card into another Firefly, load the data and the Firefly will detect the new system settings and change any of its internal system settings according to the configuration stored on the Smart Card.

## Using Your Visual Circuits Smart Card

The Smart Card reader slot on the Firefly Media Player is located directly below the DVD/CD drive (see below).



**Figure 43.** Firefly Smart Card Reader Slot

## Inserting The Smart Card

In order for you to license or access features or to save or load system configurations, the Smart Card must be inserted into your Firefly.

To insert the Visual Circuits Smart Card:

1. Orient the Smart Card so that the label is facing up and the insert arrow is in the direction of the Firefly Smart Card reader slot.
2. Slowly insert the Smart Card into the reader until the card is all the way inside.

A green status light will be lit if the Smart Card has been inserted correctly.

### IMPORTANT

Due to licensing and security features, the Visual Circuits Smart Card must remain inserted in the Firefly throughout any saving, loading or feature utilization processes.

## Saving A Firefly Configuration To The Smart Card

There are three different interfaces you may use to save a Firefly configuration to the Smart Card: the remote control, WebView and the front panel.

### Using the Remote Control

To save the current Firefly configuration (System Settings) to the Smart Card using the remote control:

1. From the Firefly Main Menu, position the highlight on “System Settings” and press the MENU/SELECT key.
2. Using the LEFT and RIGHT arrow keys, position the highlight on “SCard” and press the MENU/SELECT key.

3. (From within the Smart Card Settings screen), use the UP and DOWN arrow keys to move to “Save Config”, use the LEFT and RIGHT keys to position the highlight on “Save” and then press the MENU/SELECT key.

As a result, the system settings configuration will be saved from the Firefly to the Smart Card.

## Using WebView

To save the current Firefly configuration (System Settings) to the Smart Card using WebView:

1. Click on “System Settings” from the menu options on the left.
2. Scroll down to the Smart Card section.
3. Click on the “Save Config” button.

As a result, the system settings configuration will be saved from the Firefly to the Smart Card.

## Using the Front Panel

To save the current Firefly configuration (System Settings) to the Smart Card using the front panel:

1. Press the MENU/SELECT key.
2. Using the LEFT and RIGHT arrow keys, locate the Firefly Settings: Smart Card menu.
3. Use the navigation keys to move to “Save Config” and then press the MENU/SELECT key.

As a result, the system settings configuration will be saved from the Firefly to the Smart Card.

## Loading A Firefly Configuration From The Smart Card

There are three different interfaces you may use to load a Firefly configuration from the Smart Card: the remote control, WebView and the front panel.



## Using the Remote Control

To load the Firefly system settings configuration from the Smart Card using the remote control:

1. From the Firefly Main Menu, position the highlight on “System Settings” and press the MENU/SELECT key.
2. Using the LEFT and RIGHT arrow keys, position the highlight on “SCard” and press the MENU/SELECT key.
3. (From within the Smart Card Settings screen), use the UP and DOWN arrow keys to move to “Load Config”, use the LEFT and RIGHT keys to position the highlight on “Load” and then press the MENU/SELECT key.

As a result, the system settings configuration on the Smart Card (if present) will be loaded from the Smart Card to the Firefly.

## Using WebView

To load the Firefly system settings configuration from the Smart Card using WebView:

1. Click on “System Settings” from the menu options on the left.
2. Scroll down to the Smart Card section.
3. Click on the “Load Config” button.

As a result, the system settings configuration on the Smart Card (if present) will be loaded from the Smart Card to the Firefly.

## Using the Front Panel

To load the Firefly system settings configuration from the Smart Card using the front panel:

1. Press the MENU/SELECT key.
2. Using the LEFT and RIGHT arrow keys, locate the “Firefly Settings Smart Card” menu.
3. Use the navigation keys to move to “Load Config” and then press the MENU/SELECT key.

As a result, the system settings configuration on the Smart Card (if present) will be loaded from the Smart Card to the Firefly.

## Ejecting the Smart Card

There are three different interfaces you may use to eject the Smart Card from the Firefly: the front panel, the remote control and WebView.

In the event your Smart Card will not eject by following procedures described within this section, refer to *The Smart Card will not eject* on page 275 in the Troubleshooting section for more information.

### Using the Front Panel

By far the simplest way to eject the Smart Card is to use the front panel.

To eject the Smart Card using the front panel, hold down the EXIT key for five seconds.

#### NOTE

If your Smart Card is inserted incorrectly (green status light is not lit), press and hold the EXIT button on the Firefly front panel for 10 seconds to eject it.

### Using the Remote Control

To eject the Smart Card from the Firefly using the remote control:

1. From the Firefly Main Menu, position the highlight on “System Settings” and press the MENU/SELECT key.
2. Using the LEFT and RIGHT arrow keys, position the highlight on “SCard” and press the MENU/SELECT key.

3. (From within the Smart Card Settings screen), use the UP and DOWN arrow keys to move to “Eject Smart Card”, use the LEFT and RIGHT keys to position the highlight on “Eject” and then press the MENU/SELECT key.

As a result, the Smart Card will be ejected from the Firefly Media Player.

## Using WebView

To eject the Smart Card from the Firefly using WebView:

1. Click on “System Settings” from the menu options on the left.
2. Scroll down to the Smart Card section.
3. Click on the “Eject Smart Card” button.

As a result, the Smart Card will be ejected from the Firefly Media Player.

### IMPORTANT

In the event your Firefly needs to be serviced, do *not* send its corresponding Smart Card back with the Firefly. Instead, keep the Smart Card at the local Firefly location to avoid having to have the Smart Card reprogrammed or replaced.



# WEBVIEW

---

The WebView interface allows you to access a Firefly over a network using only a conventional web browser. No special software is required. WebView is compatible with Microsoft Internet Explorer™ 5.5 and above. While WebView may work with other web browsers, Visual Circuits cannot guarantee full compatibility.

## Accessing the WebView Interface

### Setup Procedures:

#### Step 1: Connect to the Network

To begin, both the Firefly and the computer you will be using to access the Firefly must be on a common network. If you need help setting up these connections you should contact your IS department.

#### WARNING

While it is possible to use WebView over the Internet, all security provisions must be provided by the user's network. Firefly does not include any special security measures and because the user name and password can be displayed as clear text through the on-screen menu system, it is possible for anyone with physical access to the unit to obtain this information.

## Step 2: Determine the Address of the Firefly

Once proper network connections are confirmed on both the Firefly and the web browser computer, you will need to know the IP address or DNS name (if your network has a DNS server) of the Firefly. You can obtain the IP address through the on-screen menu displays using the remote control. To do this:

1. Press MENU/SELECT to bring up the main menu.
2. Press (5) to select “System Settings”.
3. Use the RIGHT arrow key to highlight the “Net” tab.
4. Observe the settings on that screen. If your network is using static IP addresses, the IP address of the Firefly will be shown on that screen. If your network is using dynamic IP addresses, you must do the following to display the Firefly address:
  - a. Use the DOWN arrow key to move the cursor to the field labeled “Mode”.
  - b. Use the RIGHT arrow key to move over to “DHCP”.
  - c. Press MENU/SELECT. A dialog box will appear stating that a DHCP address is being requested. After a few seconds, it should be replaced by another dialog box displaying the Firefly’s IP address. This is the address you want to write down.

### NOTE

Using DHCP, you should also be able to use the address “http://hostname” or “http://hostname.yourdomain” to access the Firefly without knowing the exact IP address.

5. After you have recorded the IP address, press EXIT repeatedly until you exit out of the menu system and playback is resumed.

### Step 3: Establishing Communication with the Firefly

To begin working with the Firefly you should launch your Internet browser program and enter the IP address (or DNS name if appropriate) in the address field. If you have successfully established communication with the Firefly, you will see a screen like the one displayed here.

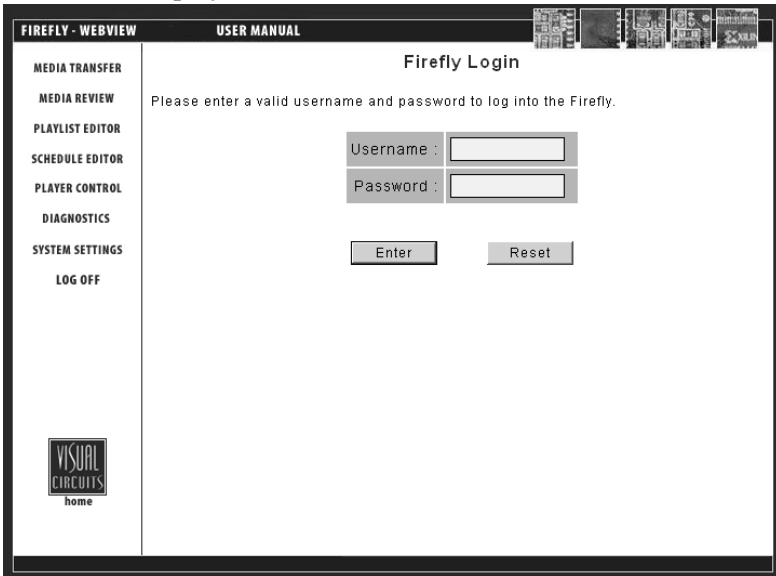


Figure 44. WebView Login Page

### Step 4: Enter Your User Name and Password

All Firefly's ship from the factory with a default user name of "firefly" and default password "123456". If you have not yet changed those defaults, you should enter them at this time. Otherwise, if you have already created a new user name and password, enter them now.

Keep in mind that both the user name and password are case sensitive and require a minimum of 6, but no more than 30, characters.

**WARNING**

Default user names and passwords are a favorite tool of hackers. Since many people never bother to change the defaults, once hackers learn them they will try them on every like product they find. Your first layer of security should always be to change the default settings immediately.

## Using the WebView Interface

Once you have logged onto the WebView Interface, your browser will go to the “Media Transfer” page as the default starting point (page 117). Along the left side of the page are the navigation buttons used to access different pages in the WebView interface. At the top is a link to download the Firefly User Manual in PDF format. There is a link to the Visual Circuits website in the lower left corner of the page.

**NOTE**

The Visual Circuits website link will actually take you out of the WebView interface to Visual Circuits Internet website. If you are not connected to the Internet through your network, this link will not work. The user manual download, however, comes directly off of the Firefly and therefore will work even without an Internet connection.



## Transferring Media

From this page you can transfer media from your computer or network to the Firefly. Up to six media files can be transferred at once by simply specifying the files to be transferred in each of the Media 1 through Media 6 boxes.

**FIREFLY - WEBVIEW**      **USER MANUAL**

**MEDIA TRANSFER**      Firefly

MEDIA REVIEW

PLAYLIST EDITOR

SCHEDULE EDITOR

PLAYER CONTROL

DIAGNOSTICS

SYSTEM SETTINGS

LOG OFF

Click the **Browse** buttons to choose up to eight media files (or 2GB of content) you want to send to your Firefly. When you are done, press the **Transfer Media** button to transfer the media files or press the **Reset** button to clear all fields. This may take a while, depending on the speed of your connection to the Firefly.

<b>Media 1</b>	<input type="text"/>	Browse...
<b>Media 2</b>	<input type="text"/>	Browse...
<b>Media 3</b>	<input type="text"/>	Browse...
<b>Media 4</b>	<input type="text"/>	Browse...
<b>Media 5</b>	<input type="text"/>	Browse...
<b>Media 6</b>	<input type="text"/>	Browse...

Transfer Media      Reset

**Firefly Update**            Browse...

Firefly Update

**VISUAL CIRCUITS**  
home

**Figure 45.** WebView Media Transfer Page

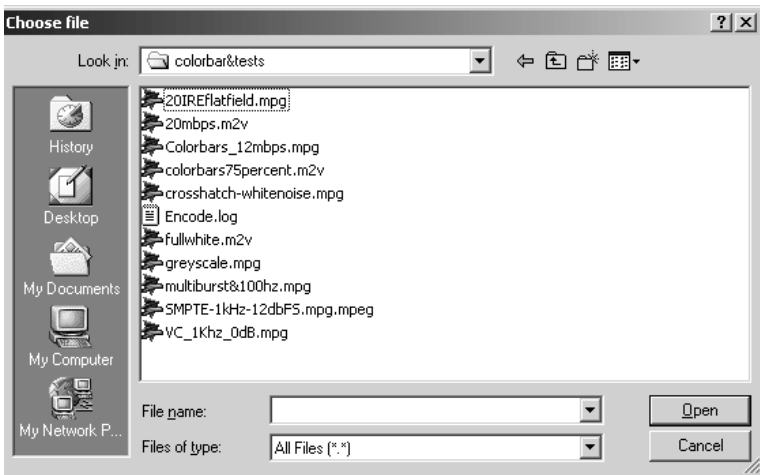
### NOTE

If you close or select another web page during a media transfer, the transfer will terminate. If you would like to multi-task during a transfer, you may open a new web browser and log in.

**WARNING**

Do not use the Internet Explorer “History” function within WebView. Because the WebView interface needs to query the Firefly player to refresh, pulling the history out of the Internet Explorer cache file will cause inconsistent results. For the same reason, do not use the Internet Explorer backward or forward navigation buttons. Use the WebView navigation buttons instead.

If you cannot remember the names and locations of the files you wish to transfer, simply click the Browse button to the right of the box you wish to fill in. This will bring up a window that allows you to search your hard drive(s) and network for the desired file.



**Figure 46.** WebView Browse for Files Window

After you have selected all the media files you wish to transfer to the Firefly, clicking the Transfer Media button will initiate the transfer. If you wish to change your selections before the transfer begins, you can click the Reset button to clear all selections.

**NOTE**

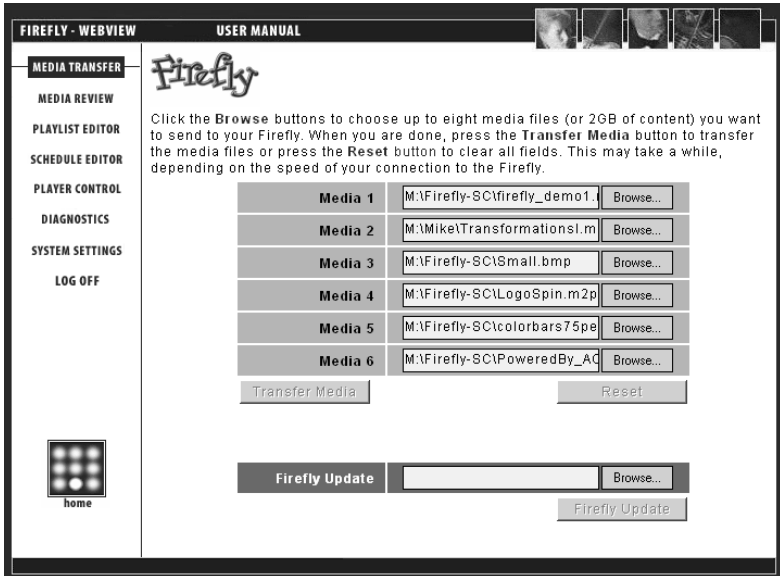
While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed on the system will appear with “.bmp” as their extension.

If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

When WebView begins transferring the selected files, an animated sequence of flashing circles will appear over the Visual Circuits logo in the lower left portion of the page to let you know that the transfer is in progress.

**NOTE**

Because media files can be quite large, the transfer process can take several minutes depending on the size of files you have selected and the speed of your network connection.



**Figure 47.** WebView Media Transfer In Progress

After WebView has successfully transferred all of the selected files to the Firefly, a summary page will be displayed showing what was uploaded. If you wish to transfer more files to the Firefly, you may return to the Media Transfer page by clicking the Media Transfer navigation button on the left side of the screen.

**FIREFLY - WEBVIEW**      **USER MANUAL**

**MEDIA TRANSFER**      *Firefly*

MEDIA REVIEW

PLAYLIST EDITOR







SCHEDULE EDITOR


PLAYER CONTROL

DIAGNOSTICS

SYSTEM SETTINGS

LOG OFF

Name	Type	Size
 LogoSpin.m2p	video/mpeg	5.46Mb
 Large.BMP	image/bmp	338.55Kb
 PoweredBy_AC3.VOB	video/mpeg	10.88Mb
 colorbars75percent.m2v	video/mpeg	7.06Mb
 multiburst&100hz.mpg	video/mpeg	20.32Mb
 slide1.m2v	video/mpeg	7.67Mb



Transferred 6 files totaling 51.72Mb in 25 seconds. (2.07Mb/s)

**Figure 48.** WebView Media Transfer Summary Page

## Webview Software Update

To update your Firefly using the Media Transfer-Firefly Update method, simply browse your PC for the .upd file you may have obtained from the Visual Circuits website or CD ROM. Now select “Firefly Update”. After the file has been transferred, the system will immediately begin to process the update for approx. 60 seconds and then restart the player. You may notice some video stuttering during the update, but this is completely normal as the update requires a significant amount of processing bandwidth. After the player has restarted, verify that the system version has changed, indicating a successful update.

## Reviewing, Previewing and Deleting Firefly Media

Within the WebView Media Review page, you will be able to review media and storage usage on the Firefly, preview video and graphic overlay media on the Firefly and delete media from the Firefly.

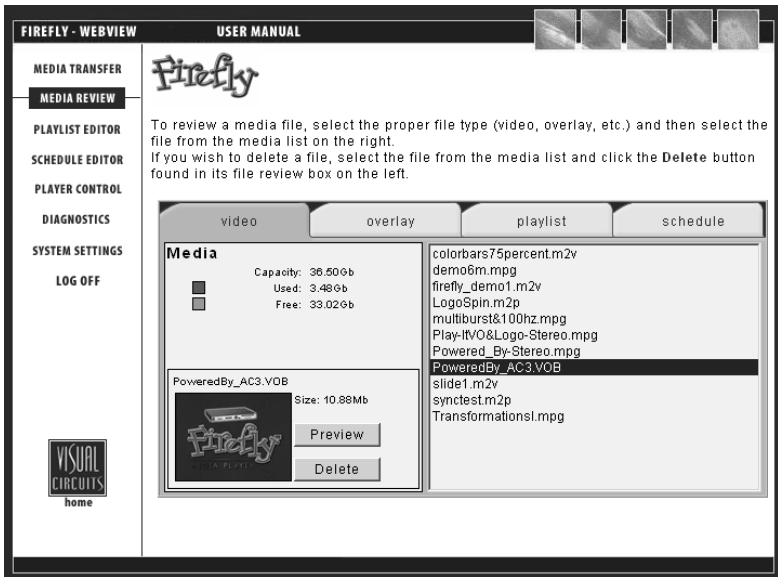


Figure 49. WebView Media Review Page (Video)

### Reviewing Media and Storage Usage on the Firefly

The Media Review page allows you to review the video and graphics overlay files that are currently on the Firefly.

To review a video or graphic overlay:

1. Select the proper file type tab (video or overlay) at the top.
2. Select the file from the media list on the right.

The media review box on the left will display the name of the file and its size (in MBs).

In addition, you will be able review the current storage status of the Firefly by observing the current “Used” space and “Free” space displayed in the upper left portion of the Media Review window.

## **Previewing Videos and Graphic Overlays on the Firefly**

Within the Media Review page, you will be able to view basic previews (thumbnail images) of videos and graphic overlays on the Firefly.

### **To preview a video on the Firefly:**

1. Select the video tab at the top.
2. Select the file from the media list on the right.

The media review box on the left will display the name of the file and its size (in MBs).

3. Click the “Preview” button.

A short series of still, thumbnail images from the video will be displayed in an animated sequence. This is a useful feature for you to see what is in the video, especially when a file name is not descriptive.

After you have previewed a particular video on the Firefly once, the thumbnail images will be stored on the Firefly allowing the preview to load automatically in successive review attempts.

### **NOTE**

In some cases, certain video files will be unavailable for preview.

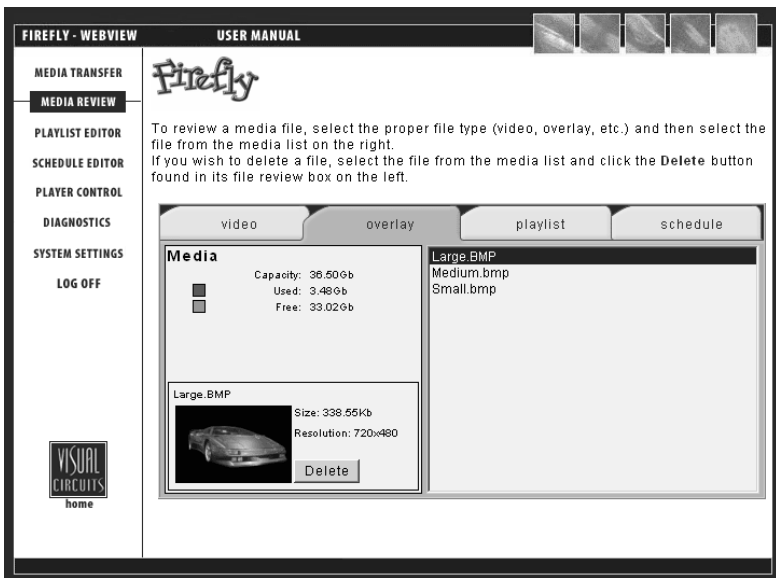
### **To preview a graphic overlay on the Firefly:**

1. Select the overlay tab at the top.
2. Select the file from the media list on the right.

The media review box on the left will display the name of the file, its size (in MBs) and a thumbnail preview of the graphic overlay image.

**NOTE**

In some cases, certain graphic overlay files will be unavailable for preview.



**Figure 50.** WebView Media Review Page (Graphic Overlay)

## Deleting Media from the Firefly

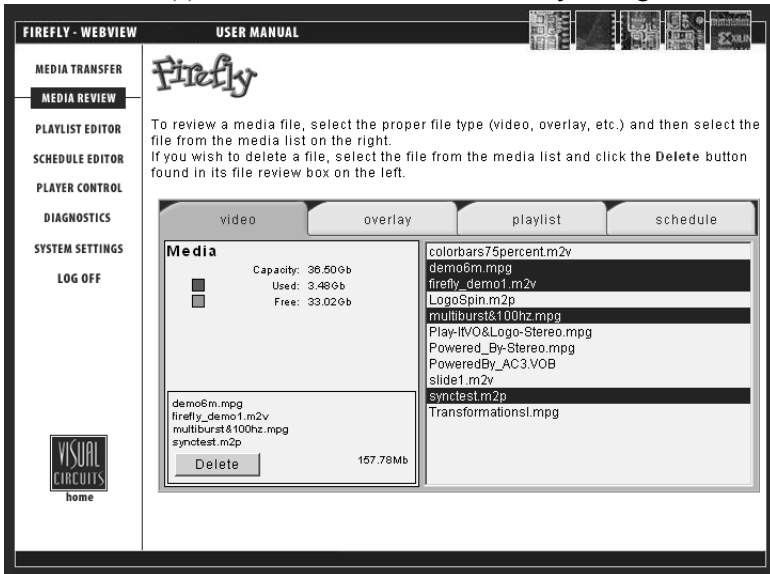
1. Select the proper file type tab (video, overlay, playlist or schedule) at the top.
2. Select the file(s) from the media list on the right. If you would like to select multiple files at the same time, you can use the standard Windows 'Shift/Control' methods.



The media review box on the left will display the name of the file and its size (in MBs). In cases where you have selected more than one file, all of the file names will be listed along with a total combined size (in MBs) for the group of files.

3. Click the “Delete” button.

The media file(s) will be deleted from the Firefly storage.



**Figure 51.** WebView Media Review Page (Deleting Multiple Files)

### CAUTION

You may delete any or all media files from the Firefly in this fashion. This includes files that may be in use by the current playlist. If you delete a file that is currently playing, it will be allowed to finish playing before the file is actually removed. The next time it is called by the playlist it will be skipped.

**WARNING**

There is no way to recover files after they have been deleted.

## Using the Playlist Editor

Within the Playlist Editor, you will be able to arrange videos on the Firefly into a playlist. A playlist is essentially a group of videos arranged in a particular playback sequence. A playlist can be used for immediate playback or saved on the Firefly for future playback.

In addition, within the Playlist Editor, you will be able to utilize graphic overlays. A graphic overlay is a static image (.bmp, .jpg, .gif, .tif, .tga or .png) placed over an associated video. You can assign individual graphic overlays to specific videos within a playlist or to all videos within a playlist if desired. The graphic overlay feature provides an effective way to display a company logo, sale sign or any other image over your regular video playback.

To access the Playlist Editor, click on the Playlist Editor navigation button on the left side of the WebView interface.

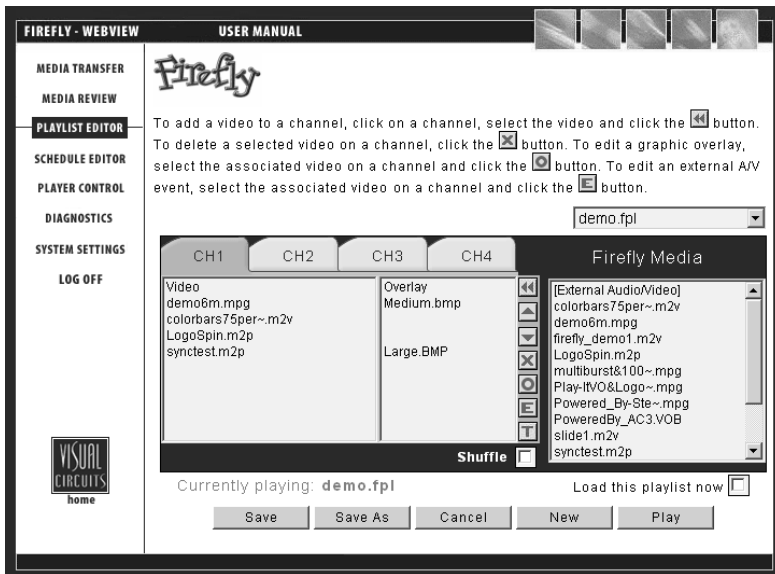



Figure 52. WebView Playlist Editor Page

## Creating a New Playlist

The process for creating a new playlist may be started in one of two ways; by choosing “New Playlist” from the “Playlist” drop down menu or by clicking on the “New” button in the lower right corner.

## Adding Videos to a Playlist

To add a video to a playlist:

1. Select the channel tab you wish to work with.
2. Browse the Firefly Media list to locate the video you wish to add.
3. Once you have found the video you wish to add, select it and then click on the  button located on the center buttons panel.


Additional videos you wish to add must be selected and added one at a time.

#### NOTE

The chosen video file will always be added to the end of the list for that channel and can be used multiple times in the same channel or on different channels.

### Removing Videos from a Playlist

To remove a video from the playlist:


1. Select the video in the Video listbox.
2. Click on the  button located on the center buttons panel. This will remove the video from that specific playlist (not from the Firefly entirely).

Additional videos you wish to be deleted must be selected and deleted one at a time.


### Moving Videos Within a Playlist

While you are creating or modifying a playlist, you may find yourself wanting to modify the order of the videos.

#### To move a video up (towards the beginning) in a playlist:

1. Select the video (from the Video list) you would like to move.
2. Press the  button until the video is where you want it within the playlist.

#### To move a video down (towards the end) in a playlist:

1. Select the video (from the Video list) you would like to move.
2. Press the  button until the video is where you want it within the playlist.

Continue using the method outlined above to move other videos in order to create your desired playlist.

## Shuffling Video Playback on a Channel

Occasionally, you may want to vary the playback order of your videos for a given playlist. The Shuffle playback feature within the Playlist Editor allows you to do just that. By activating Shuffle playback, videos within the playlist you are working with will be played back in random order.

In addition, keep in mind that Shuffle is set on a channel-by-channel basis. This means that if you would like the playlist's videos to have randomized playback on all 4 channels, you will need to activate Shuffle for each individual channel. Alternatively, if desired, you may shuffle the playback order for any other combination of channels, while maintaining the regular playback order for the others.


To turn Shuffle playback “On” or “Off” for a playlist on a specific channel, simply check (for On) or uncheck (for Off) the Shuffle checkbox located at the bottom right of the applicable playlist channel tab.


## Adding Graphic Overlays to a Playlist

The process for adding graphic overlay files to a playlist is basically the same as the process of adding video files. The one significant difference, however, is that a graphic overlay is always linked to a particular video. Where adding a video creates a new line at the end of the playlist, adding a graphic overlay attaches the overlay to the currently selected video entry in the Video listbox. Therefore, at least one video must be in the Video listbox before you can add any type of graphic overlay.

There are two ways you can add a graphic overlay to a video.

The first method is as follows:


1. Click on the video within the playlist that you would like the overlay to associate with.
2. Locate and then click on your desired graphic overlay from the Firefly Media list.
3. Click on the  button to add the graphic overlay.

The graphic overlay you selected will appear across from its associated video in the Overlay listbox. The properties of the overlay will be set to the default settings. If you wish to modify the graphic overlay properties at this point, select either the video or the graphic overlay and then click on the  button to display the Graphic Overlay Properties page. You may make your desired changes in this screen (see *Working With Graphic Overlays in a Playlist* on page 131 for details).

**NOTE**

If a graphic overlay is added while a video that already has an associated graphic overlay is selected on the playlist, the new selection will replace the original contents.

The second method, which allows you to review and/or adjust the graphic overlay properties before saving, is as follows:

1. Click on the video within the playlist that you would like the overlay to associate with.
2. Click on  button to display the Graphic Overlay Properties window.
3. Click on the Overlay Filename drop down menu to locate and select your desired graphic overlay from the Firefly Media list.
4. Review and/or adjust the overlay properties (see *Working With Graphic Overlays in a Playlist* on page 131 for details on this).
5. Click the OK button.

The graphic overlay you selected will appear across from its associated video in the Overlay listbox.

## Working With Graphic Overlays in a Playlist

As previously noted, graphic overlays exist in a playlist as attributes of specific video entries. The only image types that are compatible with Firefly are .bmp, .jpg, .gif, .tif, .tga or .png.

Graphic Overlay Properties http://192.168.0.74

Edit the properties for the graphic overlay associated with **syncctest.m2p**. Check the box to the right of any of the settings to apply the setting to each graphic overlay on this channel.

Graphic Overlay Filename	No Overlay		Apply to
Transparency Level	50	% [0 - 100]	All <input type="checkbox"/>
Key Color	<input checked="" type="radio"/> None	<input type="radio"/> Auto	<input type="radio"/> RGB
Fade In/Out	Fade In 0	seconds	Fade Out 0
Screen Position	<input type="checkbox"/> upper left	<input type="checkbox"/> upper middle	<input type="checkbox"/> upper right
	<input type="checkbox"/> middle left	<input checked="" type="radio"/> middle	<input type="checkbox"/> middle right
	<input type="checkbox"/> lower left	<input type="checkbox"/> lower middle	<input type="checkbox"/> lower right

**Figure 53.** Graphic Overlay Properties Page


### NOTE

While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed on the system will appear with “.bmp” as their extension.

If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

The process for altering the characteristics of a specific graphic overlay is as follows:

(Skip steps 1 and 2 if you have already selected a graphic overlay and are within the Graphic Overlay Properties page).

1. Select the video you would like the graphic overlay to be associated with and then click on the  button to display the Graphic Overlay Properties page.
2. Click on the Overlay Filename drop down menu to locate and select your desired graphic overlay from the Firefly Media list.
3. If desired, select a level of transparency between 0 and 100%. This value will adjust to what extent the graphic overlay covers the video below. If you want the graphic overlay to blend in with the video, you may select a higher transparency level. Conversely, if you would like the graphic overlay to stand out, you may select a lower or zero-value transparency level.
4. If desired, adjust the key color. The key color property deals with blocking out or cropping specified colors within the graphic overlays. For example, if the image you are using is your company logo (in color) and is placed on top of a white rectangular background, you may only want to display the company logo, instead of the logo on top of the white background.

Within the key color property, there are three options: None, Auto Key or RGB. You can choose None to not use the key color option at all. You can choose Auto Key have the system automatically make transparent the background color. The system selects the color in the upper left most corner of the image to determine which color to remove. In most instances, Auto Key will be the easiest to use and most effective “make transparent” method. Or you can choose to manually set the RGB (Red, Green and Blue) key color level. The RGB option requires you to know the specific RGB value of the color you would like to “make transparent”.



**NOTE**

Use a solid background (one color) in your graphic overlays for the Auto key feature to work properly.

**NOTE**

Entering your own RGB values for the key color feature only works with 8 bit bitmap graphics less than or equal to 720x480 resolution.

5. If desired, adjust the rate (in seconds) at which you would like the graphic overlay to fade in and/or out on the screen.
6. If desired, select the position on the screen where you would like to have the graphic overlay located (example: left bottom).
7. If desired, use the check boxes on the right side of the screen. The check boxes correspond to each of the graphic overlay properties. These check boxes can be used to copy the properties in their associated frames to all of the existing graphic overlays across all channels in a playlist. For example, if you would like ensure that all existing graphic overlays for a given playlist always appear in the lower right corner, then you would set the screen position attribute to right bottom and would check the “Apply to All” box to the right of that frame. If, for example, you would like to have the same graphic overlay with all of the same properties applied to all of the videos in a given playlist, you would check each of the “Apply to All” boxes to the right of the option frames (Overlay Filename, Transparency, Key Color, Fade In/Out and Position on Screen).
8. Click the OK button to save your changes and to return to the Playlist Editor screen.


## Adding Scrolling Text to a Playlist


The process for adding scrolling text to a playlist is basically the same as the process of adding video files. The one significant difference, however, is that scrolling text is always linked to a particular video. Where adding a video creates a new line at the end of the playlist, adding scrolling text attaches the text to the currently selected video entry in the Video listbox. Therefore, at least one video must be in the Video listbox before you can add any text.

### NOTE

The Graphic Overlay & Scrolling Text features cannot be used simultaneously on a single video file. Also, Scrolling Text is limited to one channel only.

### Adding Scrolling Text:

1. In the Playlist Editor page, select the video file which you want to associate the scrolling text with and then select the  icon.
2. The Scrolling Text properties page will appear as seen in Figure 54 on page 135.
3. You can type or paste text from another file into the “Scrolling Text String” window. A maximum of 500 character spaces is allowed.
4. Select OK, then Play to preview. Once you are satisfied, make sure to *Save your work*.
5. Once you are satisfied with the results, select ‘Save’ or ‘Save As’ another Playlist.

The properties of the scrolling text will be set to the default settings. If you wish to modify the properties at this point, select either the video or the scrolling text file and then click on the  button to display the Scrolling Text Properties page. You may make your desired changes in this screen (See *Working With Scrolling Text in a Playlist* on page 135 for more details).

**NOTE**

Characters & symbols, other than what is currently displayed on most keyboard key caps, are not supported. Be aware of Word Processing programs that have the “AutoCorrect” feature enabled.

**Working With Scrolling Text in a Playlist**

As previously noted, scrolling text exist in a playlist as attributes of specific video entries.

**Figure 54.** Scrolling Text Properties Page

The process for altering the characteristics of a specific text file is as follows. Select the video you would like the scrolling text to be associated with and then click on the **T** button to display the Scrolling Text Properties page:

## Transparency Level

1. **All** - If desired, select a level of transparency between 0 and 100%. This value will adjust to what extent both background and text will “overlay” the video. If you want the background & text to blend in with the video, you may select a higher transparency level. Conversely, if you would like them both to stand out, you may select a lower or zero-value transparency level.
2. **Background** - The same rules apply here as “All” except only the background is affected.
3. **Reverse** - When Reverse is selected to the on position, the Text assumes the position of Background & visa versa.

### NOTE

Entering your own RGB values for the background feature only works with 8 bit bitmap graphics less than or equal to 720x480 resolution.

## Creating an External A/V Playlist

Using the external audio/video feature is a great way to insert external programming and special events into your presentation mix using the Firefly Media Player network. This feature allows you to schedule live audio and video playback, such as a satellite or cable television broadcast, or switch to local or national programming in the event of breaking news or an emergency. The “scheduling” of the external A/V events is accomplished by inserting the external A/V event(s) into a playlist and then scheduling the playlist using the schedule editor.

### NOTE

External Audio/Video is an optional feature enabled by a pre-programmed Smart Card.


If your Firefly does not have the External A/V feature and you would like to purchase it, contact a Visual Circuits representative at 1-800-250-5533.

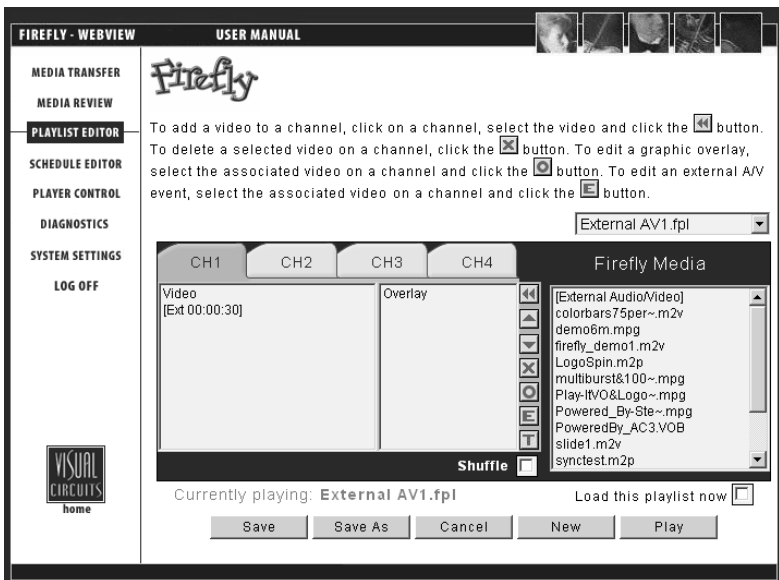
### NOTE

Genlock must be turned on in the Firefly system settings for external audio/video switching to work properly. See *Genlock* on page 79 for details on how set this parameter.

If you do not genlock to the video input, the Firefly system will turn this parameter on temporarily for the duration of the playlist; however, note that this temporary setting switch may cause picture roll to occur at the beginning and/or end of the playlist.

If you plan on having external audio and/or video playing for an extended period of time, the easiest way to set this up is as follows:

1. Create a new playlist and name it something descriptive, such as “External AV 1”.
2. (In the Playlist Editor main screen) Select the channel tab you wish to work with.
3. Locate the [External Audio/Video] listing at the top of the Firefly Media list.
4. Select the [External Audio/Video] listing and then click on the  button located on the center buttons panel. An entry titled “[Ext 00:00:30]” will be added to the playlist.



**Figure 55.** Playlist Editor Page With External A/V Playlist

5. Save the playlist and exit the Playlist Editor.


6. Go into the Schedule Editor and schedule the “External AV 1” playlist for your desired time slot, such as from 12:00 to 17:00 (see *Using the Schedule Editor* on page 144 for details on scheduling).

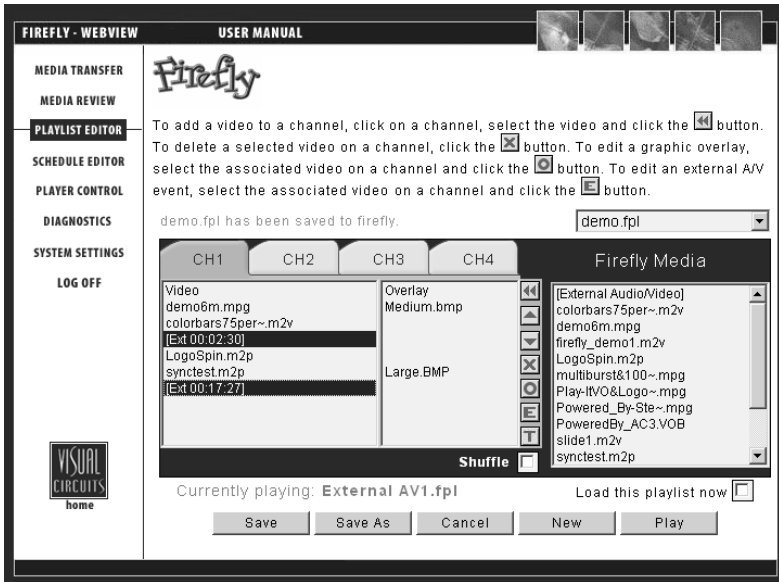
## Adding External A/V Events to a Playlist

If your application for utilizing the external audio/video feature involves playing back regular internal videos with an occasional insertion of external audio and/or video, you may want to add external A/V events to an existing playlist.

The process for adding external A/V events to a playlist is similar to the process of adding video files to a playlist.

To add an external A/V event to a playlist, follow the steps below:

1. (In the Playlist Editor main screen) Select the channel tab you wish to work with.
2. Locate the [External Audio/Video] listing at the top of the Firefly Media list. Select the [External Audio/Video] listing and then click on the  button located on the center buttons panel. An entry titled “[Ext 00:00:30]” will be added to the bottom of the playlist
3. Repeat steps 1 through 3 to add additional external A/V events to the playlist on your initial channel or any of the other channels, if desired.




**Figure 56.** Playlist Editor Page With External A/V Event

See *Moving External A/V Events within a Playlist* on page 141 for details on moving the external A/V event(s) to a different location within the playlist.

See *Editing External Events within a Playlist* on page 141 for details on editing the audio, video and duration properties of the external A/V event(s).

## Removing External A/V Events from a Playlist

To remove an external A/V event from a playlist:

1. Select the external A/V event in the Video listbox.
2. Click on the  button located on the center buttons panel. This will remove the external A/V event from that specific playlist for that channel.




Repeat this process to remove additional external A/V events from the playlist (if desired).


## Moving External A/V Events within a Playlist

You may determine that you would like to change the location of an external A/V event within a given playlist.

### To move an external A/V event up (towards the beginning) of a playlist:

1. Select the external A/V event (from the Video list) you would like to move.
2. Press the  button until the external A/V event is where you want it within the playlist.


### To move an external A/V event down (towards the end) of a playlist:

1. Select the external A/V event (from the Video list) you would like to move.
2. Press the  button until the external A/V event is where you want it within the playlist.

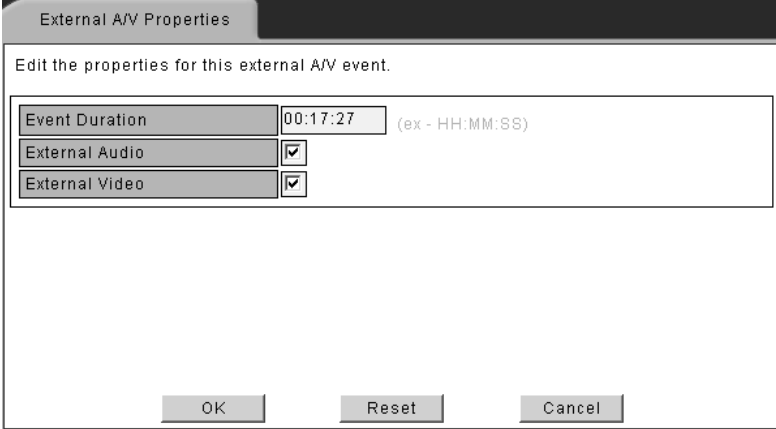
Continue this process to move additional external A/V events within a playlist, if desired.

## Editing External Events within a Playlist

The External A/V Event Properties screen is available for you to view and/or set the basic properties of an external A/V event. Within this screen, you will be able to set the external A/V event duration, select or deselect external audio and select or deselect external video.

You may obtain information or set the basic properties of any external A/V event listed under the Video listbox by selecting the “[Ext 00:00:30]” listing and then clicking on the  button to enter the External A/V Properties screen.

After pressing the key sequence above, the following screen will be displayed:



The screenshot shows a dialog box titled "External A/V Properties". The main text inside the dialog reads "Edit the properties for this external A/V event." Below this text is a table with three rows. The first row is "Event Duration" with a text input field containing "00:17:27" and a small note "(ex - HH:MM:SS)" to its right. The second row is "External Audio" with a checked checkbox. The third row is "External Video" with a checked checkbox. At the bottom of the dialog are three buttons: "OK", "Reset", and "Cancel".

External A/V Properties	
Edit the properties for this external A/V event.	
Event Duration	00:17:27 (ex - HH:MM:SS)
External Audio	<input checked="" type="checkbox"/>
External Video	<input checked="" type="checkbox"/>
OK      Reset      Cancel	

**Figure 57.** External A/V Event Properties Page

**Duration:**

Set the external A/V event duration by entering numerical values with your keyboard. Select the number of hours, minutes and seconds (HH:MM:SS) based on a 24-hour clock for the external A/V event to take place.

**External Audio:**

Turn this option on or off using the checkbox. A checked box indicates that audio for the external event is selected and an unchecked box indicates that audio for the external video is not selected.

**External Video:**

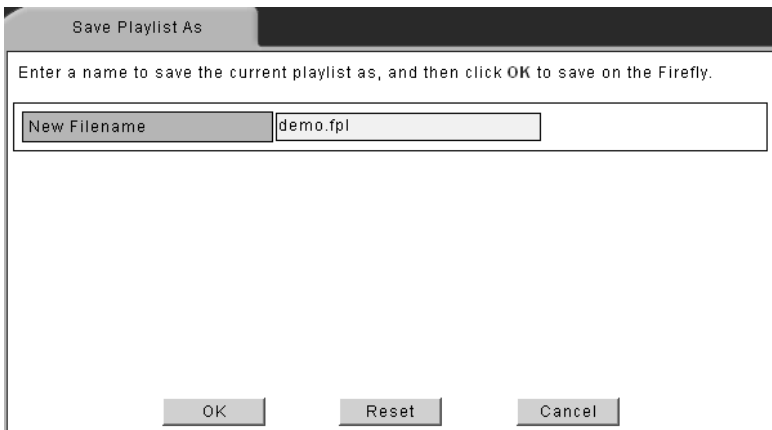
Turn this option on or off using the checkbox. A checked box indicates that video for the external event is selected and an unchecked box indicates that video for the external video is not selected.

---

## Saving a Playlist

Once you have finished editing a playlist, you may save changes by clicking either the “Save” or “Save As” buttons at the bottom of the screen.

- ❑ Clicking the “Save” button will overwrite the original playlist file using the same file name.
- ❑ Clicking the “Save As” button will bring you to a screen where you will need to enter a new file name (maximum of 14 characters).



**Figure 58.** WebView Save Playlist Dialog Box

After entering the new file name, click the OK button to save the modified playlist and to return to the Playlist Editor main page.

- ❑ If you check the “Load this playlist now” check box (found below the Firefly Media list), the modified playlist will begin playing on the Firefly as soon as you save it. If you do not check this box, the playlist will be saved, but playback will not be started until the playlist is later selected for playback.

## Playing a Playlist Quickly

If you are browsing through your playlists and find one you would like to play right away, simply click the “Play” button, which is located in the lower right portion of the Playlist Editor screen.

Clicking the “Play” button will overwrite the original playlist file using the same file name and will begin designated playback on the Firefly immediately.

## Using the Schedule Editor

Within the Schedule Editor, there are two separate pages: the Playlist Events Editor and the Video Dates Editor.

Within the Playlist Events Editor you will be able to work with playback schedules. A schedule is a group of one or more playlist events. An event is composed of a single playlist with adjustable playback properties. Beyond simple start and stop times, events can be set to play on certain days of the week, interrupt other events, play just once or at certain repeating intervals.

The Video Dates Editor allows you to assign a specific start date, end date or both a start *and* an end date for an individual video. This is especially useful when you have time sensitive media that you cannot have played before a certain date, after a certain date or outside a certain date range.

To access the Schedule Editor, click on the Schedule Editor navigation button on the left side of the WebView interface. By default, the Playlist Events Editor will open.

**FIREFLY - WEBVIEW**      **USER MANUAL**

**Firefly Schedule Editor**

Schedule:       Firefly Clock: 16:06:22

Default Playlist:

Playlist Events Editor

	Playlist Name	Start Time	Stop Time	Days	Interrupt	Play Once	Interval	
1	<input type="text" value="eurovids1.fpl"/>	<input type="text" value="08:00"/>	<input type="text" value="22:00"/>	SMTW__	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="▲"/>
2	<input type="text" value="new.fpl"/>	<input type="text" value="08:00"/>	<input type="text" value="22:00"/>	_TFS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	
3	<input type="text" value="test.fpl"/>	<input type="text" value="14:00"/>	<input type="text" value="18:00"/>	_TFS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="02:00"/>	
4	<input type="text" value="test2.fpl"/>	<input type="text" value="17:30"/>	<input type="text" value="22:00"/>	_TFS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	
5	<input type="text" value="Select a Playlist"/>	<input type="text"/>	<input type="text"/>	SMTWTFS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	
6	<input type="text" value="Select a Playlist"/>	<input type="text"/>	<input type="text"/>	SMTWTFS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="▼"/>

Currently playing: eurovids1.fpl      Load this schedule now

**VISUAL CIRCUITS**  
home

**Figure 59.** WebView Schedule Editor - Playlist Events Editor Page

## Creating a New Schedule

The process for creating a new schedule may be started in one of two ways; by choosing “New Schedule” from the Schedule drop down menu or by clicking on the “New” button in the lower right corner.

Within the Playlist Events Editor page, you will have to option to: add an event to a schedule, delete an event from a schedule, or edit an event within a schedule. In addition, (using the Video Dates Editor) you will be able to assign date rules to individual videos if desired.

Each of the major tasks in the Playlist Events Editor involve adjusting the event property fields. The following table provides basic overviews and examples for each of the event property fields:

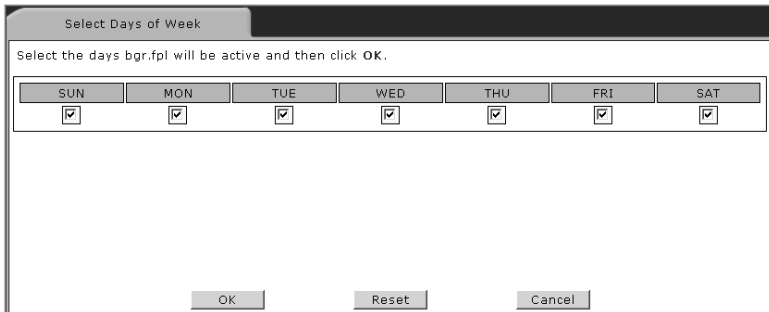
Property	Description
<b>Playlist Name</b>	<b>Designates which playlist to play.</b> <i>Example: "I'd like to have my product demonstration playlist selected to play".</i>
<b>Start Time</b>	<b>Designates time to start playing playlist.</b> <i>Example: "I'd like to have my playlist start playing at 9:00".</i>
<b>Stop Time</b>	<b>Designates time to stop playing playlist.</b> <i>Example: "I'd like to have my playlist stop playing at 18:00".</i>
<b>Days</b>	<b>Designates days of week to play playlist.</b> <i>Example: "I'd like to have my playlist play only on Thursdays, Fridays and Saturdays".</i>
<b>Interrupt</b>	<b>Option to cut off video playing in previous playlist instead of waiting for video to finish playing.</b> <i>Example: "I'd like to have the video in my sales promotion playlist interrupt the video in my product demonstration playlist".</i>
<b>Play Once</b>	<b>Option to play playlist exactly once and then return to previously scheduled playlist.</b> <i>Example: "I'd like to play my one hour specials playlist just once during the business day".</i>
<b>Interval</b>	<b>Option to repeat a "play once" event periodically at a specified interval.</b> <i>Example: "I'd like to play my one hour specials playlist once every 2 hours throughout the business day".</i>

**Table 6.** Event Property Field Examples

## Adding an Event to a Schedule

To add an event to a schedule:

1. Edit the event properties as described below.
  - a. **Playlist Name:** Choose a playlist from the “Select a Playlist” drop down menu.
  - b. **Start Time:** Set the specific start time for the playlist using the number keys on your keyboard.
  - c. **Stop Time:** Set the specific stop time for the playlist using the number keys on your keyboard.
  - d. **Days:** Click on any of the days to display the “Days of the Week” dialog box.



**Figure 60.** WebView Days of the Week Dialog Box

Click on which days of the week you would like the playlist to play on. A “checked” box indicates the day is selected and an “unchecked” box indicates the day is not selected. If you would like to clear all of the day selections, click the Reset button. When you are done making any desired changes, click the OK button to return to the Schedule Editor screen.

- e. **Interrupt:** Click on the Interrupt check box to have the first video in a scheduled playlist start playing precisely at its schedule time (interrupting or “cutting off” the video playing in the previously scheduled playlist). This is useful if you have a time sensitive playlist. A “checked” box indicates that Interrupt is selected, interrupting the previous video and an “unchecked” box indicates that Interrupt is not selected, allowing the video to finish playing before the new playlist begins playing.
  - f. **Play Once:** Click on the Play Once check box to choose to have the playlist played back only once (regardless of its time allotment). A “checked” box indicates that Play Once is selected and an “unchecked” box indicates that Play Once is not selected.
  - g. **Interval:** Click on the Interval check box to choose to have a Play Once event played back once at a designated time interval. Set the interval time using the number keys on your keyboard.
2. Once you have finished editing the schedule, you may save your changes by following the instructions found in *Saving a Schedule* on page 150.

## Deleting an Event from a Schedule

To delete an event from a schedule, use the following steps:

1. Locate the event (under playlist name) you would like to delete.
2. Change the playlist to “Select a Playlist” from the playlist name drop down menu. When done, this will delete the playback event and its associated properties from the schedule.
3. Once you have finished editing the schedule, you may save your changes by following the instructions found in *Saving a Schedule* on page 150.



## Editing an Event within a Schedule

To edit an event within a schedule, use the following steps:

1. Edit the event properties as described below.
  - a. **Playlist Name:** Choose a playlist from the “Select a Playlist” drop down menu.
  - b. **Start Time:** Set the specific start time for the playlist using the number keys on your keyboard.
  - c. **Stop Time:** Set the specific stop time for the playlist using the number keys on your keyboard.
  - d. **Days:** Click on any of the days to display the “Days of the Week” dialog box.

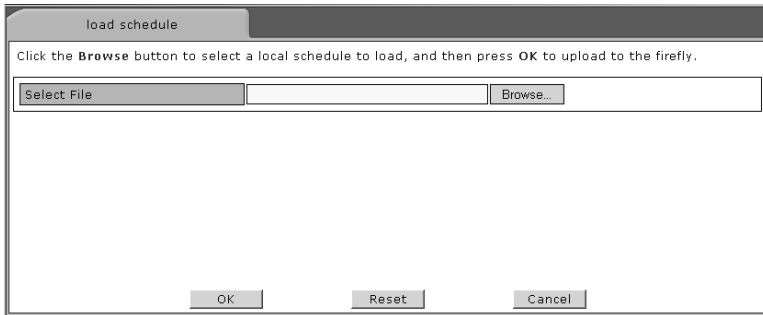
Click on which days of the week you would like the playlist to play on. A “checked” box indicates the day is selected and an “unchecked” box indicates the day is not selected. If you would like to clear all of the day selections, click the Reset button. When you done making any desired changes, click the OK button to return to the Schedule Editor screen.

- e. **Interrupt:** Click on the Interrupt check box to have the first video in a scheduled playlist start playing precisely at its schedule time (interrupting or “cutting off” the video playing in the previously scheduled playlist). This is useful if you have a time sensitive playlist. A “checked” box indicates that Interrupt is selected, interrupting the previous video and an “unchecked” box indicates that Interrupt is not selected, allowing the video to finish playing before the new playlist begins playing.
  - f. **Play Once:** Click on the Play Once check box to choose to have the playlist played back only once (regardless of its time allotment). A “checked” box indicates that Play Once is selected and an “unchecked” box indicates that Play Once is not selected.
  - g. **Interval:** Click on the Interval check box to choose to have a Play Once event played back once at a designated time interval. Set the interval time using the number keys on your keyboard.
2. Once you have finished editing the schedule, you may save your changes by following the *Saving a Schedule* instructions found below.

## Saving a Schedule

Once you have finished editing a schedule, you may save changes on the Firefly by clicking either the “Save” or “Save As” buttons at the bottom of the screen.

- ❑ Clicking the “Save” button will overwrite the original schedule file using the same file name.
- ❑ Clicking the “Save As” button will bring you to a screen where you will need to enter a new file name (maximum of 14 characters).



**Figure 61.** WebView Save Schedule Dialog Box

After entering the new file name, click the OK button to save the modified schedule and to return to the Schedule Editor main page.

- ❑ If you check the “Load this schedule now” check box (found above the New button), the modified schedule will begin playing on the Firefly as soon as you save it (if the active schedule coincides with the current day and time). If you do not check this box, the schedule will be saved, but playback will not be started until the schedule is later selected and scheduled for playback.

## Additional Saving and Loading Methods

Beyond the standard saving and loading methods directly to and from the Firefly, there are two local options available to you.

### Save Local:

The Save Local option allows you to save a copy of the schedule file currently being edited to your local computer or network (examples: hard drive, floppy drive). This is a useful feature for transferring files to other Firefly’s or for backing up important data.

To perform a local save:

1. Click on the “Save Local” button at the bottom of the Schedule Editor screen. The following dialog box will appear:



**Figure 62.** WebView Save Local File Download Dialog Box

2. Select “Save this file to disk” and click the “OK” button.

The following Save As dialog box will appear:



**Figure 63.** WebView Save As Local Dialog Box

3. Type in your desired name for the schedule file and click the “Save” button.

**NOTE**

When saving a schedule locally, you must add the schedule file extension “.fsc” to the end of all file names.

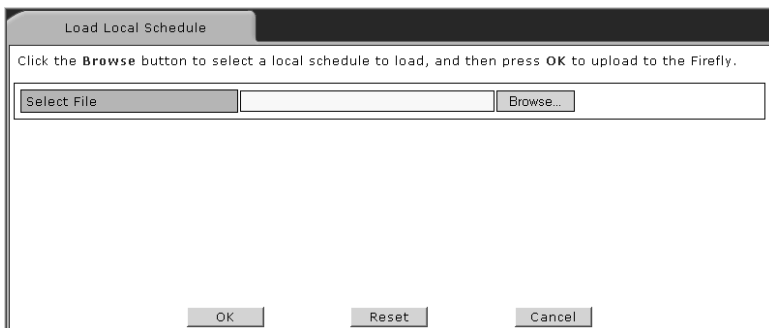
Once saved, you will be returned to the Schedule Editor main screen.

**Load Local:**

The Load Local button allows you to load a schedule file from your local computer or network as opposed to directly from the Firefly. This is a useful feature because your schedule file(s) may only be available on another computer or removable media.

To perform a local load:

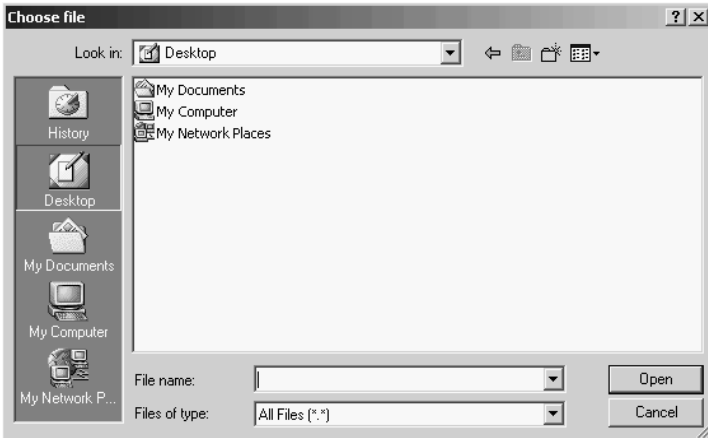
1. Click on the “Load Local” button at the bottom of the Schedule Editor screen. The following dialog box will appear:



**Figure 64.** WebView Load Local Browse Dialog Box

2. Click the “Browse” button.

The following Choose File dialog box will appear:



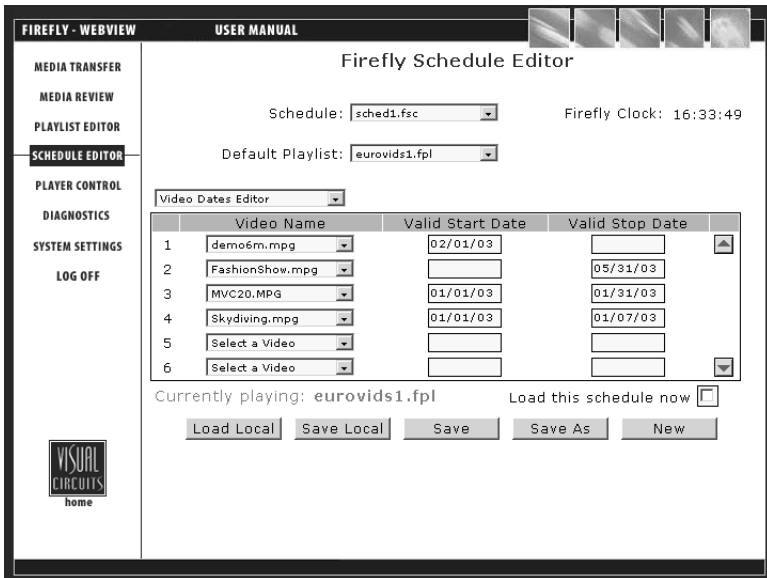
**Figure 65.** WebView Load Local Save As Dialog Box

3. Locate your desired schedule file (.fsc). Once found, highlight it and click the “Open” button.
4. The field will be populated with your desired schedule file name. If the file appears correct, click the “OK” button.

You will be returned to the Schedule Editor main screen. The schedule you just loaded will be open on your screen, ready for modifications if desired.

## Assigning Dates for Video Playback

The Video Dates Editor allows you to designate the actual date(s) a particular video is allowed to play. By selecting a start date, an end date or both a start *and* an end date you can establish a “date rule” for the playback of a particular video.



**Figure 66.** WebView Schedule Editor - Video Dates Editor Page

Depending on your application, you may have a need for using any or all of the three previously mentioned date rules. The table below provides some “real world” examples for using the Video Dates Editor:

Start Date	Stop Date	Description
02/01/03	- -/ - -	<p><b>Start date with no stop date.</b></p> <p><i>Example: “I want my product demonstration video available to playlists the day the product is released, but no sooner than that”.</i></p>

Start Date	Stop Date	Description
--/--	05/31/03	<b>No start date with stop date.</b> <i>Example: "I want my new marketing campaign video available to playlists from now until the end of the spring months".</i>
01/01/03	01/31/03	<b>Both start date and stop date.</b> <i>Example: "I want my January promotions video available to playlists only during the month of January".</i>

**Table 7.** Video Date Rule Examples**To add a date rule for a video, use the following steps:**

1. (From the Schedule Editor main screen) Select the Video Dates Editor from the drop down menu. The Video Dates Editor screen will be displayed.
2. From the "Select a video" drop down menu, select the video you would like to assign a date rule to.
3. If desired, set the specific start date for the video using the number keys on your keyboard.
4. If desired, set the specific stop date for the video using the number keys on your keyboard.
5. Repeat steps 2 through 4 to add date rules to additional videos if desired.
6. Once you have finished adding date rules, you may save your changes by following the instructions found in *Saving a Schedule* on page 150.



**To delete a date rule for a video, use the following steps:**

1. (From the Schedule Editor main screen) Select the Video Dates Editor from the drop down menu. The Video Dates Editor screen will be displayed.
2. Locate the video (under Video Name) you would like to delete the date rule for.
3. Change the video to “Select a Video” from the Video Name drop down menu. When done, it will delete any previous video date rule.
4. Repeat steps 2 and 3 to delete date rules for additional videos if desired.
5. Once you have finished deleting date rules, you may save your changes by following the instructions found in *Saving a Schedule* on page 150.

**To edit a date rule for a video, use the following steps:**

1. (From the Schedule Editor main screen) Select the Video Dates Editor from the drop down menu. The Video Dates Editor screen will be displayed.
2. From the “Select a video” drop down menu, select the video you would like to assign or modify a date rule to.
3. If desired, set or modify the specific start date for the video using the number keys on your keyboard.
4. If desired, set or modify the specific stop date for the video using the number keys on your keyboard.
5. Repeat steps 2 through 4 to edit date rules for additional videos if desired.
6. Once you have finished editing date rules, you may save your changes by following the instructions found in *Saving a Schedule* on page 150.

## Exiting the Schedule Editor

At any point while you are working within the Schedule Editor you may exit by clicking on any of the menu navigation buttons on the left side of the screen. Any unsaved changes you have made will be lost.

## Using the Player Control Panel

The Player Control panel mirrors the basic functionality of the Firefly remote control. You will be able to Play, Pause and Stop the currently playing file (displayed on the output window) on a channel-by-channel basis. In addition, you will be able to skip to the Previous and Next video in a playlist using the respective Previous and Next buttons.

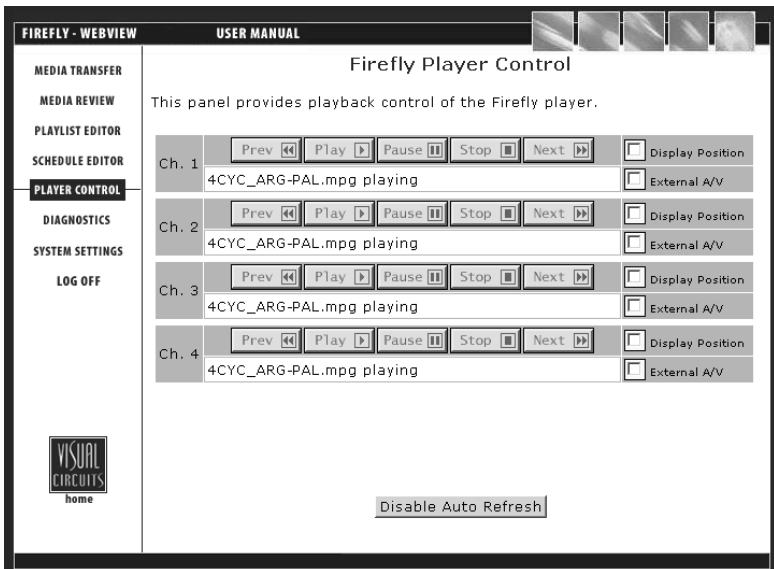


Figure 67. Webview Player Control Panel

In addition to using the standard player controls, the Display Position checkboxes allow you to display the position bar (similar to the indicator shown when using the IR remote player controls). The Display Position indicator shows the current playback position within the file.

## Diagnostics

The Diagnostics pages display a number of statistics about what the Firefly is doing at a fairly technical level. The information found within these pages can serve as a tool to help the Visual Circuits technical support team work with you over the phone in the event that you are experiencing problems.

### NOTE

The Diagnostics pages provide a snapshot of the system status at the time the pages were entered. The pages do not automatically update the information unless you click on the “Enable Auto Refresh” button.

The Diagnostics pages contains four types of information: General, Video, Playback and Advanced.

By default, when you click on the Diagnostics navigation button you will be routed to the Firefly Diagnostics - General page. Within this page you will find basic information about the Firefly and the media being played on it.

Player Version	
Player Version	3.20-BB
Current loaded Schedule	None
Current loaded Playlist	External AV1.fpl
Video loaded on Chan 1	external_video_30_seconds
Video loaded on Chan 2	None
Video loaded on Chan 3	None
Video loaded on Chan 4	None
Last CD/DVD Update	None
Last FTP Update	None
Last FTP Connect	None
Watchdog Restarts	1
System Starts	0

Buttons: Refresh Now, Enable Auto Refresh

Figure 68. WebView Diagnostics - General Page

## Diagnostics - General

**Player version:** *Displays the version of the Firefly (incorporating both hardware and software).*

**Currently loaded schedule:** *Displays the file name of the currently loaded schedule (if applicable) on the system.*

**Currently loaded playlist:** *Displays the file name of the currently loaded playlist on the system.*

**Video loaded on Chan 1:** *Displays the file name of the currently loaded video on this channel.*

**Video loaded on Chan 2:** *Displays the file name of the currently loaded video on this channel.*

**Video loaded on Chan 3:** Displays the file name of the currently loaded video on this channel.

**Video loaded on Chan 4:** Displays the file name of the currently loaded video on this channel.

**Last CD/DVD Update:** Displays the date and time of the last CD/DVD Update.

**Last FTP Update:** Displays the date and time of the last FTP update.

**Last FTP Connect:** Displays the date and time of the last FTP connect.

**Watchdog Restarts:** Displays the number of times the Watchdog system has restarted the Firefly.

**System Starts:** Displays the number of times the Firefly has been started.

The screenshot shows the Firefly Webview interface. The top header contains 'FIREFLY - WEBVIEW' and 'USER MANUAL'. The left sidebar lists various system functions: MEDIA TRANSFER, MEDIA REVIEW, PLAYLIST EDITOR, SCHEDULE EDITOR, PLAYER CONTROL, **DIAGNOSTICS** (highlighted), SYSTEM SETTINGS, and LOG OFF. The main content area features a 'Firefly' logo and a 'Diagnostics' tab. Below the tabs is a table with columns for 'general', 'video', 'playback', 'logging', and 'multicast'. The table displays various system parameters for four channels (0, 1, 2, 3). At the bottom of the diagnostics section are two buttons: 'Refresh Now' and 'Enable Auto Refresh'.

	0	1	2	3
Channel	0	1	2	3
Horizontal Size	720	720	720	720
Vertical Size	480	480	480	480
Video Bitrate	5500000	6600000	6600000	6600000
Audio Bitrate	393216	393216	393216	393216
Audio Freq.	48000	48000	48000	48000
Frame Rate	2997	2997	2997	2997
Current Frame	2300	2065	2062	2104
Timecode	6924918	6218358	6209350	6335474
File Type	mpeg2	mpeg2	mpeg2	mpeg2

## Figure 69. WebView Diagnostics - Video Page

### Diagnostics - Video

**Channel:** *Defines the output channel number for that column.*

**Horizontal Size:** *Defines the horizontal resolution of the currently playing MPEG file in pixels.*

**Vertical Size:** *Defines the vertical resolution of the currently playing MPEG file in pixels.*

**Video Bitrate:** *Defines the Video Bitrate or data rate of the currently playing MPEG file.*

**Audio Bitrate:** *Defines the Audio Bitrate or data rate of the currently playing MPEG file.*

**Audio Frequency:** *Defines the frequency of the Audio stream.*

**Frame Rate:** *Defines the frame rate of the currently playing MPEG file. Note: The standard NTSC frame rate of 29.97 fps is shown as 2997.*

**Current Frame:** *Displays the current frame number playing within the MPEG file (analogous to the timecode field but with a greater level of accuracy).*

**Timecode:** *Displays the current timecode within the playing MPEG file offset so that all files start at 00:00:00.*

**File Type:** *Displays the type of MPEG file being played on the channel. The possible types are: mpeg1 - mpeg1 system stream, mpeg2 - program stream, mpg1v - mpeg1 video only, mpg2v - mpeg2 video only, mpg1a - audio only, ac3 - ac3 audio only, ??? - unknown type or no file loaded.*

The screenshot shows the Firefly WebView interface. The top bar includes 'FIREFLY - WEBVIEW' and 'USER MANUAL'. The left sidebar contains navigation options: MEDIA TRANSFER, MEDIA REVIEW, PLAYLIST EDITOR, SCHEDULE EDITOR, PLAYER CONTROL, **DIAGNOSTICS**, SYSTEM SETTINGS, and LOG OFF. The main content area is titled 'Firefly' and has tabs for 'general', 'video', 'playback', 'logging', and 'multicast'. The 'playback' tab is active, displaying a table with the following data:

Channel	0	1	2	3
Interrupts	2109680	1876399	1874611	1873231
AV Syncs	68	63	63	64
Last Sync	510	2	2	2
Video Data	227748	231648	202500	209517
Audio Data	13981	5757	4157	7101
Raw Data	0	3405760	3561408	3200960
Disk Underflow	0	0	0	0
Data Underflow	2941	250	289	603

At the bottom of the table area, there are two buttons: 'Refresh Now' and 'Enable Auto Refresh'. The Visual Circuits logo is visible in the bottom left corner of the interface.

**Figure 70.** WebView Diagnostics - Playback Page

## Diagnostics - Playback

**Channel:** Defines the output channel number for that row.

**Interrupts:** Displays the number of interrupts that have been received from the MPEG decoder.

**AV Syncs:** Displays the number of times the audio or video streams had to be adjusted to maintain proper synchronization. (It is not uncommon for this to be a high number as this is a running total. Many functions such as fast forward, rewind and seek can cause large numbers of av syncs. It is only of concern if you see this number growing quickly during routine playback).

**Last Sync:** Displays the number of frames that had to be skipped or repeated during the last av sync to bring the audio and video back into proper synchronization.

**Video Data:** *Displays the amount of data currently in the MPEG decoder's video data buffer.*

**Audio Data:** *Displays the amount of data currently in the MPEG decoder's audio data buffer.*

**Raw Data:** *Bytes of MPEG data in RAM.*

**Disk Underflow:** *Displays the number of disk underflows that have occurred. A disk underflow occurs when the Firefly is unable to get the data off the disk fast enough to keep the disk buffers from becoming empty.*

**Data Underflow:** *Displays the number of data underflows that have occurred. A data underflow occurs when the Firefly is unable to transfer data into the MPEG decoder buffers fast enough to keep them from becoming empty. Note that during regular playback conditions it is normal to have a small number of Data Underflows in this field.*

## **Diagnostics - Logging**

At the top of the Logging page, from the “Select Logfile” drop down menu, you can select the log file you would like to view.

The two buttons located at the bottom of the Logging page, “Refresh” and “Auto Refresh”, allow you to manually refresh or have the system automatically refresh the logfile data as you view it.

Refer to *Log File Reporting* on page 221 for information on setting up how your Firefly works with logfiles.

## **Run Logs**

Run logs provides a record of which videos played (with which graphic overlays, if applicable), on which channels, starting at what dates/times, playing back what percentage of the video and for how long.



**FIREFLY - WEBVIEW**      **USER MANUAL**

MEDIA TRANSFER  
MEDIA REVIEW  
PLAYLIST EDITOR  
SCHEDULE EDITOR  
PLAYER CONTROL  
**DIAGNOSTICS**  
SYSTEM SETTINGS  
LOG OFF

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Firefly

general   video   playback   logging   multicast

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<<Prev    :    :    Go      Next>>

time	ch	filename	overlay	duration	%
01:16:26	1	synctest.m2p	Large.BMP	00:00:13	100
01:18:45	1	demo6m.mpg	Medium.bmp	00:02:18	100
01:18:54	1	colorbars75percent.m2v		00:00:09	100
01:19:02	1	LogoSpin.m2p		00:00:07	100
01:19:17	1	synctest.m2p	Large.BMP	00:00:13	100
01:21:35	1	demo6m.mpg	Medium.bmp	00:02:18	100
01:21:45	1	colorbars75percent.m2v		00:00:09	100
01:21:53	1	LogoSpin.m2p		00:00:07	100
01:22:07	1	synctest.m2p	Large.BMP	00:00:13	100
01:24:26	1	demo6m.mpg	Medium.bmp	00:02:18	100
01:24:36	1	colorbars75percent.m2v		00:00:09	100

Refresh Now    Enable Auto Refresh

**Figure 71.** WebView Diagnostics - Logging Page (Run log)

Once in the Run logfile viewer, the video playback data will be listed with one video per line and will be sorted by playback time (using Firefly's internal 24-hour clock). You may move to the previous or next pages by clicking on the respective <<Prev or Next>> links. You can also move to view the playback data for a certain time of day by entering either hours, minutes and/or seconds in the time boxes and then clicking the "Go" button.

**Time:** Displays the time of day the event was logged based on Firefly's internal 24-hour clock.

**Chan:** Displays the Firefly output channel number.

**Filename:** Displays the filename of the video.

**Overlay:** Displays the filename of the graphic overlay that was associated with the video (if present).

**Duration:** *Displays the total amount of time (HH: MM: SS) that a video played.*

**%:** *Displays the percentage played of the video.*

## **Diagnostic Logs**

Diagnostic logs can be used to view a record of all media update transactions and any system errors on a Firefly.

Information contained in the diagnostic log include:

- ❑ **FTP/DVD Updating data:** Tracks date, time of connection/disconnection, errors- yes/no, files, sizes, percent transferred and FTP permission errors.
- ❑ **Storage Cleanup data:** Records what media have been deleted by the automatic storage cleanup routine, including file names, sizes and dates.
- ❑ **Missing Elements Log:** Records all missing media referenced by an active playlist or schedule, including date, time and file element.
- ❑ **Error Summary data:** Records important user player diagnostic information, including the number of system restarts, number of watchdog restarts, the player version, etc.
- ❑ **Serial Commands:** Records most incoming and outgoing external control commands.

**Firefly Diagnostics**

general video playback logging

tvntest1-dia-20030207 showing (0 - 23) of 23

<<Prev [ ] : [ ] : [ ] Go Next>>

time	source	event
14:08:40	system	Firefly Started
14:08:41	system	New smartcard inserted (14:8:41)
14:13:52	ftp	Connected to Server (192.168.0.123)
14:14:00	ftp	download successful; (tvntest1.fpl 4235 bytes)
14:16:57	ftp	download successful; (01_Intro&Music1.mpg 772231168 bytes)
14:17:30	ftp	download successful; (02_Movie1.mpg 106739712 bytes)
14:20:40	ftp	download successful; (03_Music2.mpg 707971072 bytes)
14:21:50	ftp	download successful; (04_Movie2.mpg 240427008 bytes)

Refresh Now Enable Auto Refresh

**Figure 72.** WebView Diagnostics - Logging Page (Diagnostic log)

Once in the Diagnostic logfile viewer, the data will be listed with one diagnostic event per line and will be sorted by playback time (using Firefly’s internal 24-hour clock). You may move to the previous or next pages by clicking on the respective <<Prev or Next>> links. You can also move to view the diagnostic data for a certain time of day by entering either hours, minutes and/or seconds in the time boxes and then clicking the “Go” button.

**Time:** Displays the time of day the event was logged based on Firefly’s internal 24-hour clock.

**Source:** Displays the source of the diagnostic event (playback, multicast, system, etc.).

**Event:** Displays the diagnostic event.

## System Settings

The System Settings available in the WebView interface are basically the same as those found in the On-Screen Display menu. Within the System Settings menu, the following options are available:

## General Settings

The screenshot shows the Firefly WebView interface. The top bar contains 'FIREFLY - WEBVIEW' and 'USER MANUAL'. The sidebar on the left lists various menu items, with 'SYSTEM SETTINGS' highlighted. The main content area is titled 'FIREFLY GENERAL CONFIGURATION' and contains the following settings:

Setting	Value
Site ID	Store 27
Date/Time	10/18/03 05:59
Time Zone	GMT-6 Central
IR Enable	Enable
IR Address	01
IR Timeout	No Timeout
Version	3.20-BB
Uptime	7 days, 19:14

At the bottom of the configuration panel, there are two buttons: 'Reset' and 'Update Settings'.

Figure 73. Settings-General

### NOTE

When a field is edited in any one of the following Settings Categories, the text for that category will turn red until you update the settings.

**Site ID**

The Site ID uniquely identifies the Firefly as it updates via FTP or CD/DVD-ROM. It is also used for Media Messenger software to enable automated management of content, playlists & schedule updates.

**Date/Time**

Sets the Firefly internal clock for date and time.

**Time Zone**

Allows you to select the appropriate time zone (measured in hours and minutes plus or minus Greenwich Mean Time) for where the Firefly is being used.

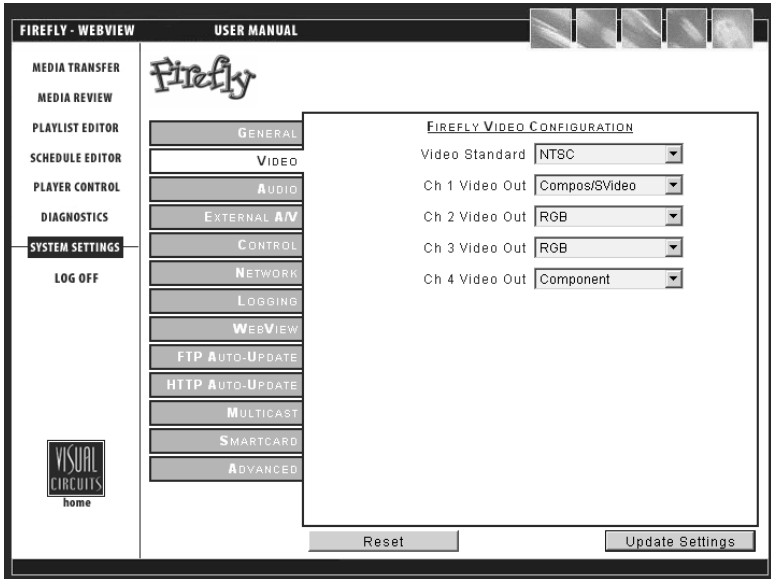
**Version**

This is where to reference the software version for technical support purposes or verifying version change following a “software update”.

**Uptime**

This value indicates how long the unit has been in operation since the last power cycle.

## Video Settings



**Figure 74.** Settings-Video

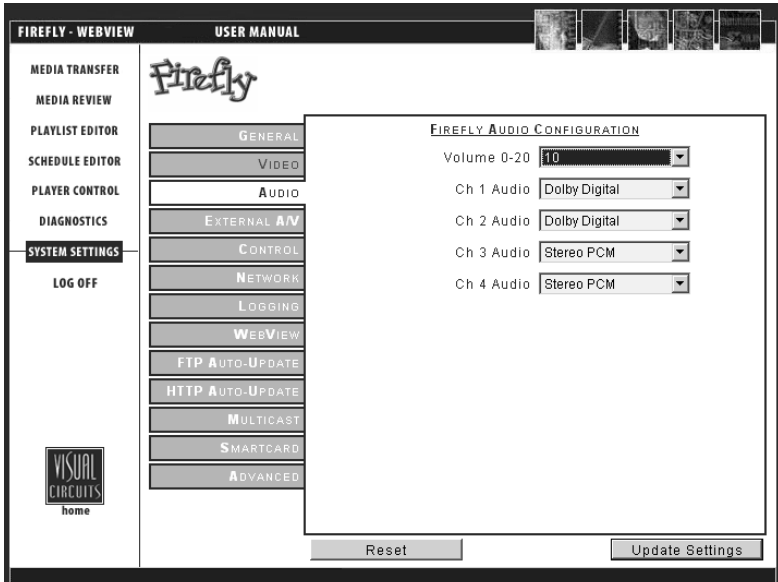
### Video Standard

Selects the standard of video output: NTSC (USA) or PAL (European).

### Channel 1, 2, 3, 4 Video Output

Selects the type of video output: Composite/S-video or RGB (sync on green) or Component. Composite and S-Video signals can be used simultaneously.

## Audio Settings



**Figure 75.** Settings-Audio

### Volume

This setting allows you to set the volume level for audio played back on the Firefly. The default volume setting is 10 on the 0-20 scale.

### Channel 1, 2, 3, 4 Audio

The Dolby Digital option selects between stereo S/PDIF and analog stereo output on a channel-by-channel basis. For MPEGs with standard layer-2 audio, when this option is set to “Dolby Digital” (the default), both the S/PDIF and analog stereo outputs will be on. In this configuration, MPEGs containing AC3 audio will play on the S/PDIF output only.

**NOTE**

Playing MPEGs containing AC3 audio via the analog stereo output is an optional feature enabled by a pre-programmed Smart Card. If your Firefly already has this feature enabled, select “Stereo PCM” for each desired channel’s audio.

If your Firefly does not have this *optional* audio feature (menu items are “grayed out”) and your application requires it, contact a Visual Circuits representative at 1-800-250-5533.

## External A/V Settings

The screenshot shows the 'FIREFLY EXTERNAL A/V CONFIGURATION' page. On the left is a sidebar with the following menu items: MEDIA TRANSFER, MEDIA REVIEW, PLAYLIST EDITOR, SCHEDULE EDITOR, PLAYER CONTROL, DIAGNOSTICS, SYSTEM SETTINGS (highlighted), and LOG OFF. Below the sidebar is the Visual Circuits home logo. The main content area has a 'FIREFLY' logo and a list of settings categories: GENERAL, VIDEO, AUDIO, EXTERNAL A/V (selected), CONTROL, NETWORK, LOGGING, WEBVIEW, FTP AUTO-UPDATE, HTTP AUTO-UPDATE, MULTICAST, SMARTCARD, and ADVANCED. The 'EXTERNAL A/V' section contains the following configuration options:

- Genlock: To Video Input
- Ch 1 A/V: Internal
- Ch 2 A/V: Internal
- Ch 3 A/V: External Only
- Ch 4 A/V: Internal

At the bottom of the configuration area are two buttons: 'Reset' and 'Update Settings'.

### Genlock

Allows you to genlock to an external source connected to the



“Video In” jack on the back of the Firefly.

If you plan on utilizing the external A/V events feature, you should switch genlock on by selecting the “To Video Input” position. Genlocking will eliminate “picture roll” when switching to/from external video.

## **Channel 1, 2, 3, 4 Audio/Video**

The External A/V option allows you to switch between playing MPEGs internally or external A/V on a channel-by-channel basis.

When a channel is set to “External Only”, Firefly will only output the audio/video source connected to the Video In and Audio Input connectors, regardless of what is in the playlist/schedule.

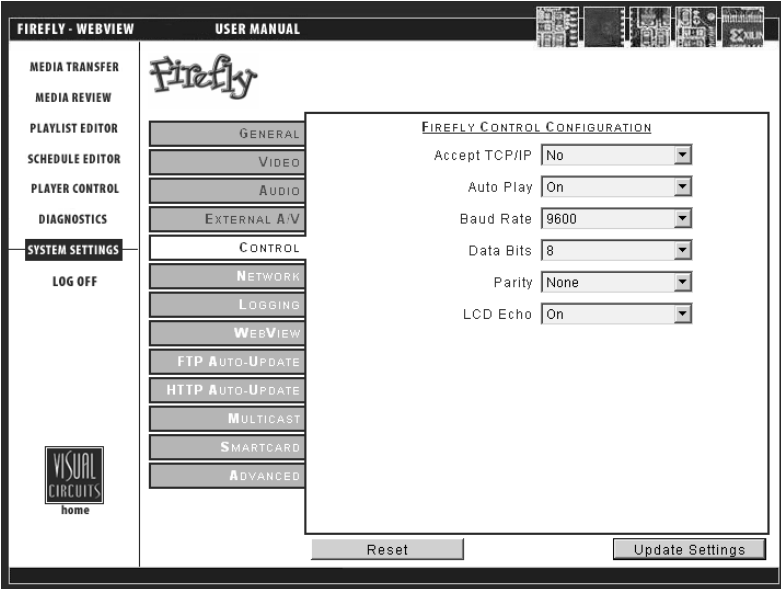
If your Firefly already has this feature enabled, you may select “External Only” for a given channel to only have a continuous external feed. (Example: You always want local television, such as news and weather, playing on the Channel 4 monitors). If you do not want to have a continuous external feed, you may leave the setting to “Internal” and schedule external events (if desired) from within the playlist editor.

### **NOTE**

External Audio/Video is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the External A/V feature (menu items are “grayed out”) and your application requires it, contact a Visual Circuits representative at 1-800-250-5533.

## Control Settings



**Figure 76.** Settings-Control

### Accept TCP/IP

In conjunction with RS232 serial communication, TCP/IP allows the user to remotely operate the Firefly by sending operation commands through a network or locally using an external PC or show controller (see *External Control Commands* on page 225).

#### CAUTION

For security reasons, “Accept TCP/IP” is factory defaulted to “No”. Be aware that if you decide to use this feature over a large network (namely the Internet), the potential for outside intervention (hacking) is greatly increased because there is literally no security (protection) on this port. Enabling this option will open port 2180.

## **Auto Play**

Upon initial start up, Firefly will begin playing the latest loaded playlist/schedule automatically. Following start up, if you choose to begin playback manually via External commands, you can default this option to “Off” to deactivate automatic playback.

## **Baud Rate**

Select an identical value to your external controller. The following options are available: 1200, 4800, 9600, 38400 & 115200. It is recommended starting with a Baud Rate of 9600 for your Hyper Terminal connection.

## **Data Bits**

Select an identical value to your external controller. The following options are available: 5, 6, 7, & 8.

## **Parity**

Select an identical value to your external controller. The following options are available: None, Odd & Even.

## Network Settings

The screenshot displays the 'FIREFLY NETWORK CONFIGURATION' settings page. The interface includes a sidebar with navigation options such as 'MEDIA TRANSFER', 'MEDIA REVIEW', 'PLAYLIST EDITOR', 'SCHEDULE EDITOR', 'PLAYER CONTROL', 'DIAGNOSTICS', 'SYSTEM SETTINGS', and 'LOG OFF'. The main content area is titled 'FIREFLY NETWORK CONFIGURATION' and contains the following fields and options:

- Host Name:
- Mode:
- IP Address:
- Netmask:
- Gateway:
- Proxy Type:
- Proxy Address:
- Enable NTP:
- NTP Server:
- Enable SNMP:
- SNMP Network:
- SNMP Netmask:
- Community:
- Security Name:
- Auth Passphrase:
- Priv Passphrase:

At the bottom of the configuration area, there are two buttons: 'Reset' and 'Update Settings'.

**Figure 77.** Settings-Network

### Host Name

Choose a unique name that identifies each Firefly unit on the network.

### Mode

DHCP (Dynamic Host Configuration Protocol) - A TCP/IP service protocol that offers dynamic leased configuration of host IP addresses and distributes other configuration parameters to eligible network clients. DHCP provides safe, reliable, and simple TCP/IP network configuration, prevents address conflicts, and helps conserve the use of client IP addresses on the network. DHCP uses

a client/server model where the DHCP server maintains centralized management of IP addresses that are used on the network. DHCP-supporting clients can then request and obtain lease of an IP address from a DHCP server as part of their network start up process. *See your Network Administrator for further information.*

STATIC -For a local area connection (LAN), in IP address, Subnet mask, and Default gateway, type the IP address, subnet mask, and default gateway addresses. For all other connections, in IP address, type the IP address. *See your Network Administrator for further information.*

## **IP Address**

A 32-bit address used to identify a node on an IP internetwork. Each node on the IP internetwork must be assigned a unique IP address, which is made up of a network identifier and a host identifier. This address is typically represented in dotted-decimal notation, with the decimal value of each octet separated by a period, for example, 192.168.7.27.

You can configure the IP address statically or dynamically through DHCP. *See your Network Administrator for further information.*

## **Netmask**

Most TCP/IP networks use subnets in order to effectively manage routed IP addresses. For the range that you specified in From and To, Windows 2000 calculates the closest matching subnet. The range of addresses in the closest matching subnet may exceed the range that you specified. Unless the addresses specified in From and To are subnet boundaries, the range based on the calculated subnet will be larger than the range that you specified. To avoid this, specify a range that falls on subnet boundaries. For example, if you are using the 10.0.0.0 private network ID for your intranet, a

range that falls on subnet boundaries is 10.0.1.168 to 10.0.1.175. Or, if you are using the 192.168.0.0 private network ID for your intranet, a range that falls on subnet boundaries is 192.168.1.0 to 192.168.1.255. *See your Network Administrator for further information.*

## **Gateway**

A service that allows Firefly to connect to other servers. Creating a gateway also allows client computers running only Microsoft client software to access server resources through the gateway. *See your Network Administrator for further information.*

## **Proxy Type**

Allows you to select the type of proxy (None, Socks4, Socks5, USER `usr@hst p`, USER `usr@hst:p`, SITE `usr@hst p`, SITE `usr@hst:p`, NetCache or NAT Firewall).

Note: The NAT Firewall setting will put the FTP client in passive mode.

## **Proxy Address**

Allows you to enter the address for the proxy (in IP format).

## **Enable NTP (Network Time Protocol)**

Allows you to enable or disable the NTP time synchronization feature.

## **NTP Server**

The IP address of the NTP server the Firefly will time-sync with on the network.

## **Enable SNMP (Simple Network Management Protocol)**

Allows you to enable or disable the SNMP feature. SNMP can be used to monitor the Firefly on your network. You can also retrieve and change settings on the Firefly in addition to monitoring the unit by using the Firefly MIB file.

### **SNMP Network**

Designates the IP address of the system(s) you wish to be able to monitor and change settings on the Firefly. Notation must be dotted-decimal as with all IP settings on the Firefly. To allow an individual machine to control the Firefly, set to a specific IP address, (Ex. 1- 192.168.0.100). To allow a group of machines to control the Firefly, set the IP to a range, (Ex. 2 - 192.168.0.0).

### **SNMP Netmask**

Designates the Netmask information for the system(s) that will be able to monitor and control the Firefly. So for the individual example above you would set, (Ex. 1- 255.255.255.255) and for the range example above (Ex. 2- 255.255.255.0).

### **Community**

The SNMP Community name defines the relationship between an SNMP server system (your Firefly) and the client systems. This acts like a password to control the clients' access to the Firefly.

### **Security Name**

SNMPv3 feature: Defines the security name for the authentication and encryption for SNMP transmissions.

### **Auth Passphrase**

SNMPv3 feature: Provides authentication but no encryption on SNMP information.

## Priv Passphrase

SNMPv3 feature: Provides authentication and encryption on SNMP information.

## Logging Settings

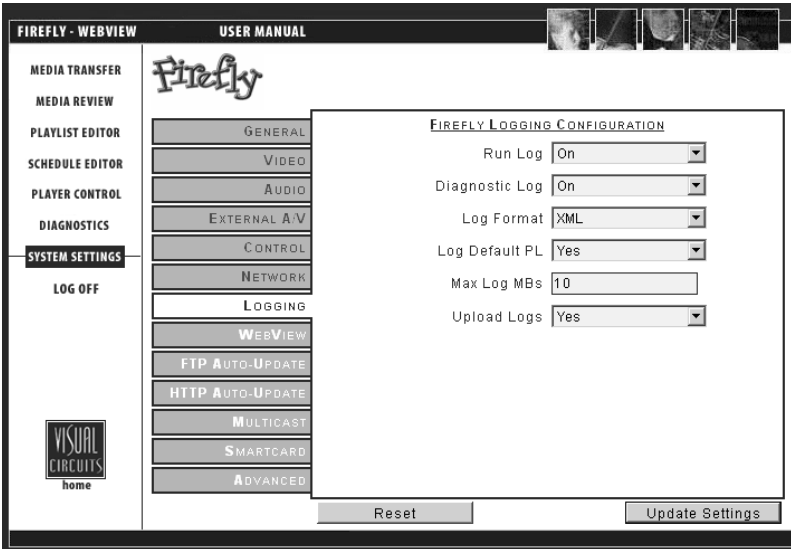


Figure 78. Settings-Logging

### Run Log

Allows you turn to “On” or “Off” the run log. The run log provides a record of which videos played (with which graphic overlays, if applicable), starting at what dates/times, playing back what percentage of the video and for how long.

### Diagnostic Log

Allows you to turn “On” or “Off” the diagnostic log. The diagnostic log can be used to view a record of all media update transactions and any system errors on a Firefly.

Information contained in the diagnostic log include:



- ❑ FTP/DVD Updating data: Tracks date, time of connection/disconnection, errors- yes/no, files, sizes, percent transferred and FTP permission errors.
- ❑ Storage Cleanup data: Records what media have been deleted by the automatic storage cleanup routine, including file names, sizes and dates.
- ❑ Missing Elements Log: Records all missing media referenced by an active playlist or schedule, including date, time and file element.
- ❑ Error Summary data: Records important user player diagnostic information, including the number of system restarts, number of watchdog restarts, the player version, etc.
- ❑ Serial Commands: Records most incoming and outgoing external control commands.

## Log Format

Allows you to set the output format of the run log file to either.CSV or.XML.

### Sample from a .CSV format run log:

```
12-07-02 20:30:07,1,05saturn.mpg,3_ser220.BMP,1,00:01:01,100
```

### Sample from a .XML format run log:

```
<mpeg datetime="12-07-02 20:32:57" chan="1"
filename="05saturn.mpg" overlay="3_ser220.BMP" loop="1"
duration="00:01:01" percent="100" />
```

The format of the diagnostic log is in a simple “time - event” per line format.

## Log Default Playlist

Allows you to designate whether or not the default playlist playback is included in the playback log file data. Choosing “Yes” includes the default playlist in the playback data. Conversely, choosing “No” excludes the default playlist from the log file data.

If you are not using the scheduling feature (single playlist mode), note that the playlist will not be logged.

## Max Log MBs

Allows you to set a value (in megabytes) for the maximum size a log file is able to reach. The default value is 10 MB. You may want to keep this value relatively small if you wish to maintain a large amount of free space for videos and graphic overlays. However, if you do not reserve enough space, Firefly will delete the oldest residing logs in order to make room for the new ones.

When the log files exceed the maximum amount of defined storage space, an automatic cleanup process will delete the oldest file as required to contain the total log file space under the set limits. In addition, files will be deleted (cut) after they are transferred to the FTP server or downloaded from the Firefly player.

## Upload Logs

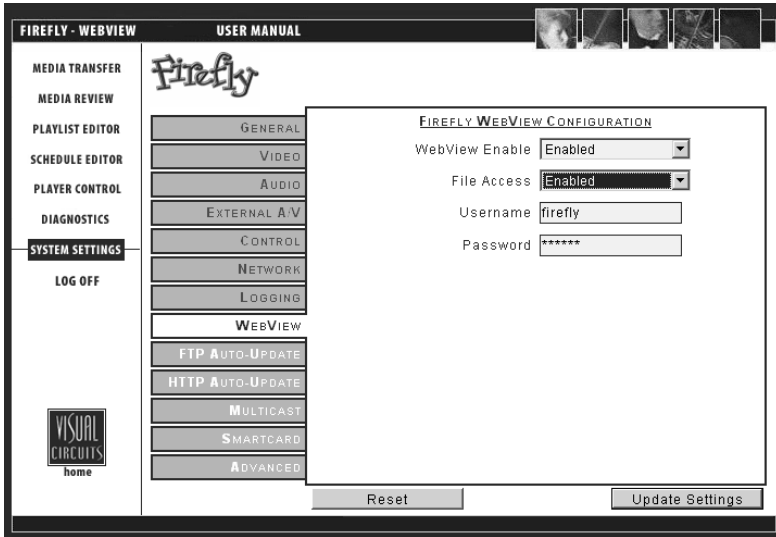
Allows “Yes” or “No” choice for uploading log files to the “logfile” directory on your FTP server.

If you choose “Yes” to have the log files uploaded, you may download the log files to your choice of storage options, such as a database you have designated for Firefly media playback data, from your FTP server.

### NOTE

After log files have been successfully uploaded to your FTP server, they will be deleted from the Firefly.

## WebView Settings



**Figure 79.** Settings-Logging

### WebView Enable

This feature gives the user access to Firefly over a network using a conventional web browser (see *WEBVIEW* on page 113).

### File Access

Enable/Disable - Accesses the Firefly directly with an FTP client.

### Username

Enter at least 6 (but no more than 15) alphanumeric characters here. This field is case sensitive.

**NOTE**

The user name and password are used for *both* WebView and the FTP server.

**Password**

Enter at least 6 (but no more than 15) alphanumeric characters. This field is case sensitive.

**WARNING**

It is strongly recommended to change the user name and password from their original default values for system security.

## FTP Auto-Update Settings

The screenshot shows the 'FIREFLY - WEBVIEW' interface. On the left is a sidebar with a 'SYSTEM SETTINGS' menu where 'FTP AUTO-UPDATE' is selected. The main panel displays the 'FIREFLY FTP AUTO-UPDATE CONFIGURATION' settings. The settings include text input fields for 'FTP IP Address', 'FTP Port', 'Username', 'Password', and 'Directory'. There are also dropdown menus for 'Update Interval' (currently 'Disabled') and 'Fixed Upd Time' (currently '00:00'). A 'FTP Update Now' button is located below the 'Fixed Upd Time' field. At the bottom of the configuration window are 'Reset' and 'Update Settings' buttons.

**Figure 80.** FTP Auto-Update Settings Screen

### FTP IP Address

Enter the FTP **server** IP Address here.

### FTP Port

Allows you to enter the port for the FTP server. If left blank during an update, this field will continue to show a blank value, and FTP will use port 21. Once you enter a value for the port and save, your new value will populate this field.

### Username

Enter the FTP **server** username here. Leave this blank if no username is present.

## **Password**

Enter the FTP **server** password name here. Leave this blank if no user password is present.

## **Directory**

It is advised that you leave this blank and use the home directory of your FTP account to place your media, playlists, schedules and/or updates folders. In the case where you are using multiple Firefly's with different content for each unit, single and or multiple directories can come in handy.

## **FTP Proxy Port**

Allows you to enter the port for the FTP proxy.

## **Update Interval**

Allows you to schedule FTP updates every 30 minutes, 1, 2, 4 or 12 hours, 1 day or at a fixed time.

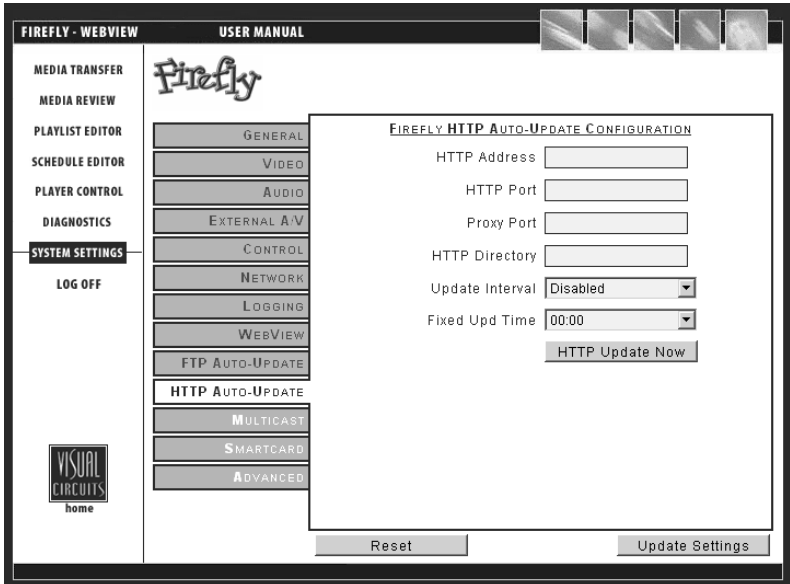
## **Fixed Update Time**

Allows you to set an actual fixed time (on an hourly basis) for an FTP update (Example: 14:00). In order for this feature to be accessible, you must have the Update Interval set to "Use fixed time".

## **FTP Update Now Button**

Firefly will immediately download any new media, playlists, schedules and/or updates.

## HTTP Auto-Update Settings



**Figure 81.** Settings-HTTP Auto Update

### HTTP Address

Enter the HTTP server IP Address here.

### HTTP Port

Allows you to enter the port for the HTTP server. If left blank during an update, this field will continue to show a blank value, and HTTP will use port 80. Once you enter a value for the port and save, your new value will populate this field.

### HTTP Proxy Port

Allows you to enter the port for the HTTP proxy.

## **HTTP Directory**

It is advised that you leave this blank and use the home directory of your HTTP account to place your media, playlists, schedules and or updates folders. In the case where you are using multiple directories can come in handy.

## **Update Interval**

Allows you to schedule HTTP updates every 30 minutes, 1, 2, 4 or 12 hours, 1 day or at a fixed time.

## **Fixed Update Interval**

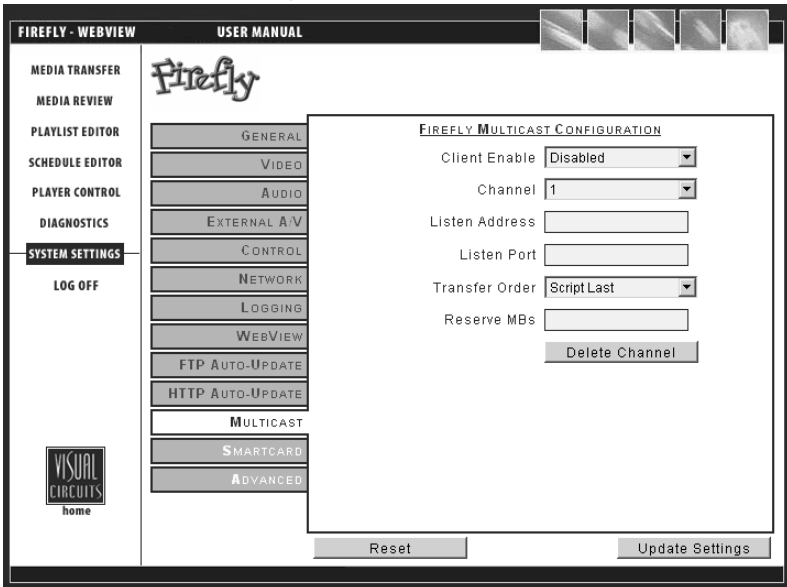
Allows you to set an actual fixed time (on an hourly basis) for an HTTP update (Example: 14:00). In order for this feature to be accessible, you must have the Update Interval set to “Use fixed time”.

## **HTTP Update Now Button**

By pressing this button in Webview will initiate the Firefly to immediately download any new media, playlists, schedules and or updates.



## Multicast Settings



**Figure 82.** Settings-Multicast

### Client Enable

Allows option to enable or disable the multicast client.

Note that if you make changes to other Multicast settings, you must also toggle the Client Enable setting from “Disabled” to “Enabled” for the changes to apply.

For more information on multicasting, see *MULTICAST UPDATING* on page 212.

### Channel

Like presets, you can assign a Channel number for each “Listen” configuration. This allows you to easily recall up to 99 Channels of Listen Address & Port combinations.

## Listen Address

The IP address that the multicast client will listen on. The value must be a Class D multicast address, which will typical start with 224.xxx.xxx.xxx.

Because some addresses may be reserved (see below), consult your networking specialist for assistance.

### NOTE

- 224.0.0.0/24 is reserved by RFC.
- 224.0.1.0/24 is used by specific applications (NTP).

## Listen Port

The port address that the multicast client will listen on.

## Transfer Order

Allows the option to choose the order in which items are transferred: package mode (see page 213 for details) or script last mode (see page 214 details).

### NOTE

Multicasting is an optional feature enabled by a software upgrade.

If your Firefly does not have the Multicasting feature (menu items are “grayed out”) and your application requires it, contact a Visual Circuits representative at 1-800-250-5533.

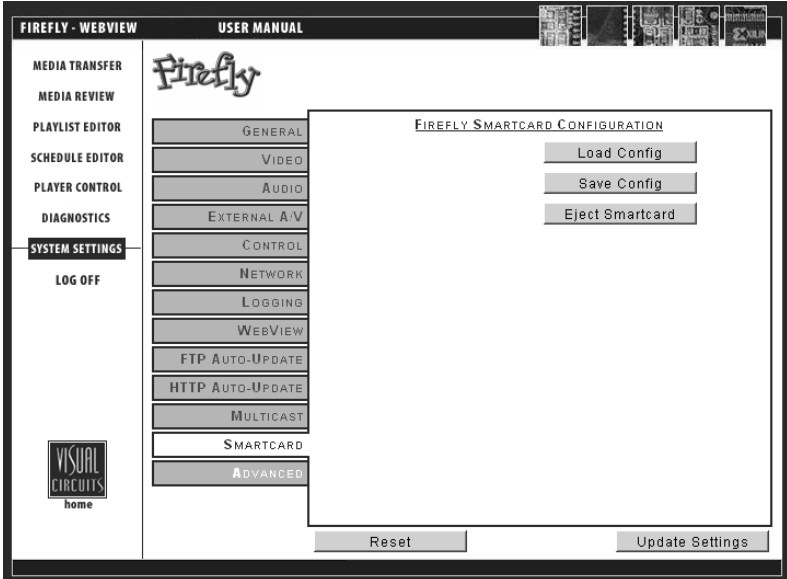
## **Reserves MBs**

Allows you to allocate a fixed amount of Firefly's internal storage space for receiving a multicast update. To determine this value, you will need to estimate the largest multicast update you will ever receive (example: 1000 MBs). Then, double that amount (example: 1000 MBs x 2 = 2000 MBs) to allow room for both the compressed archive and the extraction process. Once you have determined this value, enter it for the Reserve MBs.

## **Delete Channel**

Quickly defaults back to blank "Listen" fields for the chosen deleted Channel.

## Smart Card Settings



### Load Config

Allows you to load the configuration (all system settings) from an inserted Smart Card onto your Firefly. Once loaded, the Firefly will detect the new system settings and change any necessary system settings according to the configuration stored on the Smart Card.

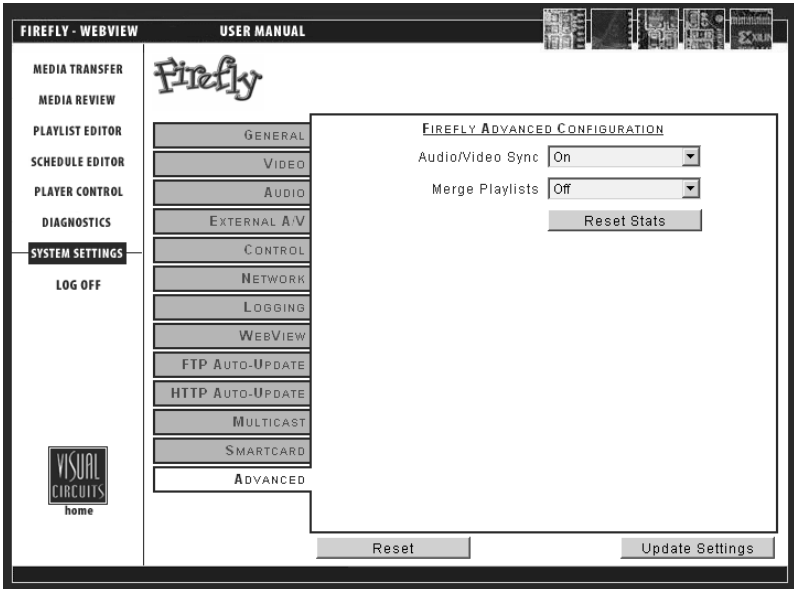
### Save Config

Allows you to save the current configuration of the Firefly (all system settings) to the Smart Card.

### Eject Smart Card

Allows you to eject an inserted Smart Card from the Firefly's internal Smart Card reader. (You may also eject the Smart Card using the front panel display on the Firefly. See *Ejecting the Smart Card* on page 110 for details).

## Advanced Settings



**Figure 83.** Settings-Advanced

### Audio/Video Sync

Turns audio/video synchronization on and off. Turning the audio to video synchronization or “lip sync” off, sometimes eliminates stuttering video playback. This may however result in poor audio to video synchronization. Consult with a Visual Circuits representative if the problem continues.

### Merge Playlists

The behavior of the “Merge Playlists” feature depends upon which mode you are in (Single Playlist Mode vs. Schedule Mode) with your Firefly.

If you are in “Single Playlist Mode”, the existing playlist is ignored, i.e., the incoming playlist is merged with the current playing one regardless of the playlist filename.

If you are in “Schedule Mode”, if a new playlist has the same filename as a playlist already on the system, then any empty channels on the new playlist will utilize the channels from the original playlist.

### **Reset Stats**

Allows you to reset the basic system statistics (number of Watchdog Restarts and System Starts) as viewable in the WebView Diagnostics/General page may be reset to zero.

# NETWORKING

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## Overview

Firefly players can be deployed as a network of media playback nodes. Because Firefly can be placed on a network, standard network setup (i.e. establishing a Username, IP configuration, etc.) is fully supported. Firefly comes standard with fully integrated FTP functionality.

Developing a network of centrally managed and controlled Fireflys virtually creates a private broadcast network. This network can be used to advertise, educate, instruct or entertain. With centralized control and unattended playback, Firefly nodes respond as directed. Modular in design, Firefly is an ideal addition to any existing network or for creation of a new network.

## Getting Started

The following questions should be considered when establishing a network:

- Number of Fireflys and update method?
- Bandwidth of communication to each Firefly?
- Playback programming: scripted/show controller/ combined?
- Creation of MPEG2 videos. (Pre-production/ Post-production)?
- Service and maintenance of deployed systems?
- Installation of displays, cabling, control devices, etc.?

**To simplify the process of Firefly network management, Visual Circuits has developed a software system called Media Messenger (see below).**

# Media Messenger™ Software

Visual Circuits Media Messenger™ software (sold separately) combined with Firefly Media Player creates a simple, yet powerful, end-to-end solution for the distribution and utilization of high-quality digital media.

## Product Features:

- ❑ Windows XP/2000 compatible
- ❑ Firefly Network Manager - for grouping and organizing Firefly Media Players graphically
- ❑ Playlist Editor - for generating customized playlists of videos and graphic overlays
- ❑ Schedule Editor - for scheduling target programming by date and/or time
- ❑ Media Messenger Publisher - for publishing unique content centrally via FTP
- ❑ Media Messenger CD/DVD Creator - for creating Media Update Discs for global or site-specific content distribution

## Benefits:

- ❑ Provides centralized management of a network of Firefly Media Players
- ❑ Creates diverse programming by integrating video and graphics into playlists
- ❑ Facilitates easy playback and updating of programming based on date, time, region or sub-grouping of locations
- ❑ Delivers content rapidly over the internet using FTP
- ❑ Manages content centrally while allowing for local updating
- ❑ Eliminates system intervention at local venue level
- ❑ Publishes content via CD/DVD, minimizing networking and distribution expenses
- ❑ Supports scalable expansion



**To learn more about Media Messenger, contact a Visual Circuits representative at 1-800-250-5533 or visit our website at [www.visualcircuits.com](http://www.visualcircuits.com).**



# UPDATING VIDEO PLAYBACK

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Firefly players can be updated in a variety of ways using several different interfaces. These updating processes include both automatic (minimal interaction) and manual methods.

## Automatic Updating:

- ❑ **Media Update discs** - standard CD/DVD discs created with Visual Circuits Media Messenger software that can be sent out for local updating. They are inexpensive and easy to use. Videos are copied to the Firefly and playback begins automatically.
- ❑ **Drop & Go discs** - standard CD/DVD discs created with any CD/DVD writing software program (containing four root-level directories) that can be sent out for local updating. These discs are inexpensive and easy to use. Videos are copied to the Firefly and playback begins automatically.
- ❑ **FTP, HTTP & Multicast Auto-Update** - allows regular scheduled updating via FTP of any new media, playlists, schedules and/or system updates.

## Manual Updating:

- ❑ **WebView** - web-based interface that can be used to transfer media from your computer and/or network to the Firefly, in addition to being able to create, edit or delete playlists and/or schedules on the Firefly.
- ❑ **Standard CD's/DVD's** - standard CD/DVD discs containing MPEG and graphic overlay files that can be used to update the media on your system.
- ❑ **Direct File Access** - accesses the Firefly directly with an FTP client.

# Automatic Updating

## Media Update Disc Updating

Using Media Update discs is an effective and inexpensive updating option for large and small networks. Media Update discs can be sent out to site locations and on-site employees, without any specialized knowledge of Firefly Media Player, can easily perform the update to the Firefly system.

Site-specific information can be included on the Media Update discs to customize the content for individual locations without making different discs. Furthermore, multiple disc sets can be created in cases where the size of the content exceeds the capacity of one disc.

## Creating a Media Update Disc

Visual Circuits Media Messenger software (sold separately) and a CD/DVD writer must be used to create a Media Update disc.

Media Messenger generates an update packet file (.tar), which can be copied to a CD/DVD using any standard CD/DVD writing program, such as Nero, Disc Juggler, etc. on a CD/DVD writing drive.

1. Using Media Messenger, create a .tar file from your desired playlist (.fpl)/schedule (.fsc) files.
2. Using your CD/DVD writer program, write the .tar file and all of the media (MPEG's and graphic overlay files) to the root-level of the CD/DVD. There should be no directories on a Media Update disc. (When writing CD's/DVD's over a network, test the network speed).
3. Be sure to test the disc in a Firefly prior to making duplicates and distributing to sites.

**NOTE**

While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed on the system will appear with “.bmp” as their extension.

If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

## Using a Media Update Disc

Use the following steps to perform a CD/DVD update:

1. Open the player's CD/DVD drawer and insert the disc.
2. Close the CD/DVD drawer and the update will proceed automatically.
3. The Front Panel Display will indicate when the update is complete and the disc will eject automatically.
4. If there are several updates to be completed, you may use as many Media Update discs as required to perform the update. Insert the discs one at a time. After each update is complete, the disc will eject automatically and you will be able to move on to the next one.

**NOTE**

Be sure the master disc is tested before duplication and distribution of multiple Media Update discs. Review CD/DVD update creation information and always check videos for assured quality.

## **Firefly Storage Cleanup Routine**

While you copy files to Firefly's internal storage, Firefly compares the total amount of space required to copy the files against the available storage space on the Firefly. If the Firefly player determines there is inadequate space to copy a file, it performs a cleanup routine to make room. This cleanup routine deletes the oldest MPEG files on the system that are not used by any incoming playlists. The criteria used to identify the oldest videos on the Firefly is simply the date the videos were originally transferred to the system (regardless of the media transfer method used).

## **Drop & Go Disc Updating**

### **Drop & Go Basics**

When a Drop & Go disc is placed in the Firefly CD/DVD drive, the videos are copied to the Firefly and playback begins automatically. Depending on the number of videos to be copied and the length of each video, the copying process could take several minutes. During the copying process, the old videos will continue to play and the Front Panel Display will indicate copying progress.

## Creating a Drop & Go Playback Disc

A Drop & Go disc can be created by copying MPEG videos onto a CD/DVD using any Windows or Linux-based computer with a CD or DVD writer.

1. For a CD or DVD to be used in Drop & Go mode, the disc must contain 4 root-level directories. These directories must be named “channel 1”, “channel 2”, “channel 3”, and “channel 4”. These names are not case-sensitive. Moreover, the names will be recognized whether you have a space between the word “channel” and the channel number or not.
2. Next, copy videos into each directory. The videos you place in each directory will play back on the corresponding channel. For example, if you placed a video called test.mpg in the Channel 1 directory, it will play back on channel 1 of the Firefly. The playback order of the videos you place in each directory is determined by alphanumeric order.

### NOTE

The existence of additional directories, sub-directories, and non-video files will be ignored and will not prevent the proper operation of the Drop & Go feature.

## Using a Drop & Go Playback Disc

To use the Drop & Go disc, follow the steps below.

1. Insert the Drop & Go disc into the Firefly CD/DVD drawer.
2. The Firefly will then detect that it is a Drop & Go disc that has been inserted.
3. The videos will be copied to the Firefly creating the current playlist, “dropngo.fpl”. The Front Panel Display will read: “CD Copying: filename.mpg”. “filename.mpg” represents the name of the of the file currently being copied to the Firefly.

4. Once all the videos have been copied to the Firefly, playback of the new content will begin.
5. There will be a brief pause, or blackout, of the video just before the new content starts playing. Note: The Drop & Go disc will not eject automatically.

## **Firefly Storage Cleanup Routine**

While you copy files to Firefly's internal storage, Firefly compares the total amount of space required to copy the files against the available storage space on the Firefly. If the Firefly player determines there is inadequate space to copy a file, it performs a cleanup routine to make room. This cleanup routine deletes the oldest MPEG files on the system that are not used by any incoming playlists. The criteria used to identify the oldest videos on the Firefly is simply the date the videos were originally transferred to the system (regardless of the media transfer method used).

## **System Software Update Process**

If a CD/DVD disc fails to qualify as a Media Update or a Drop & Go update, Firefly will next check to see if it is a system software update. To qualify as a system software update, the disc must contain a file with the extension ".upd". If such a file is found, Firefly will process the software update, eject the CD/DVD and then wait 60 seconds before implementing the update and restarting. If no valid .upd file is found, Firefly will take no further action.



## Content Update Processing

When Firefly detects a valid content update CD or DVD, it initiates a routine to decide how best to process it. The first step is to see if there is an update packet targeted specifically for this Firefly. This is done by checking for an update packet with a name that matches the site ID of this Firefly. If, for example, the site ID of the Firefly is set to “location1”, Firefly would look for a file by the name of “location1.tar”. If such a file is found, it will be copied to the Firefly and the Firefly will move on to the playlist parsing routine.

If Firefly does not detect an update packet with a name matching the site ID, it will next search for a generic package file by the name of “firefly.tar”. If this package is found, it will copy it to the Firefly and move on to the parsing routine.

File Name	Definition
<i>siteid.*</i>	a specific Firefly player
<i>firefly.*</i>	any Firefly player

Alternatively, instead of a package file, you may also use a playlist (.fpl) or schedule (.fsc) file.

File Extension	Definition
.tar	update packet contains schedule/playlist files
.fsc	single schedule file (playlist must already reside on Firefly player)
.fpl	single playlist file

## Updating Routine Order

The Firefly system will look for an update file following a specific order. It will proceed sequentially through this order until it finds a matching file and will then proceed to the *Playlist Parsing Routine* (see below).

1. *siteid.tar*
2. *firefly.tar*
3. *siteid.fpl*
4. *firefly.fpl*
5. *siteid.fsc*
6. *firefly.fsc*
7. \*.tar
8. \*.fpl

This logic is intended to allow users to create a single CD or DVD that will work on several Firefly's. All of the media required for all of the Firefly's can be placed on this CD/DVD along with separate update packets targeted for each Firefly (using the site ID as the target mechanism). A generic *firefly.fpl* playlist or *firefly.fsc* schedule can also be included to cover any of the Firefly's that do not require unique content.

## Playlist Parsing Routine

Once the new playlist(s) has been copied to the Firefly, it is analyzed to determine what MPEG video files are required to play it. Firefly then checks its own storage to determine if any of these videos are already present. Any files that are not present are copied from the CD or DVD. Any files that are found to exist already on the Firefly are compared against the file by the same name on the CD or DVD. If the file on the CD/DVD is found to be identical in size, this file is not copied. If the file on the CD/DVD is found to be of a different size, the file is copied from the CD/DVD to

overwrite the pre-existing file. The file size is chosen as the key in this decision as it is virtually impossible to create two MPEG files with different content that come out to be exactly the same size. This is a much more reliable indicator than creation date or other conventional means.

Once all of the required video files are copied from the CD or DVD, the Firefly will begin playing the new playlist or schedule.

## FTP Updating

FTP (File Transfer Protocol) is a standardized convention to deliver digital data via TCP/IP. TCP/IP is a set of common network protocols for communicating digital data and is commonly used by networking systems, such as the internet.

Using FTP, each Firefly can update itself automatically when connected to a static network connection. New media, playlists, schedules and/or system updates can be downloaded using this connection to an FTP site. A static network connection may be a DSL, cable modem, or a connection to a Local Area Network (LAN). Often LAN connections have access to the internet, but be sure to check with a networking specialist for information on setting up an account if internet access is required to reach the FTP server. Often internet access from a LAN requires the use of a proxy server and fire wall permissions.

*Although there are many types of FTP software packages available, Visual Circuits recommends Serve-U. You can download a trial version at [www.Serve-U.com](http://www.Serve-U.com)*

## FTP Server

FTP servers are programs that reside on a PC and may be Windows, Unix, or Linux-based. FTP servers monitor users that log in to it and regulate what folders and videos a user may access. When a Firefly performs an update, the FTP server sees it as a user.

### NOTE

Each Firefly should be setup with its own site ID established prior to installation. Update files created for Firefly can then be named according to the unique Firefly ID.

In order for a Firefly to perform an update, the Firefly must be configured with the network address of the FTP server and login information (username and password) of an account on the FTP server. The account should have read and write permission on the FTP server.

## Player Management

Scripts and videos must be posted in the correct directories at the update location. Usually the person performing this update will be familiar with the videos to be shown and how the presentation should appear (i.e. which files should play on which channel and their sequence within that list, if more than one).

This person does not need to be familiar with how the network is maintained technically, or how the Firefly nodes are serviced and maintained. What is crucial is the quality assurance and review of the videos. This review of videos and scripts is critical prior to posting for update to make sure that the intended results are achieved. It is likely that this person is not the network administrator or web master. Only access to the network and a working knowledge of the network is required.

## Creating a Firefly FTP Update Account

After Firefly logs in, it will be looking for the following directories for updating:

/

All media files are posted in the login directory, unless the Directory setting in FTP Auto-Update Settings is used (see *Directory* on page 186), in which case the Firefly will change that directory after logging in.

### **/scripts**

All update packet files with .tar, .fpl or .fsc extensions are posted here.

#### **NOTE**

In most instances, either a single update packet will be posted for all players to download or a playlist will be posted for each Firefly. Each time a download occurs, playback will be momentarily interrupted for several seconds as playback is reset with the new playlist.

### **/updates**

System software updates, files with a .upd extension, are posted here. This software update for the player will automatically take effect and reset playback. The system software has a version. (Refer to the Front Panel Display Menu “Diagnostics”: “Version”; page 269.)

## FTP Update Process

When an FTP update is initiated on the Firefly, either by selecting Update Now from the menu system or by a regular update interval or fixed time trigger, the Firefly will try to establish communications with the specified FTP site. If communication is established, the Firefly will first search the *update packets* directory under the home directory of the FTP site for a .tar file in the scripts directory targeted specifically for this Firefly. This is done by checking for a .tar file with a name that matches the site ID of this Firefly. If for example, the site ID of the Firefly is set to “location1”, Firefly will look for a file by the name of “location1.tar”. If such a file is found, it will be copied to the Firefly and the Firefly will move on to the playlist parsing routine.

If Firefly does not detect an update packet with a name matching the site ID, it will next search for a generic package file by the name of “firefly.tar”. If this package is found, it will copy it to the Firefly and move on to the parsing routine.

File Name	Definition
<i>siteid.*</i>	a specific Firefly player
<i>firefly.*</i>	any Firefly player

Alternatively, instead of a package file, you may also use a playlist (.fpl) or schedule (.fsc) file.

File Extension	Definition
.tar	schedule/playlist package file
.fsc	single schedule file (playlist must already reside on Firefly player)
.fpl	single playlist file

## FTP Updating Order

The Firefly system will look for an update file following a specific order. It will proceed sequentially through this order until it finds a matching file and will then proceed to the *Playlist Parsing Routine* (see below).

1. *siteid.tar*
2. *firefly.tar*
3. *siteid.fpl*
4. *firefly.fpl*
5. *siteid.fsc*
6. *firefly.fsc*

## Playlist Parsing Routine

Once the new playlist(s) has been copied to the Firefly, it is analyzed to determine which MPEG video files are required to play it. Firefly then checks its own storage to determine if any of these videos are already present. Any files that are not present are copied from the FTP site. Any files that are found to exist already on the Firefly's hard drive are compared against the file by the same name on the FTP site. If the file on the FTP site is found to be identical in size, this file is not copied. If the file on the FTP site is found to be of a different size, the file is copied from the FTP site to overwrite the pre-existing file. The file size is chosen as the key in this decision as it is virtually impossible to create two MPEG files with different content that come out to be exactly the same size. This is a much more reliable indicator than creation date or other conventional means.

Once all of the required video files are copied from the FTP site, the Firefly will begin playing the new playlist or schedule.

## System Update Check

After Firefly has finished its update routine it will search the `/updates` directory under the home directory of the FTP site for any valid software updates. If it finds a file in this directory with the extension “.upd” this file will be copied to Firefly’s internal storage and executed. A .upd file is a file designated for making a software update to Firefly(s). For more on the behavior of each .upd file refer to the software release notes that came with the update file.

## Firefly Storage Cleanup Routine

While you copy files to Firefly’s internal storage, Firefly compares the total amount of space required to copy the files against the available storage space on the Firefly. If the Firefly player determines there is inadequate space to copy a file, it performs a cleanup routine to make room. This cleanup routine deletes the oldest MPEG files on the system that are not used by any incoming playlists. The criteria used to identify the oldest videos on the Firefly is simply the date the videos were originally transferred to the system (regardless of the media transfer method used).

## Multicast Updating

Firefly Media Player is equipped with KenCast™ “Fazzt” multicast client (optional feature). The KenCast multicast client handles the task of receiving and writing media files to Firefly’s internal storage.

Note that for this section of the Firefly user manual, it is assumed that you have basic knowledge of multicasting, the KenCast client and networking.

In addition, throughout the Multicast Updating section, there will be various references to the term “script”. For the purpose of this section, a script may be made up of a playlist (.fpl) file and/or an update packet (.tar) file.



**NOTE**

Multicasting is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the Multicasting feature (menu items are “grayed out”) and you would like to purchase it, contact a Visual Circuits representative at 1-800-250-5533.

## **Overview**

When you insert a multicast-enabled Smart Card into your Firefly, the Firefly will automatically load a license for the KenCast multicast client software onto the system. When or if the Smart Card is removed, the licensing and all multicast functionality will be disabled.

Each Firefly on your network must have a unique serial number. This serial number will be used to identify the individual Firefly during a multicast update to ensure that the proper media goes to the correct player.

Within Firefly multicasting, two multicast modes are available: Package Mode and Script Last Mode.

### **Package Mode:**

In Package Mode, a Fazzt package must be created and sent to the Firefly system. It must contain a script (playlist .fpl / update packet .tar) and the inclusion of videos and graphic overlays is optional. Any videos or graphic overlays not referenced by the script will be deleted upon arrival.

After the transfer is complete, the standard cleanup routine will take place to reduce the amount of content on the system to maintain a “Reserve MBs” of free space. This extra free space is needed to ensure that the next incoming multicast transfer has adequate space to complete. The amount of free space you will need to maintain will need to be twice as much as your largest ever anticipated update. See *Reserves MBs*: on page 216 for details.

Standard “SiteID” naming of scripts can be used with Package Mode to remove unneeded content on the Firefly(s) if you wish to send the same package to all Fireflies in your network.

### **Script Last Mode:**

In Script Last Mode, individual files can be sent to the Firefly. Any content will be stored on the system (unless none of its files are on the system). Any .tar/.fpl sent will be processed and played as long as it has at least one content file on the Firefly.

Script Last Mode allows you to simply “send content” to the Firefly to load it, without the need for a script. This is made possible because auto-deletion of content is not performed, other than the standard cleanup routine. See *Firefly Storage Cleanup Routine* on page 212 for details.

Whether all content is sent to all sites is determined by your head end software.

Moreover, note that with multicast updating, new schedules and playlists play immediately on the Firefly.

<b>NOTE</b>
Be sure not to mix update files (.upd) with content files when completing multicast updating.

## Software Update Check

A software update check searches for any valid software updates. If it receives a file in this directory with the extension “.upd” this file will be copied to Firefly’s internal storage and executed. A .upd file is a file designated for making a software update to Firefly(s). For more on the behavior of each .upd file refer to the software release notes that came with the update file.

If a Firefly receives a .upd file during a multicast transmission, the system will apply the update.

## System Settings for Multicasting

The System Settings for Multicasting detailed below are accessible via either the remote control, WebView or Front Panel interfaces.

### **Client Enable:**

Allows option to enable or disable the KenCast multicast client.

Note that if you make changes to other Multicast settings, you must also toggle the Client Enable setting from “Disabled” to “Enabled” for the changes to apply.

### **Listen Address:**

The IP address that the multicast client will listen on. The value must be a Class D multicast address, which will typical start with 224.xxx.xxx.xxx.

Because some addresses may be reserved (see below), consult your networking specialist for assistance.

224.0.0.0/24 is reserved by RFC.

224.0.1.0/24 is used by specific applications (NTP).

### **Listen Port:**

The port address that the multicast client will listen on.

### **Transfer Order:**

Allows the option to choose the order in which items are transferred: package mode (see page 213 for details) or script last mode (see page 214 details) .

### **Reserves MBs:**

Allows you to allocate a fixed amount of Firefly's internal storage space for receiving a multicast update. To determine this value, you will need to estimate the largest multicast update you will ever receive (example: 1000 MBs). Then, double that amount (example: 1000 MBs x 2 = 2000 MBs) to allow room for both the compressed archive and the extraction process. Once you have determined this value, enter it for the Reserve MBs.

## **Manual Updating**

### **WebView Updating**

WebView is a web-based interface that can be used to transfer media from your computer and/or network to the Firefly. See *Transferring Media* on page 117 for instructions on transferring media to the Firefly using the WebView interface.

In addition, WebView may be used to create, edit or delete playlists and/or schedules. See *Using the Playlist Editor* on page 126 for information on working with playlists or *Using the Schedule Editor* on page 144 for information on working with schedules.

## Standard CD/DVD Updating

Standard CD/DVD discs containing MPEG and graphic overlay (.bmp, .jpg, .gif, .tif, .tga or .png) files can be used to manually update the media on your Firefly.

Any standard CD/DVD writing program and CD/DVD writer may be used to create a disc.

1. Copy MPEG's and graphic overlay files to a folder on the PC with the CD/DVD writer. When writing CD's/DVD's over a network, test the network speed.
2. Write all files to the CD/DVD.
3. Test the disc in a Firefly prior to making duplicates and distributing to sites.

See *Media Maintenance* on page 67 within the Remote Control section for instructions on how to copy media from a standard CD/DVD to the Firefly using the IR Remote Control or see *Copy From CD/DVD* on page 103 for instructions on how to copy media from a standard CD/DVD using the Front Panel six-button interface.

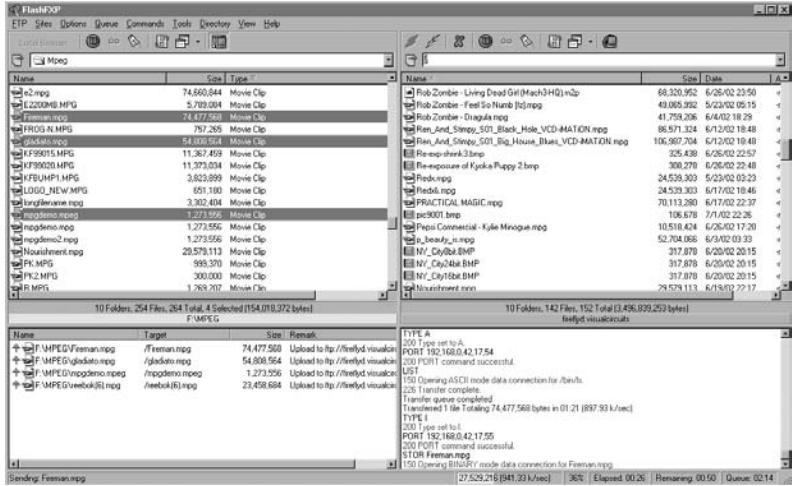
### NOTE

While copying .jpg, .gif, .tif, .tga, .png or non 256-color .bmp image files, Firefly converts those files to a standard 8-bit, 256-color bitmap format and reduces the image sizes, if necessary, to the system maximum of 720 x 480 for NTSC. This is necessary to ensure that all image files used for graphic overlays are consistent in appearance and functionality. As a result, all image files listed under "Loaded Media" will appear with ".bmp" as their extension.

If you do not want your images to be converted by Firefly, create them according to the parameters outlined above before transferring.

## Direct File Access Updating

Direct File Access (enabled in “Web” screen within Firefly System Settings) can be used to update the Firefly directly with an FTP client. Programs such as FlashFXP (see description below) may be used.



**Figure 84.** Example of Direct File Access Using FlashFXP

Direct File Access is a powerful way to work with your Firefly. Using a program such as FlashFXP, your PC hard drive or computer network will appear on the left pane with the Firefly appearing on the right.

**WARNING**

The File Access feature is disabled by default because of an inherent security risk. By enabling File Access, you are opening the FTP port, which opens your Firefly up to potential unauthorized access via a network, such as the internet. Understand that all security provisions must be provided by your network. Firefly does not include any special security measures for this feature.

Some of the options available to you include:

- Viewing the contents of your Firefly.
- Deleting files from your Firefly.
- Downloading files from your Firefly to your PC or network.
- Uploading files from your PC or network drive to the Firefly.

**WARNING**

While using an FTP client, keep in mind that you will be able to view and access special system file sub-directories that should remain unaltered. To prevent potential damage to the operation of your Firefly Media Player, do not open or delete any files from these system file sub-directories.





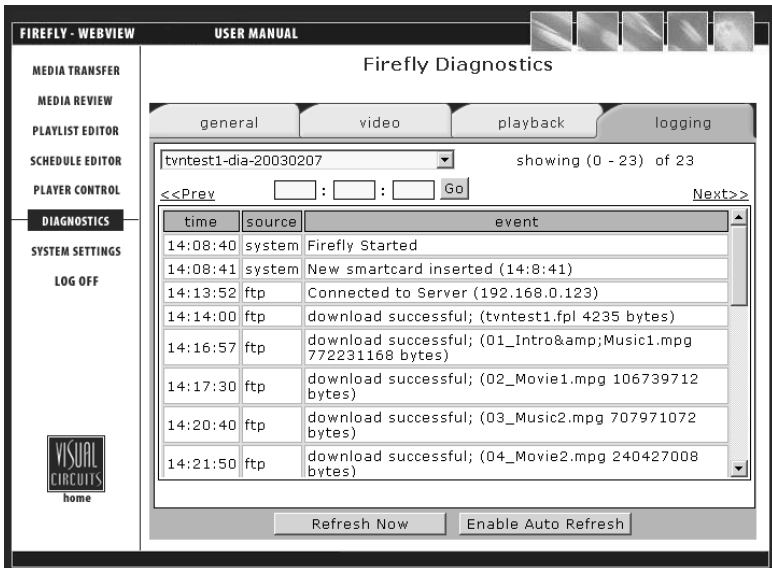
# LOG FILE REPORTING

## Overview

The logging of playback verification data, as well as diagnostic data, provides for easier and more powerful management of a Firefly Media Player network.

There are two types of data logs available on the Firefly: run logs and diagnostic logs. You can enable or disable these capturing of these logs in any combination.

Each of the settings related to log file reporting are found in the System Settings menu, accessible via the IR Menu, WebView or the Front Panel Display.



The screenshot displays the 'Firefly Diagnostics' window with the 'logging' tab selected. A dropdown menu shows 'tvntest1-dia-20030207' and the text 'showing (0 - 23) of 23'. Navigation buttons '<< Prev', 'Go', and 'Next >>' are present. A table lists log entries:

time	source	event
14:08:40	system	Firefly Started
14:08:41	system	New smartcard inserted (14:8:41)
14:13:52	ftp	Connected to Server (192.168.0.123)
14:14:00	ftp	download successful; (tvntest1.fpl 4235 bytes)
14:16:57	ftp	download successful; (01_Intro&Music1.mpg 772231168 bytes)
14:17:30	ftp	download successful; (02_Movie1.mpg 106739712 bytes)
14:20:40	ftp	download successful; (03_Music2.mpg 707971072 bytes)
14:21:50	ftp	download successful; (04_Movie2.mpg 240427008 bytes)

Buttons at the bottom include 'Refresh Now' and 'Enable Auto Refresh'. The left sidebar contains menu items: MEDIA TRANSFER, MEDIA REVIEW, PLAYLIST EDITOR, SCHEDULE EDITOR, PLAYER CONTROL, **DIAGNOSTICS**, SYSTEM SETTINGS, and LOG OFF. The Visual Circuits logo is at the bottom left.

**Figure 85.** Example of WebView's Logfile Viewer (see *Diagnostics - Logging* on page 164 for more information)

## Run Logs

The run log provides a record of which videos played (with which graphic overlays, if applicable), on which channels, starting at what dates/times, playing back what percentage of the video and for how long.

The primary uses for this feature are for verification of playback schedules and for compliance to paid playback agreements. The resulting data can be used for something as simple as ‘X’ video played at ‘Y’ time for a total of ‘Z’ occurrences or for more detailed reports, taking into account graphic overlays, playback duration and channels numbers.

## Diagnostic Logs

The diagnostic log can be used to view a record of all media update transactions and any system errors on a Firefly.

Information contained in the diagnostic log include:

- ❑ FTP/DVD Updating data: Tracks date, time of connection/disconnection, errors- yes/no, files, sizes and percent transferred.
- ❑ Storage Cleanup data: Records what media have been deleted by the automatic storage cleanup routine, including file names, sizes and dates.
- ❑ Missing Elements Log: Records all missing media referenced by an active playlist or schedule, including date, time and file element.
- ❑ Error Summary data: Records important user player diagnostic information, including the number of system restarts, number of watchdog restarts, the player version, etc.

The create diagnostic log option (On or Off) is found in the System Settings menu, accessible via the IR Menu, WebView or the Front Panel Display.

## Log Format

### Run Logs

The available output formats for a Firefly run log file are either .CSV or .XML

#### Sample from a .CSV format run log:

```
12-07-02 20:30:07,1,05saturn.mpg,3_ser220.BMP,1,00:01:01,100
```

#### Sample from a .XML format run log:

```
<mpeg datetime="12-07-02 20:32:57" chan="1"  
filename="05saturn.mpg" overlay="3_ser220.BMP" loop="1"  
duration="00:01:01" percent="100" />
```

### Diagnostic Logs

The format of the diagnostic log is in a simple “time - event” per line format.

### DTDs (Document Type Definition)

DTDs can be used to import data from a log file into a database. DTDs for both XML log formats may be downloaded from the Visual Circuits website at:

[www.visualcircuits.com/dtds/dialog.dtd](http://www.visualcircuits.com/dtds/dialog.dtd) (Diagnostic Log)

and

[www.visualcircuits.com/dtds/runlog.dtd](http://www.visualcircuits.com/dtds/runlog.dtd) (Run Log).

### Log Default Playlist

You have the option to designate whether or not the default playlist playback is included in the playback log file data. Choosing “Yes” includes the default playlist in the playback data. Conversely, choosing “No” excludes the default playlist from the log file data.

## **Maximum Log File Sizes**

You have the option to set a value (in megabytes) for the maximum size a log file is able to reach. The default value is 10 MB. You may want to keep this value relatively small if you wish to maintain a large amount of free space for videos and graphic overlays.

When the log files exceed the maximum amount of defined storage space, an automatic cleanup process will delete the oldest file as required to contain the total log file space under the set limits. In addition, files will be deleted after they are transferred to the FTP server or downloaded from the Firefly player.

## **Uploading Log Files**

You have a “Yes” or “No” choice for uploading log files to the “logfiles” directory on your FTP server.

If you choose “Yes” to have the log files uploaded, you may download the log files to your choice of storage options, such as a database you have designated for Firefly media playback data, from your FTP server.

# EXTERNAL CONTROL COMMANDS

---

Within this chapter, there are two types of external control commands that are described: Visual Circuits Corporation (VCC) control commands and Laserdisc emulation (LDV) control commands. Please note that the VCC control commands are proprietary in nature, and therefore are not designed to be mixed with LDV control commands. Doing so, could cause inconsistent results and is not recommended.

The following list of commands may be sent via RS232 or TCP/IP to Firefly to direct playback. Any standard show control system or ASCII generating control program may be used. For RS232 it is recommended to use a null modem cable. For TCP/IP connections consult the control device specification to see if a cross over network patch cable is required. When specifying a channel, the first channel is referred to as 0 (zero), Channel 2 = 1, (etc.).

## Connecting via RS232

- ❑ The RS232 9-pin D-sub connector is located on the back of the Firefly between the audio connectors and the network connector.
- ❑ Configure the Firefly Control Settings (see *Control Settings* on page 81) to be compatible with your show controller.

## Connecting via TCP/IP

- ❑ Set “Accept TCP/IP” to “Yes” within the Firefly Control Settings screen. This allows anyone on the network to send commands to the Firefly if they know its network address.
- ❑ The TCP/IP (ethernet) connector is located on the back of the Firefly under the Video In connector, to the right of the RS232 connector.
- ❑ Configure the network settings (see the section on *Network Settings* on page 83 for details on how to do this).
- ❑ Connect to port 2180.

## Basic Hyper Terminal Setup

You will need a PC with Hyper Terminal (all Windows machines contain this under “Start/Programs/Accessories/Communications”) and a null modem cable (female 9 pin ‘D’ to female 9 pin D - RS-232 cable). Connect cable and start Hyper Terminal. Select Serial Port 1 & 9600BPS. Hit the enter key and you should see a “NAK” appear on the screen. If this takes a long time or not at all, you need to recheck connection and be sure that COM 1 is enabled in your BIOS setting. Also make sure nothing else is using COM 1. Once you’ve established connection, select File/Properties/Settings Tab/ASCII Setup button. Check the “Echo typed characters locally” box and select OK twice. Now you can proceed with typing in the Syntax desired. A correct response will return “ACK”. If you misspell, hit enter and try again (i.e., don’t try to correct). Please consult the Hyper Terminal Help file or see your Network Administrator for further assistance.

### NOTE

Upon initial start up, Firefly will begin playing the latest loaded playlist/schedule automatically. Following start up, if you choose to begin playback manually via External commands, you can default this option to “No”.

# VCC Control Commands:

## Playlist Playback Commands

### Playlistload

This command allows you to preload a playlist preparing it for playback. Playlistload loads up a playlist preparing it for playback. This command allows you to initiate playback when precision timing is desired. An mpgPlay channel or mpgPlayAll command is required to start playback.

#### Syntax

```
playlistload name once
```

#### Parameters (optional)

*name*

Name of the playlist file (e.g., loop1.fpl). You do not need to include the .fpl extension.

*once*

0 loops the playlist endlessly (default). 1 plays the playlist once through and stops.

### Playlistplay

This command initiates playback as soon as the files are fully queued up and loaded. There may be a slight delay between this command and playback.

The Playlistplay and Playlistload commands behave the same except Playlistplay starts playback automatically, whereas Playlistload only loads up the playlist. Yet, an Mpgplayall command is required to actually start playback. Playlistload is for when you need to control the exact time the playback begins.

#### Syntax

```
playlistplay name once
```

#### Parameters (optional)

*name*

Name of the playlist file (e.g., loop1.fpl). You do not need to include the .fpl extension.

*once*

0 loops the playlist endlessly (default). 1 plays the playlist once through and stops.

## Playing Individual Files

To accurately control the playback of individual videos, the following commands are used:

### mpgLoad

This command loads an MPEG file for playback on the specified channel. This command does not play the file. Videoname should include the storage path. If files are stored locally on Firefly, no storage path designation is required.

#### Syntax

```
mpgLoad 0 channel videoname
```

#### Parameters

*channel*

The channel on the Firefly (0-3)

*videoname*

The storage path and video name of the MPEG file to load. If no path is designated, Firefly will default to local storage.

#### Return Values

This command returns **ACK** if the file load was started successfully, or **NAK** if the file could not be loaded (e.g., the file was not found).

### mpgLoadNext

This command queues an MPEG file to play when the current video file finishes. This file will play once.

#### Syntax

```
mpgLoadNext 0 channel videoname
```

#### Parameters

*channel*

The channel on the Firefly (0-3)

*videoname*

The full path and video name of the MPEG file to load. (See description for mpgLoad.)



## Return Values

This command returns **ACK** to indicate that the file was loaded successfully, or **NAK** to indicate that the file could not be loaded (e.g., the file was not found).

## mpgLoadDef

This command loads an MPEG file for playback on the specified channel. This command does not play the file. Videoname should include the storage path. If files are stored locally on Firefly no storage path designation is required. This command will loop the file indefinitely.

### Syntax

```
mpgLoaddef 0 channel videoname
```

### Parameters

*channel*

The channel on the Firefly (0-3)

*videoname*

The storage path and video name of the MPEG file to load. If no path is designated, Firefly will default to local storage.

## Return Values

This command returns **ACK** if the file load was started successfully, or **NAK** if the file could not be loaded (e.g., the file was not found).

## mpgLoadNextDef

This command queues an MPEG file to play when the current video file finishes. This command adds file to a looping playlist.

### Syntax

```
mpgLoadNextdef 0 channel videoname
```

### Parameters

*channel*

The channel on the Firefly (0-3)

*videoname*

The full path and video name of the MPEG file to load. (See description for mpgLoad.)

### Return Values

This command returns **ACK** to indicate that the file was loaded successfully, or **NAK** to indicate that the file could not be loaded (e.g., the file was not found).

### mpgClearDef

This command clears the default (looping) playlist. This cancels the playlist defined by `mpgLoadDef` and `mpgLoadNextDef` and the playlist loaded by the Firefly at startup.

### Syntax

```
mpgClearDef 0 channel
```

### Parameters

*channel*

The channel on the Firefly (0-3)

### Return Values

This command returns **ACK** if the file load was started successfully, or **NAK** if the file could not be loaded (e.g., the file was not found).

### mpgPlay

This command plays a previously loaded MPEG file on the specified channel. The file must have already been loaded using the **mpgLoad** command.

### Syntax

```
mpgPlay 0 channel
```

### Parameters

*channel*

The channel on the Firefly (0-3)

### Return Values

This command returns **ACK** if playback was started successfully, or **NAK** if playback could not be started (e.g., no file previously loaded).

## **mpgStop**

This command stops playback of an MPEG file that is currently playing on the specified channel.

### **Syntax**

```
mpgStop 0 channel
```

### **Parameters**

*channel*

The channel on the Firefly (0-3)

### **Return Values**

This command returns **ACK** if playback was stopped successfully, or **NAK** if playback could not be stopped (e.g., no file currently playing).

## **mpgPlayAll**

This command starts playback on all channels simultaneously. The files for each channel to play must have been previously loaded using the **mpgLoad** command.

### **Syntax**

```
mpgPlayAll
```

### **Parameters**

None

### **Return Values**

This command returns **ACK** to indicate that playback was started successfully, or **NAK** to indicate that playback could not be started on all channels.

## **mpgStopAll**

This command stops playback on all channels simultaneously.

### **Syntax**

```
mpgStopAll
```

### **Parameters**

None

### Return Values

This command returns **ACK** to indicate that all channels were stopped successfully, or **NAK** to indicate that all channels could not be stopped.

### mpgSetInitOnOpen

This command controls the video loading behavior of all channels.

#### Syntax

`mpgSetInitOnOpen on`

#### Parameters

*on*

on=1, output goes black, playback memory is cleared.

on=0, seamless transition to new video, no output reset. Last played frame of video remains until next video is played. May reduce display rolls or opening flicker.

### mpgBlack

This command covers MPEG video on a channel, causing the corresponding video displays to go “black.” Note: This black may not be recognized by all displays as a true video signal.

To cover the video again, use the mpgUnblack command.

#### Syntax

`mpgBlack 0 channel`

#### Parameters

*channel*

The channel on the Firefly (0-3)

### Return Values

This command returns **ACK** if mpgBlack was started successfully, or **NAK** if mpgBlack could not be started.

## Remarks

Video playback is completely independent of whether the video is muted with `mpgBlack`. Videos will play “underneath” the black normally, audio will be unaltered and callbacks will be sent normally.

If a playlist is played with one of the commands, such as `playlistPlay`, unused channels (channels with no video files) will be set to the blackened state. Therefore, you must call `mpgUnblack` on those channels if you intend to play video on them with commands such as `mpgLoad/mpgPlay`.

See *mpgUnblack* for more information on “unblackening” video.

## mpgUnblack

This command uncovers MPEG video, reversing the effects of the `mpgBlack` command.

To cover the video again, use the *mpgBlack* command.

## Syntax

```
mpgUnblack 0 channel
```

## Parameters

*channel*

The channel on the Firefly (0-3)

## Return Values

This command returns **ACK** if `mpgUnblack` was started successfully, or **NAK** if `mpgUnblack` could not be started.

## Remarks

See *mpgBlack* on page 232 for more information on “blacking out” video.

## Using Serial Commands To Create Playlists

You can create a playlist “on the fly” with the `mpgLoadDef` and `mpgLoadNextDef` commands. These two commands are used to define a “default” (i.e. looping) playlist of MPEG files on any given channel.

*To make a playlist on a single channel:*

- ❑ call `mpgClearDef` to clear the old default playlist.
- ❑ call `mpgLoadDef` to specify the first file in the list.
- ❑ call `mpgLoadNextDef` once for each additional file, the order they should play.

- wait a few seconds for the files to load.
- call `mpgPlay` to start playback.

If you want to create a playlist that only plays once, use the `mpgLoad` and `mpgLoadNext` commands as follows:

- call `mpgClearDef` to clear the old default playlist.
- call `mpgLoad` to specify the first file in the list.
- call `mpgLoadNext` once for each additional file, the order they should play.
- wait a few seconds for the files to load.
- call `mpgPlay` to start playback.

To interactively insert “one time” files into the default playlist you can use the `mpgLoad` and `mpgLoadNext` commands *without* calling `mpgClearDef`. A list of files specified with these commands will interrupt the default playlist and play once. When the last file specified ends, the default playlist will resume, from the point where it was interrupted.

The last value passed to `mpgSetInitOnOpen` effect the type of transition when `mpgLoad` or `mpgLoadDef` is called. For seamless transitions, send `mpgSetInitOnopen 0` before the load commands.

## Firefly System Commands

### **fireflyFtpUpdate**

This command enables Firefly to update video content, playlists/schedules and software via an FTP server (see *FTP UPDATING* on page 207 for more information).

### **fireflyRestart**

This command restarts the entire Firefly system. This process normally takes about 1 minute to complete.

## Callback Commands

### **mpgCallback**

Turns on/off callback (play complete).

### Syntax

`mpgCallback on`

### Parameters

*on*

on=1, send callbacks (default off).

## Play Complete Callback

Each time a file ends on a channel and another file is started, a string is sent back to the controller over the serial port. This string has the following format:

`CB 0 channel 2`

“0” is the Firefly channel and “2” equals the end of the file.

## Audio and Video Setting Changes

### `mpgSetVolumeLeftRight`

The `mpgSetVolumeLeftRight` command sets the left and right audio volumes independently. The default volume level is 124. Lowering this value will make the volume softer or raising this value will make the volume louder.

`mpgSetVolumeLeftRight 0 channel leftVolume rightVolume`

### Parameters

*channel*

0 based index of the channel on the Firefly.

*leftVolume*

0-255 the audio level on the left channel.

*rightVolume*

0-255 the audio level on the right channel.

## mpgMute

The *mpgMute* command turns off the audio.

*mpgMute* 0 *channel*

### Parameters

*channel*

0 based index of the channel on the Firefly (0-3).

## mpgUnMute

The *mpgUnMute* command turns on the audio.

*mpgUnMute* 0 *channel*

### Parameters

*channel*

0 based index of the channel on the Firefly (0-3).

## On-Screen Display

### osdLoadBMP

The *osdLoadBMP* command will load a 256 or 16 color Microsoft bitmap (BMP) format file for overlay on the specified channel.

*osdLoadBMP* 0 *channel filename XPos YPos Mix xColor*

### Parameters

*channel*

0 based index of the channel on the Firefly (0-3).

*filename*

Path of BMP file.

*XPos*

Position along x-axis.

-1 to center horizontal

-2 to align on the right edge

*YPos*

Position along y-axis.

-1 to center vertical

-2 to align on the bottom edge



*Mix*

Level of transparent color. (0-255) 0=invisible.

*xColor*

Palette color in the BMP to make transparent. (0-255)  
-1 for all pixels equally transparent according to mix

**Remarks**

The position (0,0) is located in the upper left corner of the video display.

There is no certain way to predict the color represented by the *xColor* argument. It is determined by the method that the bitmap palette was generated. If you cannot view the palette of the file with your graphics editor, the only way to see which *xColor value* effects which color is through trial and error.

When *Mix* is zero, the transparent color is completely transparent. When it is 255, the transparent color is not transparent at all. When it is a number in between, the transparency level is also somewhere in between. Use the command *osdSetColorMixes* for more advanced control over the transparency.

This command will only load the BMP, but not actually display it. To display it, use *osdShow* after *osdLoadBMP*.

In order for the BMP to display properly, there must be an MPEG file underneath. It need not be playing, however.

This command will also load VCC proprietary binary format BIN files.

**osdShow**

The *osdShow* command will display a previously loaded on-screen BMP.

*osdShow 0 channel*

**Parameters**

*channel*

0 based index of the channel on the Firefly (0-3).

**Remarks**

The channel must first have an image loaded using one of the *osdLoad* commands.

**osdHide**

The *osdHide* command will hide a BMP image which is currently being shown on the specified channel.

*osdHide 0 channel*

## Parameters

*channel*

0 based index of the channel on the Firefly (0-3).

## Remarks

The channel must first have an image loaded using one of the *osdLoad* commands., and it must be shown using *osdShow*.

## osdSetXYMix

The *osdSetXYMix* command will load a 16 color GIF for overlay on the specified channel.

*osdSetXYMix 0 channel XPos YPos Mix*

## Parameters

*channel*

0 based index of the channel on the Firefly (0-3).

*XPos*

Position along x-axis.  
-1 to center horizontal.  
-2 to align on the right edge.

*YPos*

Position along y-axis.  
-1 to center vertical.  
-2 to align on the bottom edge.

*Mix*

Level of transparent color. (0-255) 0=invisible.

## Remarks

This command is used on BMP files already loaded, or loaded and showing, and allows the user to modify some of the parameters of a BMP display.

## External A/V Switching

**goLiveAll**

**goLive1**

**goLive2**

**goLive3**

**goLive4**

The *goLive* commands switch the audio and video together from the Firefly to the connected external audio/video source.

If you would like more specific control over the audio/video switching (example: *only* switching the video or *only* switching the audio), use the respective *genSetVideo* (page 240) and *genSetAudio* (page 241) commands.

**NOTE**

External Audio/Video Switching is an optional feature enabled by a pre-programmed Smart Card.

If your Firefly does not have the External A/V feature (menu items are “grayed out”) and you would like to purchase it, contact a Visual Circuits representative at 1-800-250-5533.

*Description*

There is a single audio/video input on the Firefly so each channel selected for external input can show this feed. Firefly source switching is channel independent, that is you can select any combination of channels can be selected as external. In addition, Firefly will convert the composite input signal to whatever Video output type you have selected in the system settings.

Genlocking to this external source is desirable so that there is no video roll or flicker when making the transitions between MPEG video and external video. However, genlocking on Firefly is NOT channel independent; all channels must be either Genlocked or Ungenlocked together. Therefore, when switching the genlock state of Firefly, you must call *genSetVideo* four times, with the same *GenlockOn* setting for each channel.

If you plan to show external video, you must genlock to the external source. It is not valid to turn on external video without turning on genlock as well (*genSetVideo* 0 0 0 1 is not a legal call to the command).

Genlock can also be enabled/disabled in the Firefly system settings (see *Genlock* on page 79 for details). However, keep in mind that *genSetVideo* will override that setting.

**noLiveAll**  
**noLive1**  
**noLive2**

## noLive3 noLive4

The *noLive* commands switch the audio and video together back from the external source connected to the Firefly to the audio/video on the Firefly.

If you would like more specific control over the audio/video switching (example: *only* switching the video or *only* switching the audio), use the respective *genSetVideo* (page 240) and *genSetAudio* (page 241) commands.

## genSetVideo

This command turns on and off genlocking to the external input. It also allows switching between the display of MPEG playback and display of the external input.

### Syntax

```
genSetVideo 0 chan GenlockOn Source
```

### Parameters

#### *GenlockOn*

- 0=Not genlocked.
- 1=Genlocked to external source

#### *Source*

- 0=Show Firefly's MPEG playback video.
- 1=Show the external source's video input.

#### *Description*

There is a single audio/video input on the Firefly so each channel selected for external input can show this feed. Firefly source switching is channel independent, that is you can select any combination of channels can be selected as external. In addition, Firefly will convert the composite input signal to whatever Video output type you have selected in the system settings.

Genlocking to this external source is desirable so that there is no video roll or flicker when making the transitions between MPEG video and external video. However, genlocking on Firefly is NOT channel independent; all channels must be either Genlocked or Ungenlocked together. Therefore, when switching the genlock state of Firefly, you must call *genSetVideo* four times, with the same *GenlockOn* setting for each channel.

If you plan to show external video, you must genlock to the external source. It is not valid to turn on external video without turning on genlock as well (*genSetVideo 0 0 0 1* is not a legal call to the command).

Genlock can also be enabled/disabled in the Firefly system settings (see *Genlock*

on page 79 for details). However, keep in mind that `getSetVideo` will override that setting.

To hear the audio on the external input, you must call `getSetAudio` (see below).

Example:

To Genlock the Firefly to the external feed, without displaying the external feed:

```
gensetvideo 0 0 1 0
gensetvideo 0 1 1 0
gensetvideo 0 2 1 0
gensetvideo 0 3 1 0
```

Example:

To Switch channels 1 and 4 to show the external feed:

```
gensetVideo 0 0 1 1
gensetvideo 0 3 1 1
```

## genSetAudio

This command allows switching the Firefly audio output between MPEG playback audio and the external input.

### Syntax

```
GetSetAudio 0 channel source
```

### Parameters

*channel*

The channel on the Firefly (0-3).

*source*

This controls what audio signal will be heard on the Firefly audio output:

0 = Firefly's MPEG audio playback.

1 = External source's audio input.

Example:

To switch channel 1 to output the external audio feed:

```
gensetaudio 0 0 1
```

## Media Calls

### mpgDir

This command returns the names of all files on the Firefly.

#### Syntax

```
mpgDir
```

### mpgDelete

This command permanently removes a media file from the Firefly.

#### Syntax

```
mpgDelete name
```

#### Parameters

*name*

The full name of the media file (video or graphic overlay) to remove. The list of all media can be obtained with the mpgDir command.

## Information Calls

### infoGetFile

#### Syntax

```
infoGetFile 0 channel
```

Returns the file playing the channel.

#### Parameters

*channel*

The channel on the Firefly (0-3)

### infoGetPlaylist

#### Syntax

```
infoGetPlaylist 0 channel
```

Returns the current playlist.

## Parameters

*channel*

The channel on the Firefly (0-3)

## infoGetSchedule

### Syntax

```
infoGetSchedule 0 channel
```

Returns the current schedule (or None).

### Parameters

*channel*

The channel on the Firefly (0-3)

## infoGetState

### Syntax

```
infoGetState 0 channel
```

Returns the current playback state on the specified channel of the player.

### Parameters

*channel*

The channel on the Firefly (0-3)

### Return Values

“STATE\_PLAY”,

“STATE\_STOP”,

“STATE\_PAUSE”,

“STATE\_REW”,

“STATE\_FF”,

## Networking Commands

### FireflySetDefault

This command sets the networking back to it's *factory state*:

IP Address - 10.0.1.1

Gateway - 255.255.255.0

Netmask -

Network Type - Static (2)

Web Enable - On (0)

Web User Name - firefly

Web Password - 123456

### Syntax

```
fireflysetdefault
```

### Parameters

*None*

### Remarks

This command is useful for situations where you simply would like to “clean house” and start over. If you’ve forgotten an IP address, password, etc., you might find the following network commands more useful.

### FireflySetIpAddr

The *FireflySetIpAddr* command will allow you to change the players IP Address.

### Syntax

```
fireflysetipaddr IP Address
```

### Parameters

*IP Address*

32 bit address used to identify a player on any Network.

### FireflySetGateway

The *FireflySetGateway* command will allow you to change the players network Gateway.

### Syntax

```
fireflysetgateway gateway
```



## Parameters

### *Gateway*

A service that allows Firefly to connect to other NetWare servers. Creating a gateway also allows client computers running only Microsoft client software to access NetWare resources through the gateway.

## FireflySetNetmask

The *FireflySetNetmask* command will allow you to change the players Netmask parameter.

### Syntax

```
fireflysetnetmask netmask
```

### Parameters

#### *Netmask*

Defines a subnet boundry range.

## FireflySetNetworkType

The *FireflySetNetworkType* command defines whether the media player is on a Network using a DHCP server or simply set up Statically.

### Syntax

```
fireflysetnetworktype 1 (DHCP) or 2 (Static)
```

### Parameters

*DHCP* (Dynamic Host Configuration Protocol) - A TCP/IP service protocol that offers dynamic leased configuration of host IP addresses and distributes other configuration parameters to eligible network clients.

*Static* For a local area connection (LAN), in IP address, Subnet mask, and Default gateway, type the IP address, subnet mask, and default gateway addresses.

## FireflySetWeb\_Enable

The *FireflySetWeb\_Enable* command gives the user the option to turn on & off network communication to Webview.

### Syntax

```
fireflysetweb_enable 0 (enable) or 1 (disable)
```

## FireflyGetIpAddr

The *FireflyGetIpAddr* command retrieves current setting.

### Syntax

```
fireflygetIpAddr
```

## FireflyGetGateway

The *FireflyGetGateway* command retrieves current setting.

### Syntax

```
fireflysetgateway
```

## FireflyGetNetmask

The *FireflyGetNetmask* command retrieves current setting.

### Syntax

```
fireflygetnetmask
```

## FireflyGetNetworkType

The *FireflyGetNetworkType* command retrieves current setting.

### Syntax

```
fireflygetnetworktype
```

## FireflyGetWeb\_Enable

The *FireflyGetWeb\_Enable* command retrieves current setting.

### Syntax

```
fireflygetweb_enable
```

### Remarks

0 = Enabled

1 = Disabled

# LDV Control Commands

## Introduction

Firefly may be controlled serially via the Laserdisc emulation control set described in this section. This interface sends commands to Firefly dictating video playback, player settings or to report back system information. Commands received and recognized by Firefly will return an “R” (ACK). Commands not recognized will be reported back to the controller as an error. The following sections describe setting up communication and programming the show controller.

As previously noted, the Visual Circuits Corporation (VCC) control commands are proprietary in nature, and therefore and not designed to be mixed with Laserdisc emulation (LDV) control commands. Doing so, could cause inconsistent results and is not recommended.

## COM Port Settings

Any serial device controller may be used to control Firefly. Some manufacturers of these controllers include Crestron, AMX, Triad, Alcorn McBride and Sky Skan. This list of controllers is not all inclusive nor is it an endorsement of any one device.

The controllers communication port, or COM port, should be configured to properly communicate data to Firefly. These commands are ASCII characters either upper and/or lower case. Other ASCII arguments such as <CR> (carriage return) are used.

The Firefly’s COM port is set up with the following factory default settings:

Field	Setting
Baud Rate	9600
Parity	None
Stop Bit	1
Data Bit	8

Other optional settings include:

Field	Setting
Baud Rate	Either 4800 or 1200
Parity	Odd or Even
Stop Bit	2
Data Bit	7

Be sure that the control device and Firefly's COM port settings are the same.

### NOTE

For Laserdisc Video serial communications, "LDV" must be selected in the Command Mode under System Settings."VCC" is set for factory default.

## Getting Started: Understanding Command Language

Firefly will receive and respond to the LDV command structure with the following addition: Channel Number. Because a single Firefly actually replaces 4 DVD or 4 Laserdisc players, the commands sent to Firefly need to be addressed to the corresponding output. This channel number leader is designated as: x @ where x equals the desired channel or output. If no channel is designated, Firefly will interpret the command as a global command and all channels will respond. When a global command is received, Firefly will return 4 separate responses in sequence 1, 2, 3, and 4. Each response will be independent based on that channel. That is to say a global response may be a successful acknowledgement <R> by 3 of the 4 channels with the last channel reporting an error "Exx" where "xx" corresponds to the specific error code.

## Error Codes

If Firefly acknowledges a command, the return from the player will be <R>. Anytime an invalid command or address argument is received, that command will be ignored and an error code will be returned. In the event that the command was global, again each channel will report back independently.

The following table describes the system error codes:

Code	Message	Meaning
NAK	Communication Error	Command or address argument cannot be parsed - invalid syntax.
E06	Missing Argument	Necessary parameter is not specified.
E11	Playlist not loaded	This error will occur any time a player control command is received while no playlist is loaded.
E12	Search Error	Search or stop marker address cannot be found.

## Command Syntax

All commands shown in this section will be upper case. There are no spaces in the command argument itself. However, between commands there will be spaces.

A sequence such as

<command1>(space)<command2>(space)<command3>(space)

<command4><CR> would indicate four separate commands to be executed.

Some address arguments are optional and some are required to execute a command. Where an address is optional, it will be shown as “(address)”.

Whenever an address is required for a command, it will be shown as “<address>”.

## Address Arguments

Some commands permit or require address arguments. These arguments can be used to specify a position (frame or timecode) address within a video or an address which identifies the position or sequence order of a video within a list of videos. A list of videos playing back to back are commonly referred to as a playlist.

Laserdisc refers to a video playlist as a Chapter or CH. To specify a file address within a chapter, the sequential position is indicated by “x”. CH5, for example, would indicate the fifth file in the playlist or chapter. Designating the file position “x” is also accepted.

It is also possible to define an address within a video itself. FRx indicates a frame number within a video where “FR” denotes frame and “x” refers to the frame number. FR3000, for example, would refer to the frame 3000 of the current video. This equates to 100 seconds or 1 minute 40 seconds into the file. The frame number refers to actual video frames and calculating at 30 frames per second non drop, which is the NTSC standard, gives you the time elapsed at this frame of video.

TMx indicates a time code value using the format HHMMSSFF within the video.

H=Hour

M=Minute

S=Second

F=Frame

For example, TM1263212 would refer to the point at 1 hour, 26 minutes, 32 seconds and 12 frames in the video. The TM values will always be interpreted as a right justified value so TM 3415 would reference the position 34 seconds and 15 frames into the video.

## Command Summary

Remember all commands are either upper case or lower case characters as well as other ASCII characters. Some address arguments are optional and will be designated by () whereas mandatory addresses will be designated by <>.

## Playback Commands

### Play (PL)

#### Command:

Puts the designated channel(s) into play mode from the current file position and continues to play until the (address) value is reached. If no (address) is specified, play mode continues indefinitely.

#### Format:

(address)PL<CR>

#### Response:

R<CR>

**Explanation:**

This command is used to begin playback on the selected channel(s) from the current file position. If an address value is included in the command, this will define the point at which playback is to automatically pause. If a PL command with an address is received while playback is already in progress, playback will continue uninterrupted and the pause address will be set as specified. If a PL command with no address is received while playback is already in progress playback will continue uninterrupted and any previously set pause address will be cleared. In the event that a play command is received with an out of range address value (i.e. – time code greater than the length of the current file or chapter number higher than the number of files in the playlist) the play command will not be processed and the error code “E12” will be returned.

**Examples:**

3@TM13000PL<CR>

Play channel 3 from the current file position until the time code reaches 1 minute 30 seconds 0 frames and then pause.

1@CH5PL<CR>

Play channel 1 from the current file position until the head of chapter 5 is reached and then pause

PL<CR>

Start all channels playing from their current file positions and continue playback until receiving another command. If a pause address had been set in any channel, clear that pause address. Play (PL)

**Reject “Stop” (RJ)**

**Command:**

Stops playback and resets the file pointer to the head of the playlist (equivalent to a stop button on a DVD or CD player).

**Format:**

RJ<CR>

**Response:**

R<CR>

**Examples:**

RJ<CR>

Stops playback on all four channels and resets playback pointers to head of playlist.

### **Pause (PA)**

#### **Command:**

Pauses the designated channel(s) at the current file position and blacks out the picture.

#### **Format:**

PA<CR>

#### **Response:**

R<CR>

#### **Explanation:**

The PA command will pause playback, Scan Reverse or Scan Forward. While having no visible effect on screen, it should also transition from Stop to Pause holding on frame 1 of the first file of the playlist. This is simply for compatibility with LDV devices which can use PA as a means of spinning up the disc without actually beginning playback. By transitioning from Stop to Pause the Firefly will give the control system the expected response if a status request is made later. In all cases, PA results in the target channel(s) being blacked out until another command is received. The Blackout will only remain in effect for as long as the channel(s) is in Pause mode. Any command which transitions the channel(s) out of Pause mode will also unmute the video on the specified channel(s)

#### **Examples:**

PA<CR>

Pauses all channels on the Firefly and blacks out the video outputs.

1@PA<CR>

Pauses channel 1 on the Firefly and blacks out the channel 1 video output.



## Still (ST)

### Command:

Pauses the designated channel(s) at the current file position and freezes the picture.

### Format:

ST<CR>

### Response:

R<CR>

### Explanation:

ST is treated exactly the same as PA except that instead of the video output going black, the current video frame is held on screen. If an ST command is received after a PA the effect will simply be to unmute the video output for the target channel(s). Likewise, if a PA is received after an ST, the effect will simply be to mute the video on the target channel(s).

### Examples:

ST<CR>

Pauses all channels on the Firefly and freezes the current frame on each video output.

1@ST<CR>

Pauses channel 1 on the Firefly and freezes the current frame on the channel 1 video output.

## Search (SE)

### Command:

Jumps to the specified position within the current MPEG file or playlist.

### Format:

<address>SE<CR>

### Response:

R<CR>

### **Explanation:**

The Search command can jump to any I-frame within the current file or the head of any other file within the playlist. After executing the search command the specified channel(s) will transition to Still mode until another command is received. In the event that a search command is received with an out of range address value (i.e. – chapter number higher than the number of files in the playlist) the search command will not be processed and the error code “E12” will be returned.

### **Examples:**

2@CH15SE

Jumps channel 2 to the head of the 15<sup>th</sup> file in the playlist and then transitions to still mode. If there are fewer than 15 files in the playlist for channel 2 error code E12 is returned and no change is made to the state of channel 2.

## **Multi-Track Jump Forward (JF)**

### **Command:**

Jumps forward in the current MPEG file or playlist by the amount specified in the <address> argument.

### **Format:**

<address>JF<CR>

### **Response:**

R<CR>

### **Explanation:**

The Jump Forward command is similar to the search command except that the address argument is interpreted relative to the current file and playlist position and the new position is always forward of the current position. In the event that a Jump Forward command is received with an out of range address value (i.e. – chapter number greater than the remaining number of files in the playlist) the Jump Forward command will not be processed and the error code “E12” will be returned.

### **Examples:**

2@CH3JF

Jumps channel 2 to the head of the file 3 places down in the playlist and then transitions to still mode. If for example file 1 is currently playing on channel 2, this command would advance to the head of file 4. If there are fewer than 3 files remaining in the playlist for channel 2 error code E12 is returned and no change is made to the state of channel 2.

## Multi-Track Jump Reverse (JR)

### Command:

Jumps backward in the current MPEG file or playlist by the amount specified in the <address> argument.

### Format:

<address>JR<CR>

### Response:

R<CR>

### Explanation:

The Jump Reverse command is similar to the search command except that the address argument is interpreted relative to the current file and playlist position and the new position is always before the current position. In the event that a Jump Reverse command is received with an out of range address value (i.e. – chapter number greater than the current file in the playlist) the Jump Reverse command will not be processed and the error code “E12” will be returned.

### Examples:

2@CH1JR

Jumps channel 2 to the head of the current file and then transitions to still mode. The only condition under which this command could generate an error code would be if channel 2 was stopped or if no playlist was loaded.

2@CH3JR

Jumps channel 2 to the head of the second file before the currently playing file and then transitions to still mode. If for example file 4 is currently playing on channel 2, this command would advance to the head of file 2. If the currently playing file is less than the third file in the playlist error code E12 is returned and no change is made to the state of channel 2.

## Key Lock (KL)

### Command:

Enables and disables IR control of the Firefly.

### Format:

xKL<CR>

### Response:

R<CR>

### **Explanation:**

This command is used to enable or disable the IR control port and is equivalent to the IR enable and disable commands available through the Firefly menu system or the handheld IR remote. No channel number is ever specified as this command is always global. A value of 0 for x will enable IR control while a value of 1 will disable IR control. Any other value will be considered an error and will return the error code NAK without changing the state of the IR control port.

### **Examples:**

0KL

Enables IR control port. If the IR control port was already enabled at the time this command was received, no change is made.

1KL

Disables IR control port. If the IR control port was already disabled at the time this command was received, no change is made.

## **Display Control (DS)**

### **Command:**

Turns the on screen status display on or off for the specified channel(s) within the Firefly.

### **Format:**

xDS<CR>

### **Response:**

R<CR>

### **Explanation:**

This command is used to call up a graphic overlay onto a specified channel(s). The graphic overlay will be a subset of the status display shown during IR remote control player control mode. All elements of that overlay except the border box around the edge of the picture are included. A value of 0 for x will turn on the graphic overlay while a value of 1 will turn off the graphic overlay. Any other value is considered invalid and will return an error code of NAK without changing the state of the graphic overlay.

Note that it is not necessary for the Firefly to maintain the state of this overlay when IR player control inputs are received after a serial command to display the overlay. In other words, if a serial command turns on the display and then the handheld remote is used to enter manual player control, the player control rules for overlay will take over and it is not necessary to restore the overlay to its previous state when player control mode is exited.

**Examples:**

0DS

Turns on the graphic overlay for all channels of the Firefly. If the graphic overlay was already enabled on a channel at the time this command was received, no change is made to that channel.

1@0DS

Turns off the graphic overlay for channel 1. If the graphic overlay was already off for that channel no change is made.

**Frame Number Request (?F)**

**Command:**

Requests the file position in the current MPEG file in frame number format.

**Format:**

?F<CR>

**Response:**

<framenumber><CR>

**Explanation:**

This command can be global or channel specific. If received as a global command, the Firefly will respond with the file position for all 4 channels in order (1, 2, 3 and 4). If a channel is specified, only that channel's frame position is returned:

**Examples:**

Command	Response
1@?F <CR>	02045 <CR>
?F <CR>	01202 <CR> 00101 <CR> 08114 <CR> 10141 <CR>

**Time Code Request (?T)**

**Command:**

Requests the file position in the current MPEG file in time code format.

**Format:**

?T<CR>

**Response:**

<timecode><CR>

**Explanation:**

This command can be global or channel specific. If received as a global command, the Firefly will respond with the file position for all 4 channels in order (1, 2, 3 and 4). If a channel is specified, only that channel's time code position is returned:

**Examples:**

Command	Response	Meaning
1@?T <CR>	0123329 <CR>	0Hr 12Min 33sec 29Fr
?T <CR>	0011402 <CR> 1081622 <CR> 0000612 <CR> 0103729 <CR>	0Hr 1Min 14Sec 2Fr 1Hr 8Min 16Sec 22Fr 0Hr 0Min 6Sec 12Fr 0Hr 10Min 37Sec 29Fr

## Chapter Number Request (?C)

**Command:**

Requests the position in the current playlist.

**Format:**

?C<CR>

**Response:**

<filenumber><CR>

**Explanation:**

This command can be global or channel specific. If received as a global command, the Firefly will respond with the playlist position for all 4 channels in order (1, 2, 3 and 4). If a channel is specified, only that channel's playlist position is returned:

**Examples:**

Command	Response
1@?C <CR>	3 <CR>
?C <CR>	3 <CR> 1 <CR> 3 <CR> 7 <CR>

**Player Active Mode Request (?P)****Command:**

Requests the current mode of the specified channel.

Note: The state after a reject command (RJ) will be P05 (stilled), not P01 (stopped).

**Format:**

?P<CR>

**Response:**

Response	
P01	indicates channel is stopped
P04	indicates channel is playing
P05	indicates channel is stilled (paused with image frozen)
P06	indicates channel is paused (paused with black screen)
P08	indicates channel is in fast forward or rewind

**Explanation:**

As with the other status request commands, this command can be global or channel specific. If received as a global command, the Firefly will respond with the mode for all 4 channels in order (1, 2, 3 and 4). If a channel is specified, only that channel's mode is returned:

**Examples:**

Command	Response	Meaning
1@?P <CR>	P04 <CR>	Playing
?P <CR>	P04 <CR> P01 <CR> P06 <CR> P05 <CR>	Channel 1 is Playing Channel 2 is Stopped Channel 3 is Paused Channel 4 is Stilled

**Firefly Model Request (?X)**

**Command:**

Requests the number of available channels on the Firefly and the software version.

**Format:**

?X<CR>

**Response:**

<channels>V<softwarever><CR>

**Explanation:**

This command is always global and therefore should never include a target channel. While at the time of release of this document only a 4 channel version of the Firefly is in process, it is intended that 2 and 1 channel product will eventually be released.

**Examples:**

Command	Response	Meaning
?X <CR>	4V2.00<CR>	4 channels ver 2.00 software
?X <CR>	2V3.12 <CR>	2 channels ver 3.12 software

**Load Playlist/Schedule (LD)**

**Command:**

Loads a playlist/schedule.

---



**Format:**

“<filename>”LD<CR>

**Response:**

R<CR>

**Explanation:**

This command is used to load a new playlist/schedule. When this command is received a check is done to be sure the specified filename actually exists on the Firefly hard drive. If it does not exist, then the error code E12 is returned and playback continues uninterrupted with the previous playlist/schedule.

If the specified playlist/schedule is found on the hard disk, then playback of the previous playlist/schedule is halted and the new playlist/schedule is loaded.

If “Auto Play” is enabled, playback will automatically start when a new playlist/schedule is loaded via the LD command. However, if “Auto Play” is disabled, playback will NOT automatically start; playback of the playlist/schedule must be started with the play (PL) command.

**Examples:**

“Tuesday.fpl”LD

Halts playback and loads the playlist named “Tuesday.fpl”.

“Summer1.fsc”LD

Halts playback and loads the schedule named “Summer1.fsc”

*Note that the LD command requires quotes around the playlist/schedule name.*

## External Control Commands Quick Reference Guide:

### VCC Commands:

Playlistload  
Playlistplay  
mpgLoad  
mpgLoadDef  
mpgLoadNextDef  
mpgLoadNext  
mpgClearDef  
mpgPlay  
mpgStop  
mpgPlayAll  
mpgStopAll  
mpgSetInitOnOpen  
mpgBlack  
fireflyFTPUpdate  
FireflySetDefault  
fireflySetIPAddr  
fireflySetGateway  
fireflySetNetmask  
fireflySetNetworkType  
fireflySetWeb\_Enable  
fireflyGetIPAddr  
fireflyGetGateway  
fireflyGetNetmask  
fireflyGetNetworkType  
fireflyGetWeb\_Enable  
mpgCallback  
Play Complete Callback  
mpgSetVolumeLeftRight  
osdLoadBMP

osdShow  
osdHide  
osdSetXYMix  
genSetVideo  
genSetAudio 0 chip Source  
mpgDir  
infoGetFile  
infoGetPlaylist  
infoGetSchedule  
infoGetState

### LDV Commands:

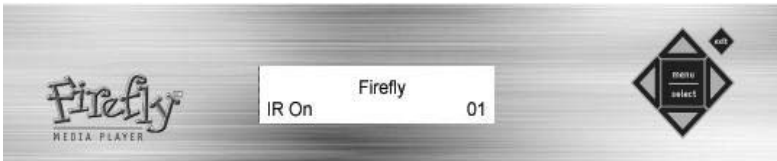
Play (PL)  
Reject “Stop” (RJ)  
Pause (PA)  
Still (ST)  
Search (SE)  
Multi-Track Jump Forward (JF)  
Multi-Track Jump Reverse (JR)  
Key Lock (KL)  
Display Control (DS)  
Frame Number Request (?F)  
Time Code Request (?T)  
Chapter Number Request (?C)  
Player Active Mode Request (?P)  
Firefly Model Request (?X)  
Load Playlist/Schedule (LD)

# FRONT PANEL DISPLAY

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## Introduction







Firefly is designed to operate in a remote environment with fully unattended playback. However, if local setting changes are required, the Front Panel Display interface is available. In most instances local access to Firefly will be for initial setup and installation. If the IR remote is not available or if the channel 1 video monitor is not in viewing range, the Front Panel Display allows for quick and easy access.



**Figure 86.** Front Panel Display

## Navigating the Front Panel Display Menu System

The interface and general navigation within the Front Panel Display menu system is intended to mirror that of the menu navigation keys on the IR remote control. The same six buttons (MENU/SELECT, UP, DOWN, LEFT, RIGHT and EXIT) are all available (see table below for illustrations).

Button	Description
	<b>UP</b> arrow button Moves up through menu and value options
	<b>DOWN</b> arrow button Moves down through menu and value options
	<b>MENU/SELECT</b> button Accesses menu system, selects current option or entry
	<b>LEFT</b> arrow button Moves left through menu options and cursor to left
	<b>RIGHT</b> arrow button Moves left through menu options and cursor to right
	<b>EXIT</b> button Cancels current option or entry, exits menu system

**Table 8.** Front Panel Display Buttons and Functions

To initially access the Front Panel Display menu system you may press the MENU/SELECT button on the six-button interface.

Within the Front Panel Display menu, the first line of the display indicates which menu option you are in. The second line of the display indicates the options available in the current menu you are in. The second line of the display is also the only line you may edit settings in. The asterisk symbol, which (when applicable) is visible on the right side of the display, indicates that a menu option is selected.

When you reach the end of a menu, the words “Up Menu” will be displayed. Pressing the MENU/SELECT button while “Up Menu” is displayed will bring you up one menu level. This is a time-saving feature because it allows you to go directly to the beginning of that menu rather than moving back through each menu item one at a time.

## Changing System Settings

When using the Front Panel Display menu interface to change a system setting, there are two types of changes you will encounter: changing a menu option *choice* and changing a menu option *value*.

- ❑ A menu option *choice* is something that you do not need to enter letters and/or numbers to change the setting. Pre-selected options are the only choices available to you (examples: ch 1 video output, baud rate, proxy type, etc.).
- ❑ A menu option *value* is something that you may choose on your own. Staying within the applicable field parameters, you may enter letters and/or numbers to change these settings (examples: date/time, host name, WebView user name, etc.).

### Changing a Menu Option *Choice*

If you wanted to change the channel 1 video output choice from Composite/SVideo to RGB (sync on green) for the Firefly, for example, you would complete the following steps:

1. Press the MENU/SELECT button to get into the menu system.  
The display will now read:

**Firefly Settings**  
**General**

2. Press the RIGHT arrow button until you get to Video.  
The display will now read:

**Firefly Settings**  
**Video**

3. Press the DOWN arrow button to get into the Video menu.  
The display will now read:

**Video**  
**Video Standard**

4. Press the RIGHT arrow button to get to Channel 1 Video Output.  
The display will now read:

**Video**  
**Ch 1 Video Out**

5. Press the DOWN arrow button to get into the Channel 1 Video Output menu.  
The display will now read:

**Ch 1 Video Out**  
**Compos/SVideo\***

6. Press the RIGHT arrow button to get to “RGB”.  
The display will now read:

**Ch 1 Video Out**  
**RGB**

7. Press the MENU/SELECT button to select RGB. Once RGB is selected, an asterisk (\*) will appear on the right side of the display indicating that RGB has been selected.

The display will now read:

**Ch 1 Video Out**  
**RGB \***

8. To exit back to the Front Panel Display main menu, press the EXIT key or UP arrow key three times.

The display will now read:

**Firefly**  
**IR On 01**

## Changing a Menu Option *Value*

If you wanted to change the date/time value for the Firefly, for example, you would complete the following steps:

1. Press the MENU/SELECT button to get into the menu system.

The display will now read:

**Firefly Settings**  
**General**

2. Press the DOWN arrow button to get into the General menu.

The display will now read:

**General**  
**Date/Time**

3. Press the DOWN arrow button to get into the “Date/Time” function. The display will now read the current date/time:

**Date/Time**  
**02/14/03 13:31**

4. Use the UP and DOWN buttons to change the values for the date and time, as desired, and the RIGHT arrow button to advance the cursor.
5. Press the MENU/SELECT button to select the date and time you just entered. The display will now read your modified date/time:

**Date/Time**  
**02/21/03 15:35**

6. To exit back to the Front Panel Display main menu, press the EXIT key or UP arrow key three times. The display will now read:

**Firefly**  
**IR On 01**

## Front Panel Display Menu Descriptions

See *System Settings* on page 73 for detailed descriptions of the Firefly System Settings. Using the Front Panel Display, you will be able to access all of the same Firefly System Setting options available via the remote control, with the addition of the “Play Test File” option and the “Storage” menu.

### NOTE

Whenever the Front Panel Display menu six-button interface is in use, the IR remote control will still be available. However, as soon as the IR remote is in use (example: in player control mode), the front panel interface will be “locked out” or unavailable.



# TROUBLESHOOTING

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## General Issues

### Restoration Mode

Restoration Mode allows the Firefly to self correct data corruption on its internal storage restoring normal operation.

Here is how it works: If you get into the unlikely situation where system faults occur and player operations or video playback is “acting up”, try the following: Restart Firefly sometime before video playback normally occurs (approx. 30 sec.), press and hold the Menu/Select key on the front panel. After you see “Checking Content-Please Wait...” on the front panel display, release the button. Note that it is normal for this process to take a few minutes because the system is checking the entire hard drive for errors. If you are still experiencing problems after completing the Restoration Mode procedure, review the following troubleshooting tips:

### No Power to Firefly (No LCD light or fan noise)

Firefly should automatically start up when power is applied and begin playing back video.

If there is no LCD light, fan noise or CD/DVD drive function:

1. Confirm power sources by plugging in another electrical device.
2. Verify that electrical plug is fully seated in power supply of player.
3. Double check small power switch near power cord in back left corner of the Firefly player. The small circle symbol on the switch should be in the “up” position.

4. Test power cable in alternate device or use different power cable.
5. If there is still no power, please contact your technical support representative.

## No Video Playback

Firefly should automatically begin playing videos when power is applied. Videos play off of the internal storage of the player. No CD or DVD is required.

If there is power to the Firefly, but no video playback:

1. Run “Play Test File”. You can access the test file within the “General Settings” menu by using the six-button interface on the front of the player.



2. To stop the test file playback, simply press any button on the front of the player. For further instructions, refer to the “Front Panel Display” chapter of this user manual.
3. If the test file plays properly, but there is no playback when the test file playback is stopped, confirm the video updating of the player. Consult with the instructions for applying the update CD or DVD.

## Stuttering Files During Playback

Irregular playback on single and multiple channels can be caused by a number of conditions:

1. *Mixed video only MPEG files with MPEG with video and audio data:* Confirm that all files on a particular channel are either video only, audio only, or audio/video files. It is recommended to have a "blank" audio track encoded with all MPEG files--even if no audio is present on the source material. This will ensure compatibility, if MPEGs with audio/video information are introduced at a later date.
2. *Dolby Digital files:* Dolby Digital files can not be mixed with any other type of file on the same channel. Ensure that all of the file types on a particular channel are the same.
3. *The bit rate of the MPEG files being played exceed the system capabilities:* The Visual Circuit MPEG decoder boards and digital servers all have a maximum sustained bit rate that can be delivered. Refer to the system capabilities above for basic information. Consult your Visual Circuits representative prior to encoding or designing your installation if there are any questions.
4. *Uneven audio to video track lengths:* Confirm the length of the audio track to the length of the video track. The Visual Circuits driver aggressively synchronizes the audio and video data of the MPEG file to maintain Audio/Video (AV) Sync. If the MPEG file's audio and video tracks are uneven in length, the driver's attempt to synchronize these uneven tracks will result in poor performance. *Mismatched AV track lengths will result in overall degradation of system performance. Often a "bad" file will cause uneven or stuttering playback on other channels of the system as well.* Through digital editing, MPEG 2 files can be "demultiplexed" (separating the audio from video information). The audio and video tracks can then be edited to match. The two tracks can then be "multiplexed" back together. Always test files individually if a file (or system) is suspected to have playback problems.

## Picture Rolls or Other Video Problems Occur When Using External Audio/Video Switching

Genlock must be turned on in the Firefly system settings for external audio/video switching to work properly. See *Genlock* on page 79 for details on how set this parameter.

If you do not genlock to the video input, the Firefly system will turn this parameter on temporarily for the duration of the playlist; however, note that this temporary setting switch may cause picture roll to occur at the beginning and/or end of the playlist.

## "Latent Images" or "Flashing" During Playback

1. *Incorrect timecodes or improperly closed encoding session.* If the incorrect timecode is given for a particular file it is possible to actually encode a frame or two of the trailer or header information from the source. Often this "extra" frame is seen only briefly and may appear as a "flash" on the screen. Review the original source of the encoding and determine if the timecodes are correct or if the encoding session was actually closed on the proper frame.
2. *Playing MPEG 1 and MPEG2 files back to back:* The resolution switch from MPEG 1 files (342X240) to MPEG2 files (720X480) causes a "latent image" or a "quadrant display" of the last played file's image. The only way to perform seamless playback when using a playlist of files is to insert an encoded "black file" with blank audio track, between MPEG 1 and MPEG 2 files. The black MPEG file preceding the playback file should be of the same standard. In other words, prior to an MPEG 1 file the "black file"--again with a blank audio track--should be MPEG 1 and vice versa.

## **Some files in the playlist do not play**

All files on a playlist channel must be the same type. If some are elementary stream (video only) and others are program stream (audio & video), some files will be automatically skipped in order to keep playback running smoothly.

## **SMPTE time codes are not recognized properly**

Some SMPTE tracks lose information during compression and may not "trigger" events as required. It is recommended to encode these tracks "hot"--adding approximately +6 db to the track while encoding. Again, testing is essential to account for variances in encoders and SMPTE devices involved. Note: Simple audio filters, used at the installation site, are also useful in eliminating "noise" and cleaning up the SMPTE signal.

## **Test File Does Not Play Properly On All Channels**

1. Inspect the video and audio cables. Firefly has 4 independent channels each with audio and video. Refer to the Quick Start Guide in the front of this user manual on how to attach the cables properly.
2. Check the patch cable connections to ensure that they are firmly attached. Be sure to tie down cables for proper strain relief. Cables with no strain relief may disconnect or become damaged. Inspect the labels to ensure that the proper line out corresponds to the input device.
3. Confirm that the display works properly. Test with an alternate video sources.

## Test File Does Not Display On One Channel

Switch the connection cable from a working channel to confirm the Firefly's output.

## File Copy Error Handling

There are three possible problems that can result during file copying:

1. A file by the same name already exists on the internal storage.
2. Insufficient internal storage space.
3. An error occurs reading the data from the CD/DVD.

## Filename Already Exists

This is considered a non-fatal error and you will be given the opportunity through the dialog box below to make the decision as to how to handle this condition.

## Insufficient Disk Space

A check for this condition will be performed after you confirm the intent to copy files, but before the actual copying begins. This check compares the total amount of space required to copy all selected files against the available disk space on the internal storage. A safety margin of 300 MB available disk space will have to remain after the copy for this test to pass.

## CD/DVD Update Disc Fails

Simply drop in the update disc(s) into the Firefly CD/DVD drive. The update will occur automatically. The LCD will display the update activity. When the update is complete, the Firefly will automatically eject the disc.

 **CAUTION**

**Do not eject the disc during the update process.**

Firefly's automatic update process will be disrupted if the drive is opened.

## Update Fails

1. Inspect the update discs for scratches and smudges. Use another set of update discs if necessary.
2. Record any information displayed on the LCD, then contact your technical support specialist.

## The Remote Control is not doing anything

Check that the Front Panel Display says “IR On”, not “IR Off”. If it is off, enable the remote by using the steps on page 23.

If the remote control stops working after a few minutes (and the Firefly switches to “IR Off” by itself), change the IR Timeout option to a longer time, or set it to No Timeout.

## The Smart Card will not eject

If the green indicator light to the left of the Smart Card reader slot is lit, you should be able to eject the card using the remote control, WebView or the front panel interface (see *Ejecting the Smart Card* on page 110 for details).

If the green indicator light to the left of the Smart Card reader slot is NOT lit and there is a card in the slot, this likely means one of two things:

- ❑ The Visual Circuits Smart Card has been inserted incorrectly.

- ❑ The card in the slot is not a Visual Circuits Smart Card or possibly not a Smart Card at all.

For either of the two scenarios described above, to force an eject of the contents of the Firefly Smart Card reader, simply press and hold the EXIT button on the front panel interface for 10 seconds. After that time, the system should eject the card.

**NOTE**

**Do not use the Smart Card force eject method described above during Firefly's startup process.**

Instead, during the startup process, press and release the "Exit" button on Firefly's front panel to eject the Smart Card.

## Preventing Cabling and Connection Problems

The suggestions listed below provide basic tips for preventing or minimizing problems related to cabling and connections to and from the Firefly.

- ❑ Use the best cable you can afford.
- ❑ Use the shortest cables possible.

For composite video, PAL or NTSC, RG-59 cable can be used for distances of up to 20 meters between the video source and the acceptor. No signal deterioration should show on the screen. For longer distances, up to 30 meters, use RG-11 type cable.

For s-video, standard, inexpensive cables allow operating distances of 5-7 meters. Very little deterioration is apparent. For component video, RG-59 cables are suitable for up to 10 meters. For longer distances, up to 20-25 meters, a better cable should be used, such as RG-11.



- ❑ Check that impedance of the cable really matches your application. Firefly is terminated at 75 ohm.
- ❑ Check the connectors on the cables. Poor quality connectors may have worse effects than the cables themselves.
- ❑ Use appropriate amplifiers if needed.
- ❑ Keep cables away from sources of interference - electric motors, main cables, transmitters, light dimmers, etc.

## LCD Error Messages

### Bad FPL/FSC

The syntax of the playlist (.fpl) or schedule (.fsc) loaded is incorrect. Review the playlist/schedule with Firefly Media Messenger to verify syntax.

### Bad FTP Dir

The FTP directory was not found. Verify with network administrator for FTP directory. Also verify the FTP directory on the Front Panel Display menu.

### Bad IP Address

The FTP server at this address could not be located. Verify your IP address and proxy settings with your network administrator.

### Bad User/Pass

The FTP user name and password were not accepted by the FTP server. Review FTP account information for the user to make sure name and password are correct.

## **Cant List Media**

The FTP server permissions are not set correctly. On the FTP server, enable List permissions on the media directory.

## **Cant List Scripts**

The FTP server permissions are not set correctly. On the FTP server, enable List permissions on the scripts directory.

## **Download Fail**

An error occurred from downloading media from the FTP server. The media may have been corrupted. Verify the integrity of the media by using another PC or system.

## **FTP Failed Networking Off**

The network mode is set to none. The network settings need to be setup. See *Network Settings* on page 83 or your network administrator for assistance on setting up networking.

## **Invalid FTP IP**

The FTP IP address is in the incorrect format. Correct the IP address found in the FTP Auto-Update Settings screen.

## **Menu Disabled in Player Control Mode**

Exit player control mode with the EXIT key on the remote control to use the Front Panel Display.

## **Missing MPEG/Overlay**

During CD/DVD or FTP updating, an MPEG video or graphic overlay in the playlist was not included. Verify media on the CD/DVD or via FTP by using another PC or system.

## No Directory

The scripts sub-directory was not found on the FTP server. Verify with the network administrator the existence of the scripts folder.

## No IP Address

The FTP IP address was not specified. To correct, insert an IP address in the appropriate menu.

## No Local FPL/FSC

The format of the currently selected playlist/schedule is invalid. Create a new active playlist/schedule.

## No Valid TAR/FPL

There is nothing in the scripts directory that applies to this player. Create a new TAR/FPL and post it on the server (following the naming and updating requirements found in *FTP Update Process* on page 210).

## Proxy Settings

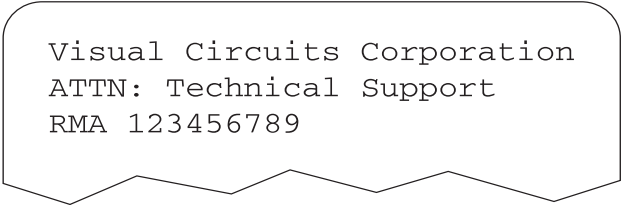
The IP address of the proxy server is invalid. Correct the proxy server IP address.

## Transfer Error

An error occurred while downloading media from the FTP server. Verify patch cable and connection port to network and retry. If FTP update fails again, consult with the network administrator to verify the connection.

## Returning Materials to Visual Circuits Corporation (VAR/Distributor)

If the Firefly system has problems that cannot be corrected over the telephone by Visual Circuits technical support, you may need to return the Firefly to Visual Circuits Corporation. All materials shipped back to Visual Circuits Corporation must be accompanied by a Return Materials Authorization (RMA) number. A Visual Circuits technical support representative will provide you with an RMA number. Write the RMA number clearly on the shipping label.



Visual Circuits Corporation  
ATTN: Technical Support  
RMA 123456789

**Figure 87.** RMA Shipping Label

### IMPORTANT

In the event your Firefly needs to be serviced, do *not* send its corresponding Smart Card back with the Firefly. Instead, keep the Smart Card at the local Firefly location to avoid having to have the Smart Card reprogrammed or replaced.

# APPENDIX

---

## Hardware Specifications

Option	Description
Dimensions	18"D x 17"W x 1.75"H (19" Rackmount, 1U high)
Weight	Approximately 12 lbs. (4.6 kg)
Power Requirements Consumption	90 ~ 240v 50-60Hz 80W @ 115VAC
Media Storage	14 hours MPEG-2 video at 12 mbps (expandable playback time)
Video Standard	NTSC,PAL
Video Type	Composite/S-video, RGB (sync on green), Component
Audio Output	Stereo Analog and S/PDIF (x4)
Remote Access	Network (LAN/WAN) connection/RS232/ IR remote control
Number of Channels	Upgradeable media storage capacity, 1, 2, or 4 channel capacity
LAN	10/100 LAN (RJ-45 adapter)
Serial Port	Standard DB-9

**Table 9.** Firefly Hardware Specifications



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