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edge[®] 4111 HD Digital Media Player & Soloist[™] 4111 HD Digital Media Server w/mediaControl Application Operations Manual



purely digital
create. move. play. save.

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Chapter 1 - Introduction

Overview

The Soloist 4111 HD Digital Media Server and the edge 4111 HD Digital Media Player are designed for AVC/H.264 and MPEG 2 high definition and standard definition file playback and IP stream decoding. Whatever your source, the player or server can automatically scale the content to match your output target up to 1080i for outstanding HD playback. The media can easily be loaded, managed and scheduled for payout using the included mediaControl software. With the Soloist 4111 and edge 4111 HD, you get unattended payout of high definition video perfect for digital signage, kiosks and trade shows.

Applications

- **Retail:** Impress customers with high definition (HD) retail digital signage and point of purchase advertising.
- **Trade Shows and Museums:** Get the detail you need with HD playback on kiosks and synchronized interactive displays.
- **Private IP Networks:** Stream content to the edge HD and Soloist HD over IP for point-to-point or multicast payout.

Benefits

- **Play AVC/H.264 MPEG-2 HD:** Step up to stunning playback of high definition AVC/H.264 and MPEG-2 media with full 5.1 AC-3 audio.
- **Automatically Scale SD to HD:** Play both SD and HD content with the same server or player which automatically sizes video with advanced scalar algorithms to the desired output resolution up to 1080i.
- **Control Payout:** The Soloist 4111 HD and edge 4111 HD include a built in command interface and scheduler that can play a list of files when you want them and loop indefinitely.
- **Synchronize Playback:** Hook up two or more servers on the same network and get synchronized playback of your content.
- **Display Graphics and Video:** Squeeze video and place graphics anywhere on the screen for the best presentation impact.
- **Manage Content:** The included mediaControl application lets you manage media and schedules on the server while controlling the payout.
- **Tune into IPTV Networks:** Tune in and decode IP Multicast HD content with fall back payout of stored content.

Availability

Model	Description
edje 4111 HD	80GB internal storage digital media player
Soloist 4111 HD	300GB internal storage digital media server
EXTPS24WATT	External 12 volt power supply 24 watt for edje 4111HD.
DVI/COMPONENT	DVI to Component video cable
DVI-D/DVI-D	DVI to DVI-D video cable
DVI-A/VGA	DVI to VGA cable
DVI/HDMI	DVI to HDMI cable
DVI/RGBHV	DVI to RGBHV cable

What's Included

edje 4111 HD

- edje 4111 HD with power cord
- mediaControl application control and configuration software for Windows 2000/XP or Macintosh OS X (10.2 or greater).
- Terminal Kit: Ethernet cable, serial adapter
- Manual

Soloist 4111 HD

- Soloist 4111 HD with power cord
- mediaControl application control and configuration software for Windows 2000/XP or Macintosh OS X (10.2 or greater).
- Terminal Kit: Ethernet cable, serial adapter
- Media cable (S-Video, BNC Composite Video, RCA SPDIF Audio)
- Manual

System Requirements

mediaControl Application

mediaControl configuration and control application requires one of the following:

- Windows 2000 or XP or Linux computer: Intel or AMD 32 bit processor at 2 GHz; 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.
- Macintosh OS-X (10.2 or greater) computer: G4 32 bit processor at 1 GHz, G5 64 bit processor (any); 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.

Note: Specifications subject to change without written notice

This documentation reflects functionality of Adtec Digital's Soloist 4111 HD and edje 4111 HD. Please refer to the Adtec website for updated documentation. www.adtecinc.com/support/

Front Panel Diagram - Soloist 4111 HD

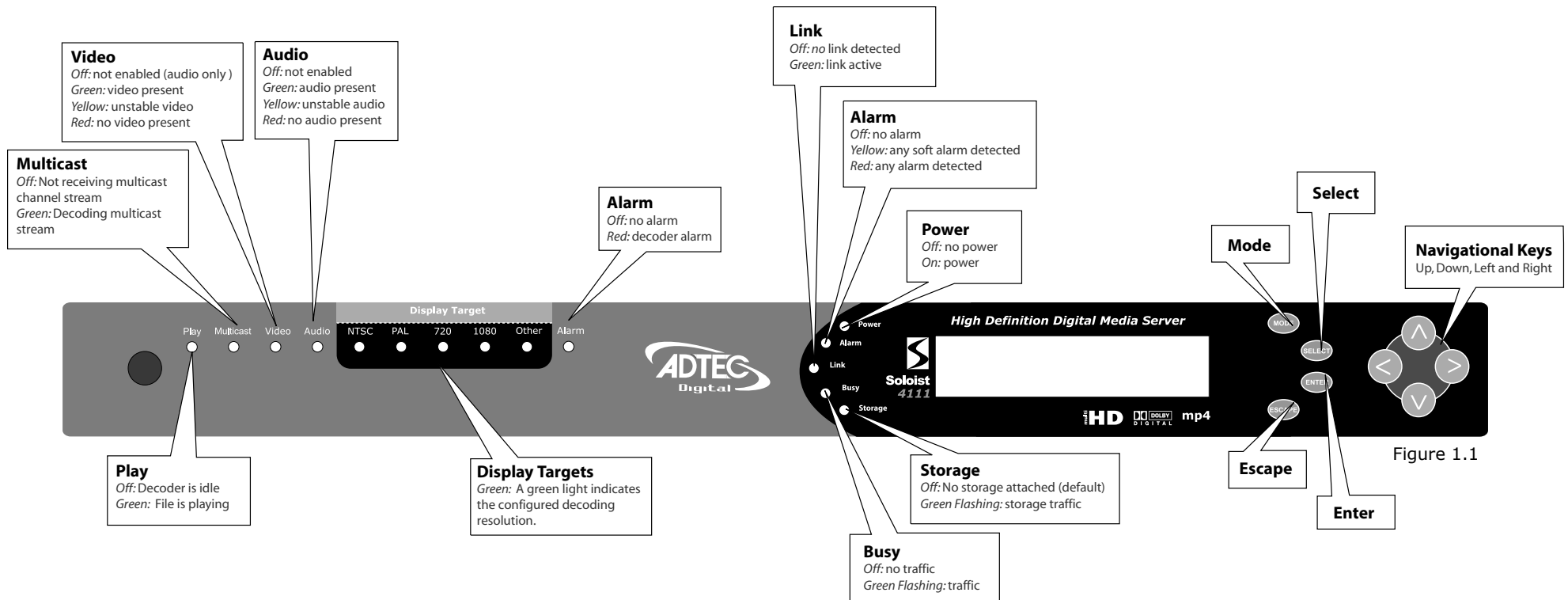


Figure 1.1

Rear Panel Diagram - Soloist 4111 HD

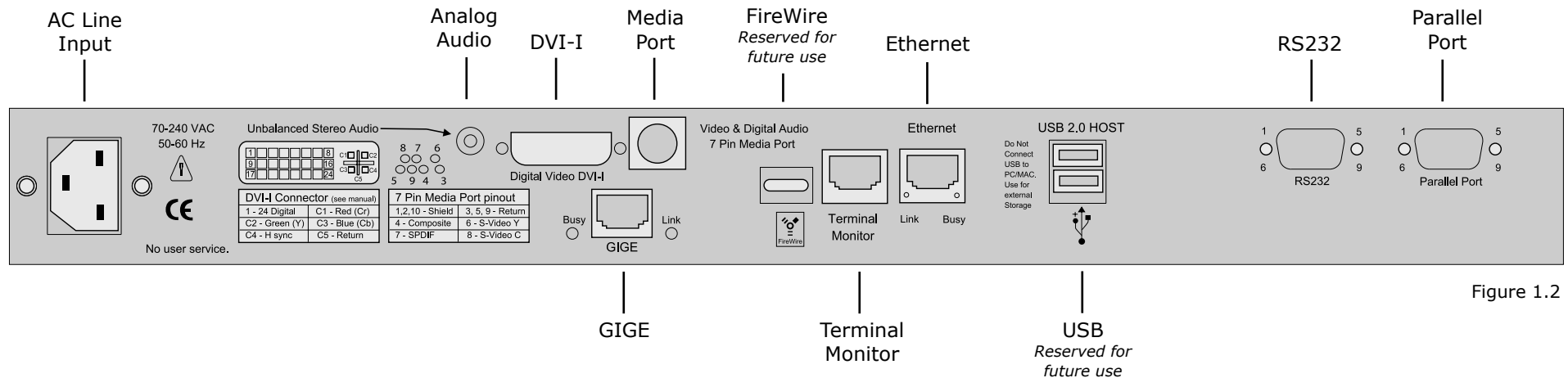


Figure 1.2

Label	Function
AC Line Input	Standard 3-pin computer power plug. (Auto range 70-240 VAC input)
Analog Audio Out	Unbalanced analog stereo audio out (1/8" female)
Digital Video Out	Digital Video Interface (DVI-I) supports both digital (DVI-D) and analog (DVI-A) outputs for VGA and Component (RGB/YUV) with an optional cable. Refer to Appendix E for pinout specifications.
7-Pin Media Port	Video & digital audio out configurable to Composite (BNC), SPDIF, S-Video (4-pin mini-din Y/C). Cable required for VGA, YUV and RGB.
GIGE	Gigabit Ethernet RJ-45 jack
FireWire	IEEE1194 FireWire <i>Reserved for future use</i>
Terminal Monitor	RS-232 terminal monitor for communicating with the internal host motherboard for diagnostics. Use the enclosed Ethernet cable with the RJ-45 to RS-232 adapter for connection to a host computer. Default COM settings are 115,200 baud, 8 data bits, No Parity, 1 stop bit and no flow control.
Ethernet	10/100BaseT Ethernet RJ-45 jack
USB	USB 2.0 host <i>Reserved for future use</i>
RS232	RS-232 Adtec API control and status terminal port. Default COM settings are 38,400 baud, 8 data bits, No Parity, 1 stop bit and no flow control.
Parallel Port	Parallel port used for input or output control.

Front Panel Diagram - edje 4111 HD

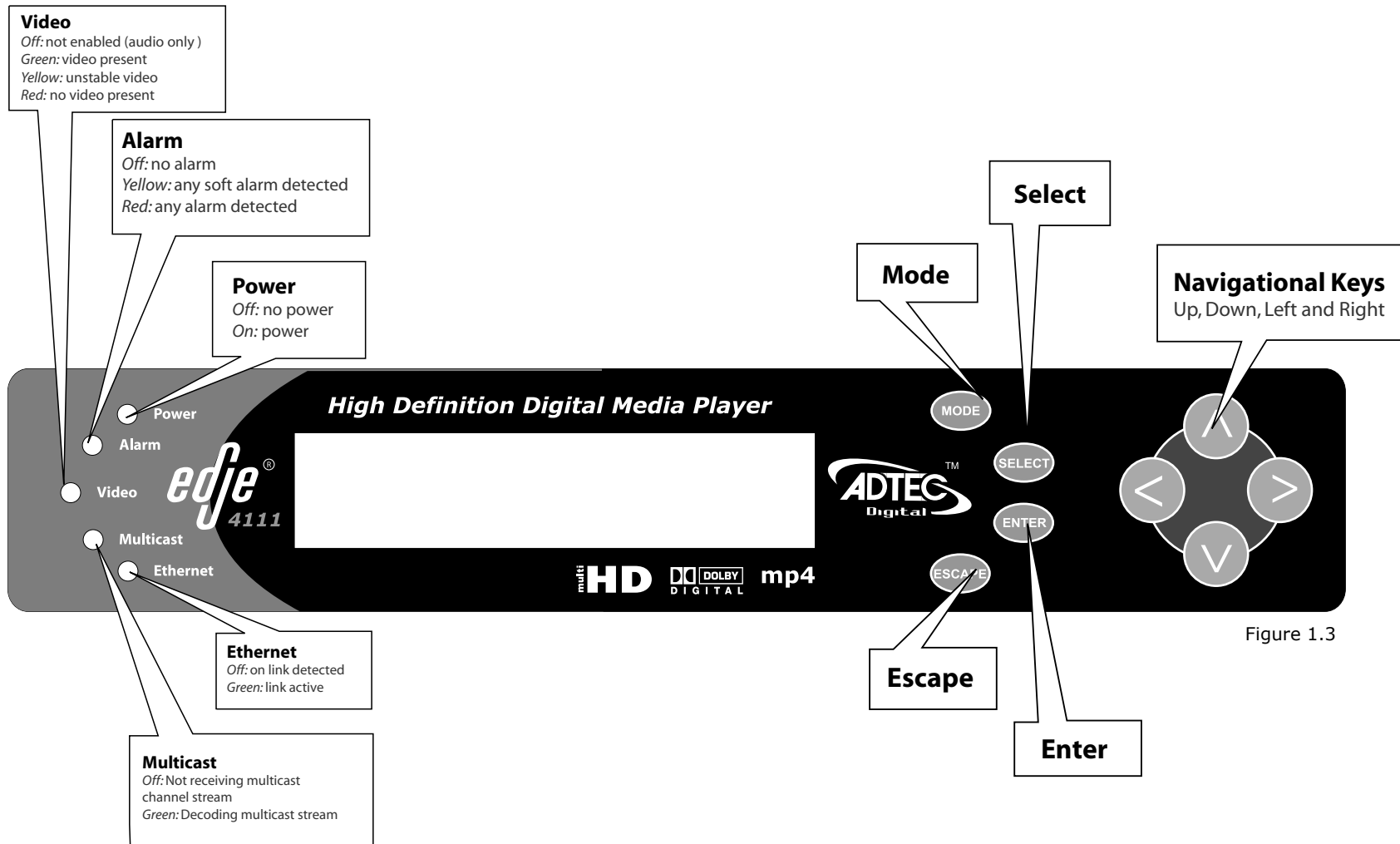


Figure 1.3

Back Panel Diagram - edje 4111 HD

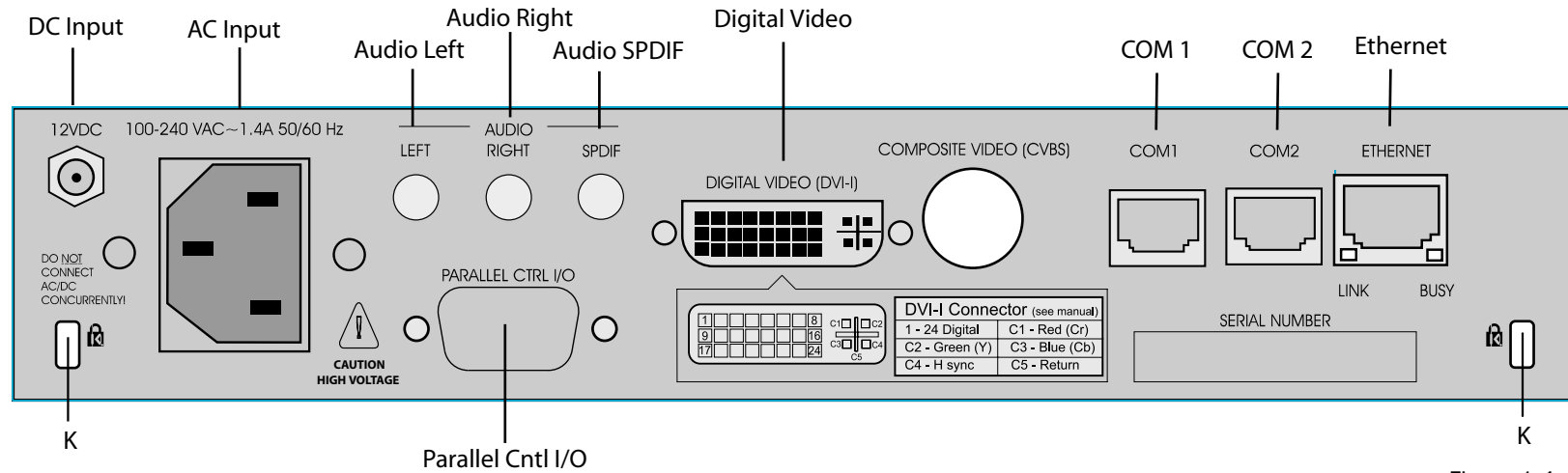


Figure 1.4

Label	Function
AC Line Input	Standard 3-pin computer power plug. (Auto range 70-240 VAC input)
DC Input	12 VDC (Do NOT connect AC and DC concurrently) Purchase the 12VDC power supply from Adtec separately (PN EXTPS24WATT)
Digital Video Out	Digital Video Interface (DVI-I) supports both digital (DVI-D) and analog (DVI-A) outputs for VGA and Component (RGB/YUV) with an optional cable. Refer to Appendix E for pinout specifications.
Audio Left	Unbalanced analog audio left channel (RCA)
Audio Right	Unbalanced analog audio right channel (RCA)
Audio SPDIF	Digital audio (RCA) configurable as Compressed (for 5.1 AC-3 audio) or Uncompressed (PCM 2 channel).
Parallel Cntl I/O	Parallel port used for input or output control.
K	Kensington Security Slot to be used with a Kensington Slim MicroSaver security cable to prevent unauthorized removal of the server.
Com1	RS-232 Adtec API control and status terminal port. Use the enclosed Ethernet cable with the RJ-45 to RS-232 adapter for connection to a host computer. Default COM settings are 38,400 baud, 8 data bits, No Parity, 1 stop bit and no flow control.
Com2	RS-232 terminal monitor for communicating with the internal host motherboard for diagnostics. Use the enclosed Ethernet cable with the RJ-45 to RS-232 adapter for connection to a host computer. Default COM settings are 115,200 baud, 8 data bits, No Parity, 1 stop bit and no flow control.
Ethernet	10/100BaseT Ethernet RJ-45 jack.

Chapter 2 - Player & Server Installation

This chapter covers the setup of the Soloist 4111 HD Media Server and edge 4111 HD Media Player.

Logging In and Out

The front panel of the Soloist 4111HD and edge 4111HD features login security so that configurations made on the front panel are protected. By default the servers come in a logged in state on the front panel and will remain logged in (even after a reboot) until you manually log out.

Log Out

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".
- Press the Down arrow until the Menu Login is displayed, then press "Select".
- When prompted to Log Out?, press "Enter" to log out.

Log In

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".
- Press the Down arrow until the Menu Login is displayed, then press "Select".
- Press the following key sequence to log in: "Up arrow", "Select", "Enter", "Right" and then "Enter". Note that the key sequence spells the word U-S-E-R.

Setup the Soloist 4111 HD

The Soloist 4111HD server should be installed into a one-rack unit 19" rack slot. Power should be applied to the unit and configured with a valid IP address and display target via the front panel.

1. Setup the IP Address

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".
- Press the Down arrow until the NETWORK MENU is displayed, then press "Select".
- Press the Down arrow until the Ethernet (eth0) IP Address item is shown. Enter the IP address of the Soloist using the "Select" and arrow buttons, then press "Enter" to save.

* Note: The Ethernet (eth0) IP Address and IP Mask are the settings for the Ethernet port on the back of the Soloist used for control communication. Make sure that this port is on the same network as the mediaControl computer.

- Press the Down arrow button for the Ethernet (eth0) IP Mask. Enter the IP Mask using the "Select" and arrow buttons, then press "Enter" to save.
- If you are using the Soloist to receive IP Multicast, press the down arrow and configure the GIGE (eth1) IP Address and Mask for the GIGE port on the back of the Soloist.

* Note: Make sure the GIGE and Ethernet settings are on a separate octet.

2. Setup the Display Target

- Press the "Mode" button until the DECODER MENU is displayed, then press "Select".
- Press the Down arrow until the Display Target is displayed. To change the output display resolution, press "Select" and navigate to the desired resolution and then press "Enter" to save.

* Note: The display target setting is the output resolution and refresh rate used simultaneously on both the DVI and the composite

BNC video outputs. Therefore to view video on the composite BNC output port, select one of the NTSC or PAL display targets. All the other resolutions are appropriate for the DVI output.

3. Setup NTP Server (optional)

If you will be doing scheduled playback of content, it is recommended to configure the server to an NTP network time server as follows:

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".

- Press the Down arrow until the NTP MENU is displayed, then press "Select".

- Press the Down arrow until the NTP Server IPA item is shown. Enter the IP address of the NTP server using the "Select" and arrow buttons, then press "Enter" to save. Note: Entering 0.0.0.0 as the IPA will cause the server to synchronize with its own time.

4. Make Cable Connections

Unplug the Soloist and make the following cable connections for your setup:

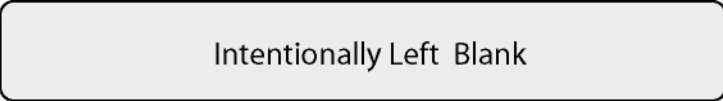
Video: Connect your monitor to either the DVI connector or the composite BNC connector using the 7 pin media port adapter included with the Soloist.

Audio: Connect to either the 1/8" unbalanced analog audio port or the S/PDIF digital audio RCA port on the 7 pin media port adapter cable.

Ethernet: Connect an Ethernet cable to the Ethernet port for external control by mediaControl.

GIGE: Optionally connect the GIGE port to your IP Multicast network. Note that the control network and the multicast network must be on separate unique subnets.

Plug in the Soloist 4111HD and confirm that the IP address is correct on your unit and that the Link LED on the front of the unit is lit before installing the mediaControl application.



Setup the edge 4111HD

Up to two edge 4111HD servers can be installed into a one-rack unit 19" rack slot using an optional tray available from Adtec. Power should be applied to the unit and configured with a valid IP address and display target via the front panel.

1. Setup the IP Address

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".
- Press the Down arrow until the NETWORK MENU is displayed, then press "Select".
- Press the Down arrow until the Ethernet IP Address item is shown. Enter the IP address of the edge using the "Select" and arrow buttons, then press "Enter" to save.

* Note: The Ethernet IP Address and IP Mask are the settings of the Ethernet port on the back of the edge used for control communication. Make sure that this port is on the same network as the mediaControl computer.

- Press the Down arrow button for the Ethernet IP Mask. Enter the IP Mask using the "Select" and arrow buttons, then press "Enter" to save.

2. Setup the Display Target

- Press the "Mode" button until the DECODER MENU is displayed, then press "Select".
- Press the Down arrow until the Display Target is displayed. To change the output display resolution, press "Select" and navigate to the desired resolution and then press "Enter" to save.

* Note: The display target setting is the output resolution and refresh rate used simultaneously on both the DVI and the composite BNC video outputs. Therefore to view video on the composite BNC output port, select one of the NTSC or PAL display targets. All the other resolutions are appropriate for the DVI output.

3. Setup NTP Server (optional)

If you will be doing scheduled playback of content, it is recommended to configure the server to an NTP network time server as

follows:

- Press the "Mode" button until the SYSTEM MENU is displayed, then press "Select".
- Press the Down arrow until the NTP MENU is displayed, then press "Select".
- Press the Down arrow until the NTP Server IPA item is shown. Enter the IP address of the NTP server using the "Select" and arrow buttons, then press "Enter" to save. Note: Entering 0.0.0.0 as the IPA will cause the server to synchronize with its own time.

4. Make Cable Connections

Unplug the edge and make the following cable connections for your setup:

- Video:** Connect your monitor to either the DVI connector or the composite BNC connector.
- Audio:** Connect to the 1/8" unbalanced analog audio port.
- Ethernet:** Connect an Ethernet cable to the Ethernet port for external control by mediaControl.

Plug in the edge and confirm that the IP address is correct on your unit and that the Link LED on the front of the unit is lit before installing the mediaControl application.

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Chapter 3 - mediaControl Setup

mediaControl is the control application for Adtec players and servers. It offers list and schedule building as well as file management and player control. On the following page is an overview of the mediaControl application.

Installation of mediaControl

For Windows: The mediaControl software can be installed on Windows XP and 2000 machines. Refer to the system requirements in Chapter 1 for additional information. Insert the installation CD into your computer. The install program will automatically launch. If it does not, locate the CD drive via "My Computer" and double-click the mediaControl Installer icon. The wizard will walk you through the installation process. After installation, the icon for the application can be found on the desktop and in the start menu in the mediaControl folder.

For MAC: The mediaControl software can be installed on MAC OS X (10.2 or greater). Refer to the system requirements in Chapter 1 for additional information. Insert the installation CD into your computer. When the CD appears on the Desktop, double-click on the icon and then on the mediaControl Installer icon. The wizard will take you through the installation process. After installation, the launch icon for the application can be found on the dock and in the Applications/Adtec/bin/ folder.

Navigation Panel

Once mediaControl has been installed on your desktop, you will be able to configure your settings and connect to your player or server. You will see the following headers available in the navigation panel of mediaControl.

Connect - Allows you to add, edit and save connections to your player or server. All saved connections will be listed below this header.

Control - The control section of the navigation panel allows you to build a list or schedule for your unit.

Manage - Manage provides you with a file management tool that will allow you to move files between your player or server and your PC.

Configure - Configure has several sub headers that allow you to configure Network, Playout, Channel, Graphics, Scaling and Command Actions.

Tools - The Tools section assists you in upgrading your server, player or mediaControl software. You also have the ability to view logs and issue commands to your player or server via the Terminal interface.

Help - General version information and Technical Support.

Connection Status

Transport Status

Playout Control

mediaControl -- Demo Unit

Connected to: Demo Unit
at 192.168.10.141

PLAYING
MiamiFinal_LookingUp_5-31_muxed.mpg
00:01:52.172
90.51%

Control -- Schedule

All Media Graphics Search Refresh

File Name	Duration	File Size	Date Time	CO...	Vid...	MUX	A1	A2	WI...	HE...	...
adteclogo800X600.png	--:--:--	0.094	02/03/07 00:38	----	--:--	png	-----	-----	800	600	/m...
adteclogo200X150.png	--:--:--	0.017	03/01/07 16:18	----	--:--	png	-----	-----	200	150	/m...
adteclogo1280X720.png	--:--:--	0.167	02/03/07 00:38	----	--:--	png	-----	-----	1280	720	/m...
adteclogo400X300.png	--:--:--	0.042	02/03/07 00:38	----	--:--	png	-----	-----	400	300	/m...
OSD_090806_1.png	--:--:--	0.129	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_090806_2.png	--:--:--	0.139	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_090806_3.png	--:--:--	0.162	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_090906_1.png	--:--:--	0.129	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_090906_2.png	--:--:--	0.138	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_090906_3.png	--:--:--	0.162	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_091006_1.png	--:--:--	0.129	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_091006_2.png	--:--:--	0.138	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...
OSD_091006_3.png	--:--:--	0.162	02/03/07 00:39	----	--:--	png	-----	-----	1920	1080	/m...

Available Schedule(s)

SCHMark.DVC
SCHtest.DVC

Schedule Content

T...	...	MM/...	HH:...	CMD	Action	Value	Duration	Location
Start	--	--/--	--:--:10	VIDEO_SCALING	testing			
Start	--	--/--	--:--:30	GRAPHIC_OVERLAY	osd2			
Start	--	--/--	--:--:45	TRANSPORT	STOP	adteclogo800X600....		
Start	--	--/--	--:--:20	VIDEO_SCALING	test111			
Start	--	--/--	--:--:34	TRANSPORT	PLAYLIST	testing.smil		/media/hd...
Start	--	--/--	--:--:00	TRANSPORT	PLAYLIST	hdtest.smil		/media/hd...
Start	--	--/--	--:--:00	USER_DEFINED	newtesting			

New Browse Add Remove Save Run Stop

Navigation Panel

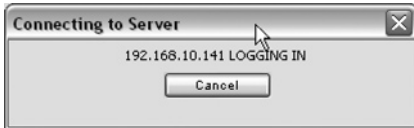
Figure 3.1

Configuration from mediaControl

Before you configure your player or server settings, you will need to establish a connection. You can create and manage connections to more than one server with mediaControl.

mediaControl Connections

Launch the mediaControl application. mediaControl will display a popup window showing you the connection status. If this is the first time using mediaControl, it will attempt to connect via the default IP settings that are established on the servers and players. Otherwise, mediaControl will attempt to connect to the last player or server it was connected to prior to shutting down.



Create a new connection

- Click on the Connect header in the navigation panel of mediaControl to create a new connection. (Fig 3.2)

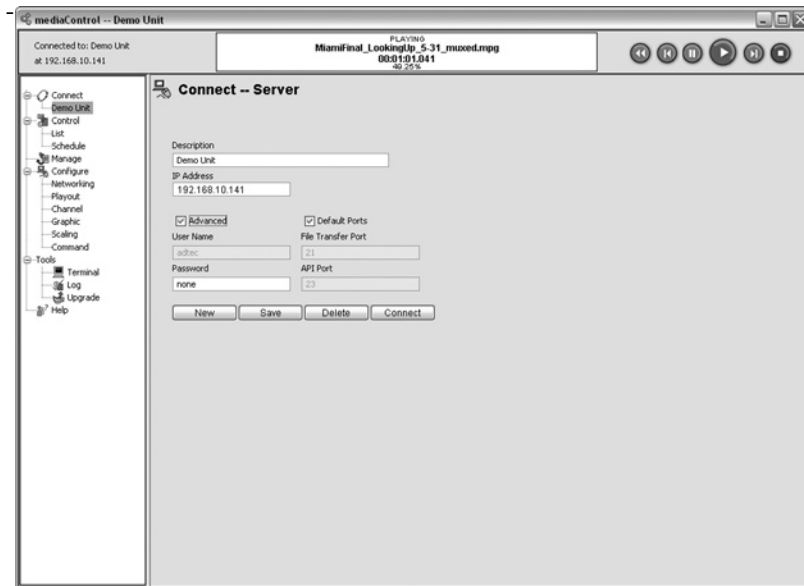


Figure 3.2

Enter a unique name in the Description field and the correct IP Address (the Ethernet IP Address of your edge or Soloist). If you need to override the default connection settings (useful with NAT port forwarding in firewalls) click

on Advanced to enter the desired port values for FTP and the Adtec API and the password for your media server.

- Click Save and the settings are automatically saved.
- To open that connection, you can double-click on the connection name in the navigation panel click on the connect button from the Connections Configure Panel.

Once mediaControl is running, your connection status will show in the Connection Status section of the mediaControl Application window. When connected, you can disconnect by closing the application or by connecting to a different unit. To do this, simply double-click on the name of the new server/player you want to connect to in the navigation panel.

Edit an existing connection

- Select the desired connection on the left sidebar of mediaControl. Note that mediaControl installs with one profile called Default, but you can make as many profiles as you want.
- Enter the desired description and the correct IP Address of your edge or Soloist. If you need to override the default connection settings (useful with NAT port forwarding in firewalls) click on Advanced to enter the desired port values for FTP and the Adtec API and the password for your media server.

- Click Save and the settings are automatically saved.

Delete a connection

- Select the connection you want to delete on the left sidebar of mediaControl.
- Click Delete and the connection settings are deleted.

Networking

The Networking configuration page is used to configure the network settings of the media server. (Fig 3.3) If you make changes to the network settings, mediaControl will prompt you to save the changes to the current connection profile and reconnect.

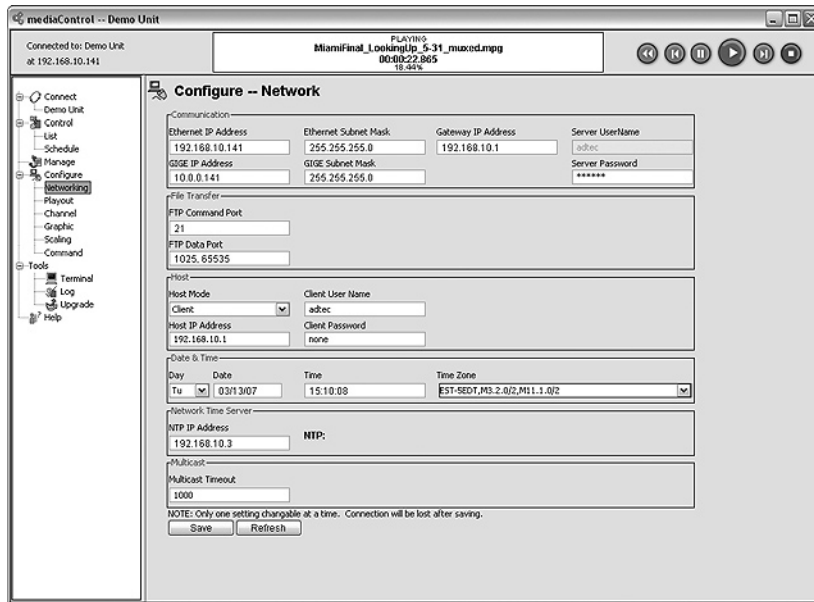


Figure 3.3

Communication

Ethernet IP Address:

The IP Address of the Ethernet port of the media server.

Ethernet Subnet Mask:

The subnet mask of the Ethernet port of the media server.

GIGE IP Address:

The IP Address of the GIGE port of the media server.

GIGE Subnet Mask:

The subnet mask of the GIGE port of the media server.

Gateway IP Address:

The IP Address of the gateway router to the WAN.

Server UserName:

The user name of the media server used on the Adtec API, FTP and Telnet ports is currently fixed to "adtec" and cannot be changed.

Server Password:

The password used to access the media server on the Adtec API, FTP and Telnet ports. The factory default is the word "none".

File Transfer

FTP Command Port:

The command port number used by the FTP server on the media server. The factory default is 21.

FTP Data Port:

The data port(s) used by the FTP server to respond to the FTP client. The data port can be one value or a range in the format 1025,65535

Host

The host settings are used to configure how the media server connects to a central server for content.

Host Mode:

- Client: (default) The media server is a stand alone client and will not mirror from a server.
- MirrorList: The media server will connect to an FTP server and copy all items in the list.
- MirrorServer: The media server will connect to an FTP server and mirror all content in the folder.

Host IP Address:

The IP address of the FTP server.

Client User Name:

The user name the media server should use to connect to the FTP server.

Client Password:

The password the media server should use to connect to the FTP server.

Date & Time

Day, Date and Time:

The date and time that will be set in the real time clock on the media server.

Time Zone:

The time zone list includes the major US time zones with daylight saving time rules and UTC as a range from -12 to 0 to 12.

Multicast**Multicast Timeout:**

The time in milliseconds for return to normal video playback after video multicast packets are no longer detected. The default timeout value is 1000 milliseconds. If the timeout value is set too low, the multicast receive may timeout during normal reception if the packet transmission is bursty.

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Playout

The playout settings allow you to set video, audio and Synchronous playback setting. (Fig 3.4)

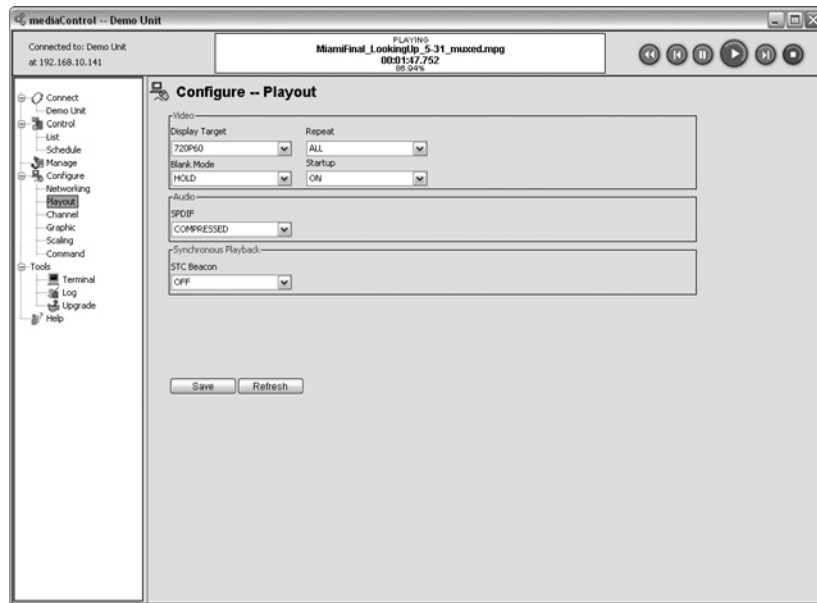


Figure 3.4

Video

Display Target:

The display target setting is the output resolution and refresh rate used simultaneously on both the DVI and the composite BNC video outputs. Therefore to view video on the composite BNC output port, select one of the NTSC or PAL display targets. All the other resolutions are appropriate for the DVI output. Note that the server will automatically up or downscale the video as needed to match the Display Target resolution.

Repeat:

The repeat setting specifies how lists play on the media server. Repeat All will loop a list or file, One will repeat the first item in the list, Last will play the list and repeat the last item in the list. Repeat One (Seamless) is a special mode that will loop one media file with no transitions for a more seamless effect.

Blank Mode:

The Blank Mode sets the state of the video output whenever the media server transport state is idle or is in transition.

Settings:

NOVIDEO: Total absence of video signal and sync
BLACK Holds a black video signal
HOLD Holds the last frame/field of the encoded file

Start Up:

Determines whether or not your decoder begins decoding when it is booted up or not.

Settings:

On: Start decoding on boot
Off: Stay idle on boot.

Audio

SPDIF:

The SPDIF mode changes the format of the SPDIF digital audio.

Settings:

OFF: No SPDIF output

UNCOMPRESSED: Uncompressed (decoded) stereo PCM on SPDIF

COMPRESSED Compressed (non-decoded) data on SPDIF required for 5.1 channels of AC-3 digital audio.

PASSTHROUGH: Audio is only output on SPDIF in compressed format and the analog audio is turned off.

Synchronous Playback

STC Beacon:

Enables multiple media servers to play back content that is synchronized. One media server is designated as a master which is followed in sync by one or more slave media servers. The Master communicates to the slave media servers over an ethernet connection using broadcast packets.

Settings:

OFF: Turns off synchronous playback.

Slave: A slave in a single group of units.

Master: A master in a single group of units.

X0: A slave in a unique group X of units where X can be 1-9.

1X0: A master in a unique group X of units where X can be 1-9.

Channel

The channel configuration page lets you set up and manage IP multicast channels that can be tuned on the media server. (Fig 3.5)

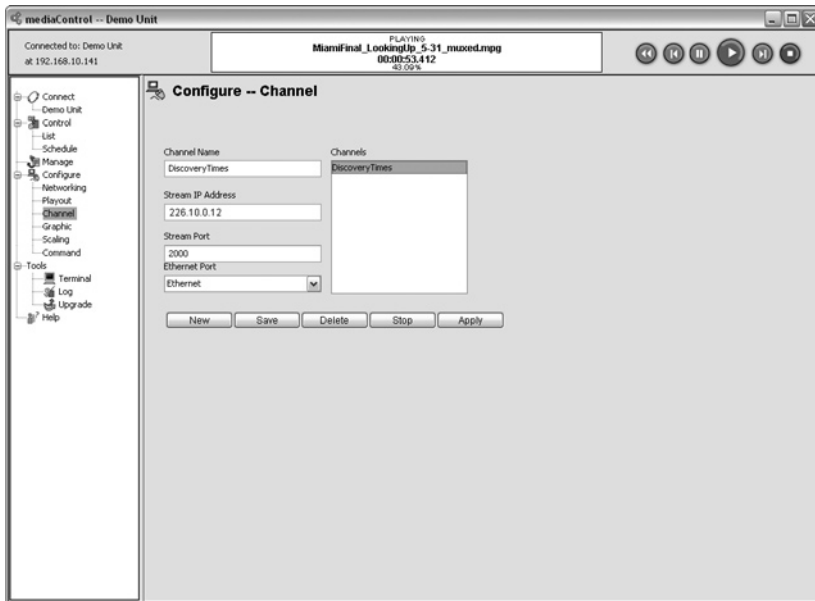


Figure 3.5

Channel Name:

A unique name for the channel.

Stream IP Address:

The IP address of the multicast stream. (example 224.20.20.32)

Stream Port:

The port of the multicast stream. (example 2000)

Ethernet Port:

The physical connection used to receive the multicast stream.

The following options are available when configuring channels:

New:

To add a new channel, enter the desired Channel Name, the multicast IP Address and Stream Port and click Save.

Save:

To make changes to a channel, select it from the list, make the changes and click Save.

Delete:

Clicking delete will delete the currently selected channel.

Stop:

To stop decoding a channel, click the stop button.

Apply:

To tune to a channel, select a channel from the list and click Apply.

Graphic

The Graphic configuration page lets you set up actions to position and scale graphic elements on the display from schedules and directly from mediaControl. (Fig 3.6)

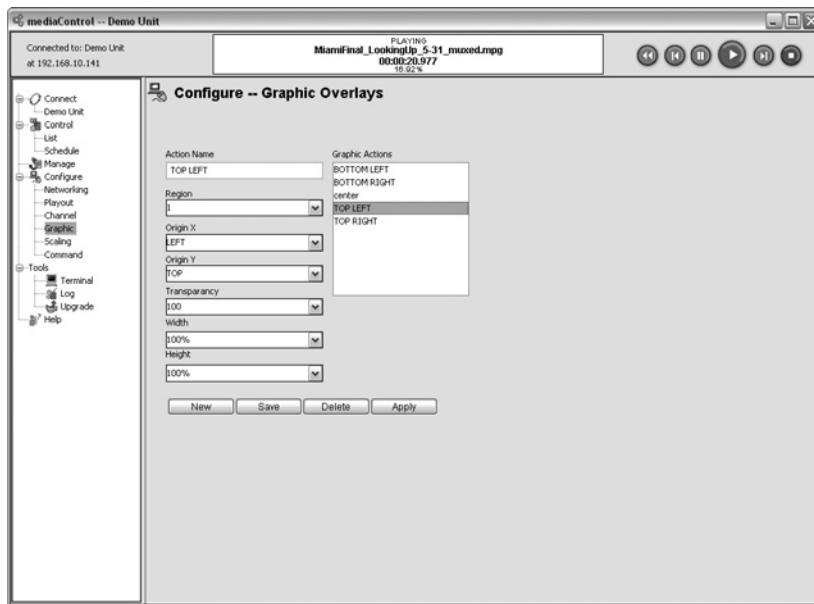


Figure 3.6

Action Name:

The name of the graphic action.

Region:

The graphic layer region to apply the graphic (note: only region 1 is supported at this time).

Origin X:

The X axis origin value for the graphic. You can also enter an actual pixel value starting at 0 for the left of the display.

Origin Y:

The Y axis origin value for the graphic. You can also enter an actual pixel value starting at 0 for the top of the display.

Transparency:

Select the transparency level of the graphic where 100 is solid and 0 is transparent or enter your own value.

Width:

Select the width to scale the graphic or enter your own value. FIXED ASPECT will retain the aspect ratio of the width against the height value.

Height:

Select the height to scale the graphic or enter your own value. FIXED ASPECT will retain the aspect ratio of the height against the width value.

The following options are available when configuring graphics:

New:

To add a new scaling action, click new and enter the desired parameters and click Save.

Save:

To make changes to a scaling action, select it from the list, make the changes and click Save.

Delete:

To delete a scaling action, select it from the list and click delete.

Apply:

To use a scaling action, select it from the list and click apply.

Scaling

The Scaling configuration page lets you set up action to position and scale the video window on the display from schedules and directly from mediaControl. (Fig 3.7)

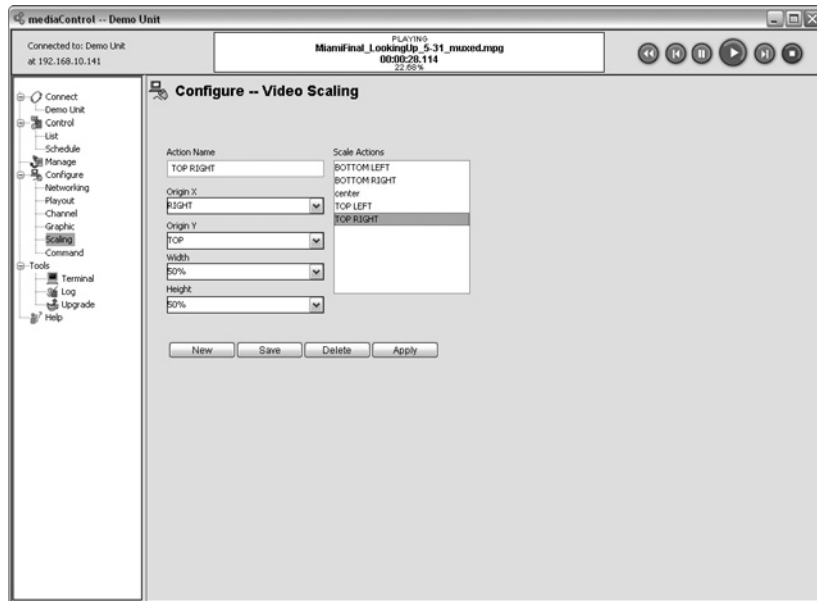


Figure 3.7

Action Name:

The name of the graphic action.

Origin X:

The X axis origin value for the video. You can also enter an actual pixel value starting at 0 for the left of the display.

Origin Y:

The Y axis origin value for the video. You can also enter an actual pixel value starting at 0 for the top of the display.

Width:

Select the width to scale the video or enter your own value. FIXED ASPECT will retail the aspect ratio of the width against the height value.

Height:

Select the height to scale the video or enter your own value. FIXED ASPECT will retail the aspect ratio of the height against the width value.

The following options are available when configuring video scaling:

New:

To add a new graphic action, click new and enter the desired parameters and click Save.

Save:

To make changes to a graphic action, select it from the list, make the changes and click Save.

Delete:

To delete a graphic action, select it from the list and click delete.

Apply:

To use a graphic action on a currently loaded graphic, select it from the list and click apply.

Command

The Command configuration page lets you set up your own actions based on the Adtec API for use on schedules and directly from mediaControl. (Fig 3.8)

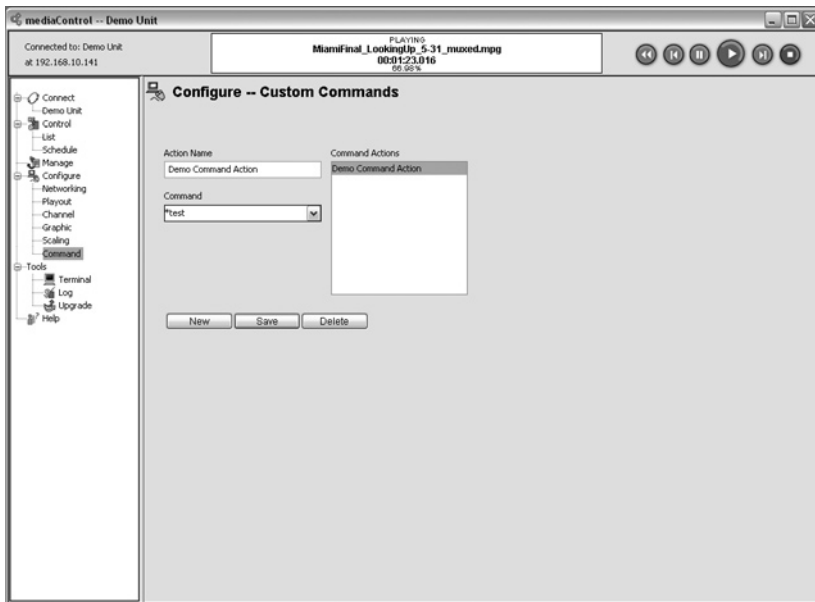


Figure 3.8

Action Name:

The name of the custom action.

Command:

The Adtec API compatible command to execute. Note that in the schedule, the optional Value field will be added to the action command.

The following options are available when configuring command actions:

New:

To add a new command action, click new and enter the desired parameters and click Save.

Save:

To make changes to a command action, select it from the list, make the changes and click Save.

Delete:

To delete a command action, select it from the list and click delete.

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Chapter 4 - Using mediaControl

mediaControl is the control application used with the Soloist and edge 4111HD media servers. Before you can use mediaControl with your media server, make sure to create a connection as described in the previous chapter. Select the connection and verify that communication is established with the media server.

Status and Control

mediaControl can be used to status the media server and control the playout of content. The control panel shows the current status of the media server. If the server is not in playback mode, the Activity will say "IDLING".

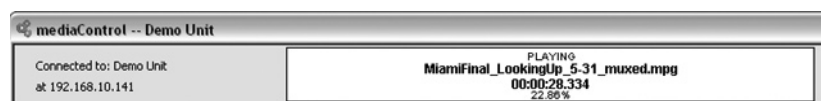


Figure 4.1

Activity: PLAYING, IDLING, etc.

Connection Status (left hand corner): Indicates the connection name and status of communications with the media server.

Current File or Multicast IPA: The file or the multicast channel/port that is actively being played.

Current Position: The position within the file in the format HH:MM:SS:MSEC

Percentage: The amount of the media file played.

Play Individual Files

You can play individual media files or create lists or schedules. To play a single file, find the file within the inventory section of Control > List or Control > Schedule pages. There are three ways to play the file. 1) Double click on the file in inventory. 2) Right click on the file and select Play. 3) Highlight the file in the inventory list and click on the play button at the top of the application. Click on Stop at any time to stop playout.

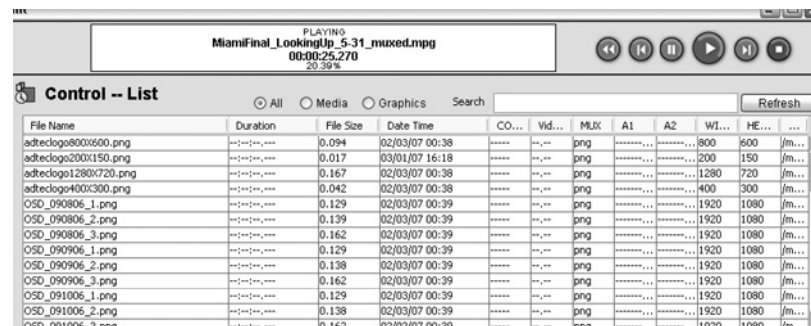


Figure 4.2

File Name: name of the media file

Duration: The length of the media file, format HH:MM:SS.millisecond

File Size: The file size in MB of the media file

Date Time: The time/date stamp of the media file on the server.

CODEC: The compression format of the media file (AVC, MPEG2, etc)

Video Rate: The rate of the video component of the file in Mbps.

MUX: The multiplex format such as spts – single program transport stream.

A1: audio channel 1, for example dolby ac-3

A2: audio channel 2, for example layer2 for MPEG2 Layer 2 audio.

Width: The horizontal resolution of the file

Height: the vertical resolution of the file.

You can quickly filter the inventory to show All/Media/Graphics or type in the first few letters of the file name and click Refresh. The Refresh button on the top right hand corner is used to update the list of contents on the server.

List Creation and Playback

The media server can play a list of files and optionally loop the list indefinitely. The mediaControl Control |> List area provides a way to view, run, edit and save lists on the media server. When you connect to the media server, mediaControl will get all the available lists stored on the server. Selecting one of the lists will show all the items in the list which will be played out. Note that the last played list will automatically play when the media server starts up.

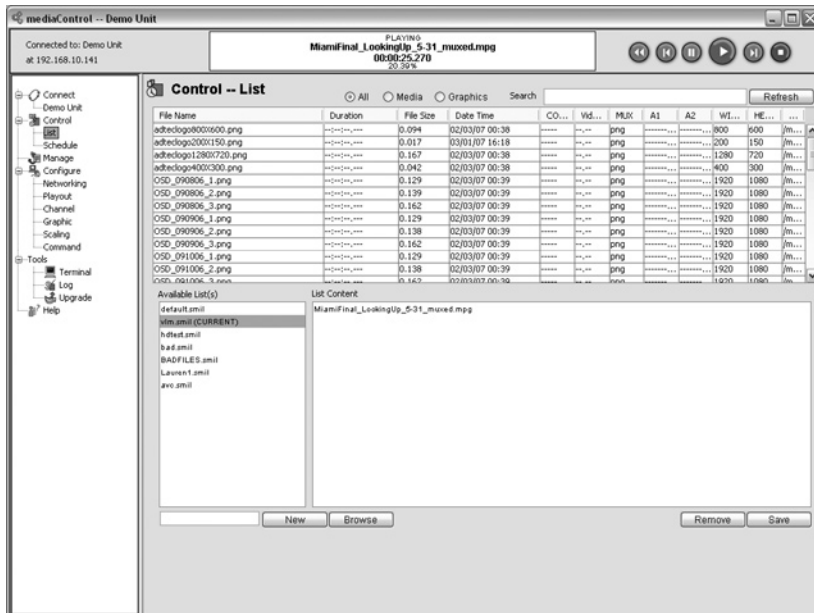


Figure 4.3

Play a List:

- Select the desired list and click the Play icon. (optional right click on the list and select Play)

Modify a List:

- Select the desired list to show all the items in the list.
- Add content to the list with a drag & drop from the media server inventory (optionally right click on the item and select Add to List).
- Remove or re-order content in a list by right clicking in the list area and selecting the desired action.

NOTE: Once you have modified the list, click "Save" to save the list to the media server.

Create a New List:

- Enter a list name and click "New" in the list area.
- Add content to the list with a drag & drop from the media server inventory (optionally right click on the item and select Add to List).
- Remove or re-order content in a list by right clicking in the list area and selecting the desired action.

NOTE: Once you have modified the list, click "Save" to save the list to the media server.

Load an Existing List:

- From the list area, click the Browse button and select the list from your hard drive.
- Click Save to save the list to the media server.

Looping a List:

- You can control how a list is played by changing the repeat mode under Configure Playback.
- The repeat setting specifies how lists play on the media server. Repeat All will loop a list or file, One will repeat the first item in the list, Last will play the list and repeat the last item in the list. Repeat One (Seamless) is a special mode that will loop one media file with no transitions for a more seamless effect.
- Click Save to save the setting to the media server.

Schedule Creation and Playback

The media server can execute events at a scheduled time, date or day of the week. The mediaControl Build List area provides a way to view, run, edit and save schedules. Note that the last schedule run will automatically load when the media server starts up.

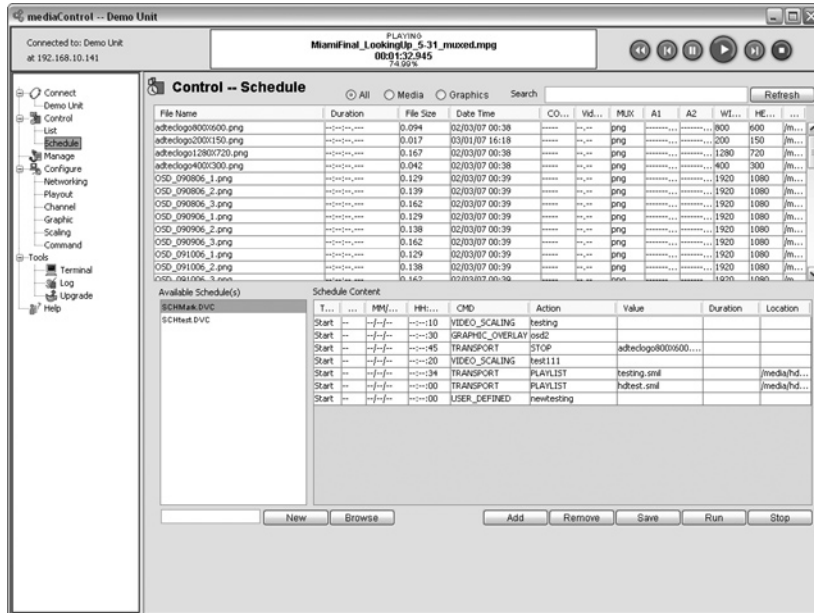


Figure 4.4

Run a Schedule:

- Select the desired schedule and click the Run button.

Modify a Schedule:

- Select the desired schedule to show all the items in the schedule.
- Click Add to add a new schedule event. Click on each event field to enter the appropriate data:

Type: The type of event. Start is an event that is scheduled to start at a specific time. Link is an event that will start when the previous event ends. End is the last event in a group of Linked events.

DOW: Day Of Week that the event should run. Enter - to run any day, or enter a specific day: "MO", "TU", "WE", "TH", "FR", "SA" and "SU".

DD/MM/YY: The Day/Month/Year the event should run. Enter - to run any time as a wild card.

HH:MM:SS: The Hour:Minute:Seconds the event should run. Enter - to run

any time as a wild card.

CMD: The Command group which categorizes commands into one of the following areas: TRANSPORT (basic Play, Stop, Play List), VIDEO_SCALING (defined in Configure>Scaling), GRAPHIC_OVERLAY (defined in Configure>Graphic) AND USER_DEFINED (defined in Configure>Command).

Action: The command that should be run. Click on the field to select one of the available commands for the CMD group.

Value: The value associated with the selected command. For example, if you select PLAYSPOT as the action, then the Value is the File Name that should be played.

Length: The duration of the scheduled event.

NOTE: Once you have modified the schedule, click "Save" to save it to the media server.

Create a new Schedule:

- Enter a schedule name and click "New" in the schedule area.
- Modify the schedule as desired and click "Save" to save the list to the media server.

Load an Existing Schedule:

- From the schedule area, click the Browse button and select the schedule from your hard drive.
- Click Save to save the schedule to the media server.

Manage Media, Lists, and Schedules

You can manage the media, play lists and schedules stored on the media server from the mediaControl File Manager.

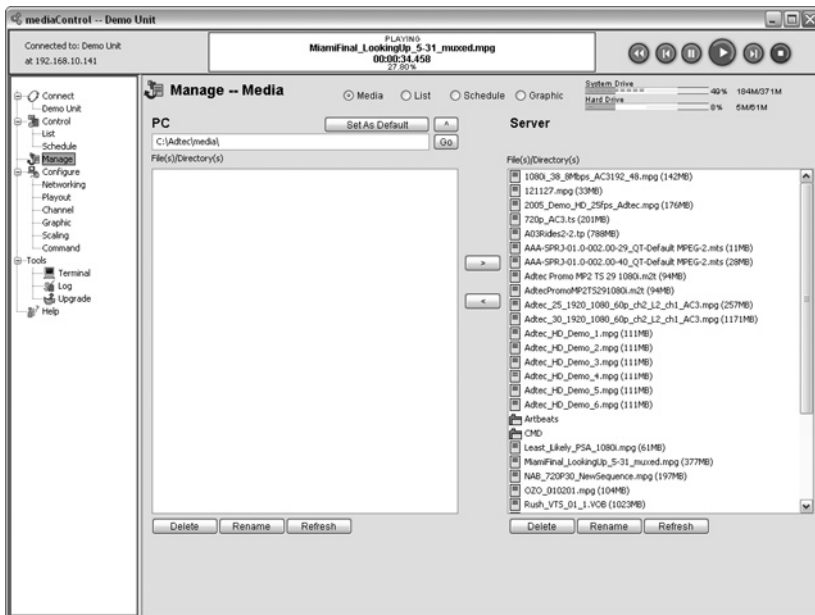


Figure 4.5

Navigate Folder Locations:

- Under Manage, click on Media, Lists or Schedules to change the default file locations.
- You can navigate on your PC by entering the path directly and then clicking GO or you can click into folders or the Up arrow ^ to go up a folder. If you want to keep a specific folder location, click on Set As Default which will store that path.
- Note that locations on the media server are as follows:
 - Media: /media/hd0/media/
 - Lists: /media/hd0/list/
 - Schedules: /media/hd0/dvc/

Manage Media:

- Copy media to the media server: Select the desired media from the PC and click the right arrow to transfer it to the media server.
- Copy media from the media server: Select the desired media on the media server and click the left arrow to transfer it from the media server.

Deleting Content:

- Select the content you want deleted and click the Delete button at the bottom.

Chapter 5 - mediaControl Tools

Terminal

You can log in and directly control the media server from the Adtec API command line. The commands supported from the terminal are documented in the Adtec API command manual available from the browser page on the media server.

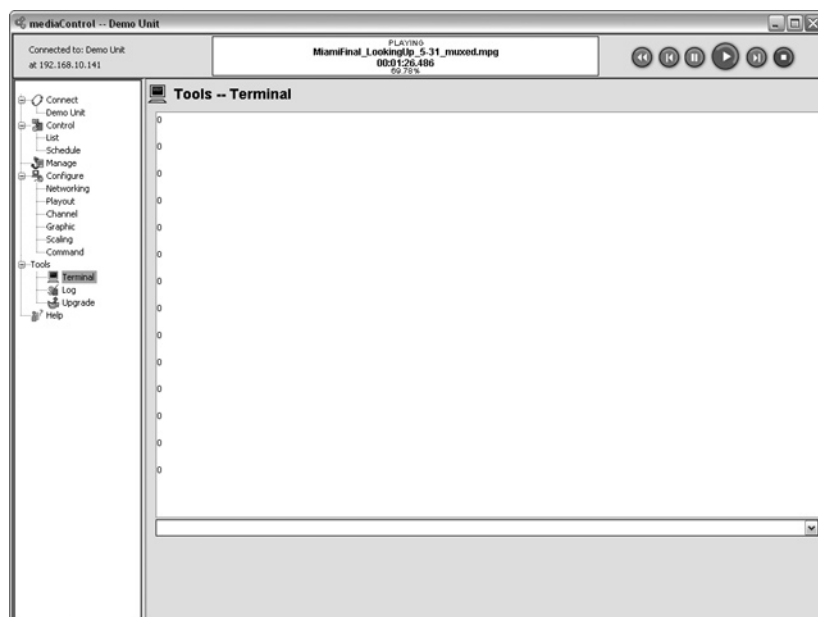


Figure 5.1

Send a Command:

- Enter a command into the command prompt and hit the Enter. The Server will respond with the command response. Note that all previous commands are held in the command line by clicking the Up arrow key on clicking on the drop down list.

Save Command Responses:

- You can save the results of the Terminal for further use with the Right Click menu in the Terminal Window. The options include:

Select All: All the text in the terminal window is selected.

Copy: Copy selected text to your clipboard for use in other programs.

Save As...: Save the Terminal results to a text file.

Logs

You can view the logs stored on the media server from the Tools page.

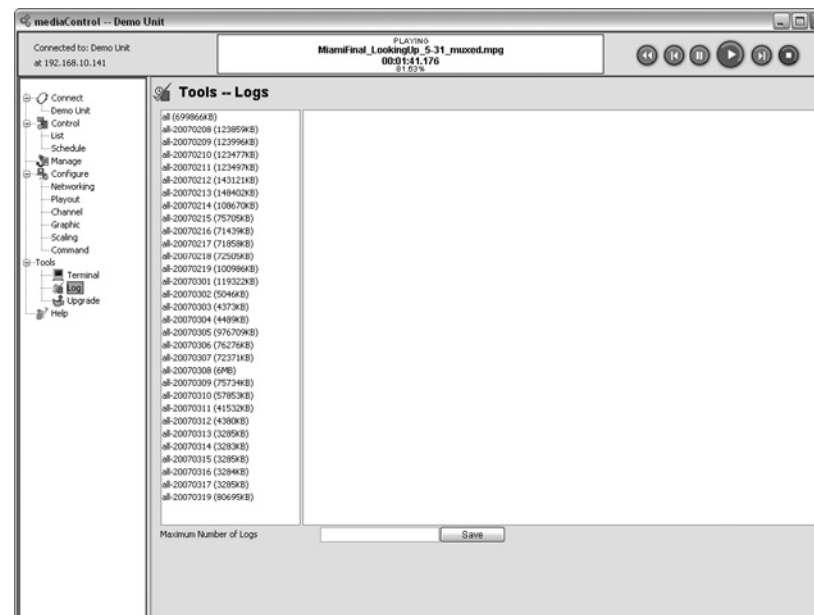


Figure 5.2

View Log:

- Click on the desired log in the list to display the log contents.

Save Logs: You can save the logs for further use with the Right Click menu in the Log Window.

The options include:

Select All: All the text in the log window is selected.

Copy: Copy selected text to your clipboard for use in other programs.

Save As...: Save the log to a text file.

Find: Search the log file for a specific item.

Firmware Upgrade

mediaControl has a firmware management tool that enables you to upload and select which firmware version to activate on the media server. You can have several versions of firmware available on the media server, but only one can be active at a time. The firmware management is done from the Tools Upgrade page.

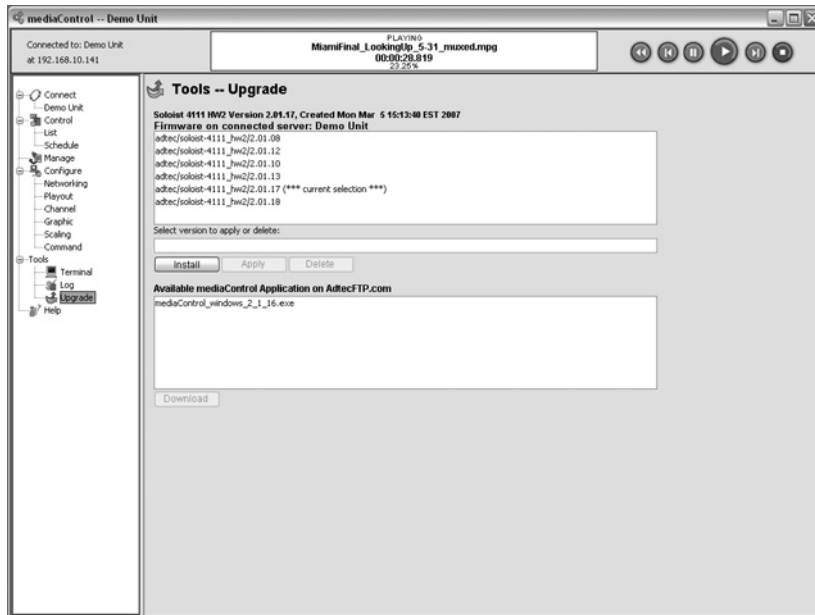


Figure 5.3

Install New Firmware:

You can install new firmware on the media server with the following steps:

1. Click the Install button.
2. From the select New Firmware dialog, select the desired firmware available on the AdtecFPT.com site. Optionally you can click Browse to select a firmware file on your hard drive. Once the desired version is selected, click OK.
3. The Installing Firmware dialog will show the progress of installing the firmware which may take several minutes. Once the firmware is installed, click OK to activate the new firmware and restart the server.

WARNING: IT IS CRITICAL THAT YOU INSTALL THE CORRECT FIRMWARE FOR YOUR PRODUCT! At this time there is no validation of the firmware against the hardware. If you have a question, please contact Adtec Customer Services.

Changing Firmware:

- Select the desired firmware version you want to change to and click "Apply".
- At the Update Warning page, click Yes to update your server.

NOTE: The media server will install the new firmware and restart automatically.

Deleting Firmware:

- Select the desired firmware version you want to delete and click "Delete".
- At the Delete Warning page, click Yes to delete for firmware from your server.

NOTE: You cannot delete firmware that is currently active (***) on the media server. First you must change to another firmware revision and then select the non-active firmware to be deleted.

Changing Firmware at Boot Time:

You can change firmware on the server without mediaControl over an RS232 port if needed using the following steps:

1. Power down the server and connect to the RS232 system terminal port with the supplied Ethernet cable and RS232 adapter.

Note: The RS-232 terminal monitor for communicating with the internal host motherboard on the Soloist 4111HD is labeled Terminal and on the edge 4111HD is labeled COM2.

2. Open a serial RS232 program like Windows HyperTerminal and configure it to 115,200 baud, 8 Data, 1 Stop and no Parity.
3. Power the server on and watch the boot diagnostics. Press the space bar immediately after the following is displayed:
Scanning for all possible OEM configurations... they include:
 - 1) adtec/soloist-4111/1.03.08_hw2
 - 2) adtec/soloist-4111/1.03.13_hw2 (***) current selection (***)The current OEM configuration will be used -UNLESS- you chose an alternative OEM configuration.
If you wish to use an alternative OEM configuration, START ENTERING YOUR SELECTION NOW (time out occurs if not started within 2 seconds)
4. Enter the number of the desired firmware and hit Enter. The server will reboot into the new firmware.

Appendix

- A - Contacting Customer Support
- B - Technical Reference Soloist 4111 HD
- C - Technical Reference edge 4111 HD
- D - Media Encoding Parameters
- E - Connector Specifications
- F - Soloist 4111HD Media Cable

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A

- Contacting Customer Support

Technical Support and Customer Service includes troubleshooting product/system functional operations concerning Adtec equipment ,embedded systems and single device issues; Service Order generation, processing and tracking; Warranty claim processing; and on-site system evaluation and maintenance. Technical Support plans do not include customer training programs. Programs incorporating customer training are defined in the Training Services Policy. Customer Services technicians provide limited instruction during a support call/email/fax in order to facilitate checking for proper equipment operation.

Telephone and Email Support

Telephone: 615.256.6619
Email: support@adtecinc.com
Internet: www.adtecinc.com/supportrequest/

Adtec Digital offers telephone, email and fax support, warranty and service related inquiries during normal business hours (9:00 AM to 5:00PM Central Standard Time CST, Monday thru Friday, except holidays. Support Requests can also be submitted on-line. Please see the Adtec website for a current list of holidays.

All inquiries will be processed in the order in which they are received and by the criteria outlined in the Call Response Order. Inquiries and inquiry responses made after 5:00 PM (CST) weekdays, Saturday, Sunday or on an Adtec recognized holiday will be processed the next business day in the order received.

Callers on hold and returned calls will be prioritized by the following criteria:

- Priority-24 Subscription Customers
- Standard-Priority Subscription Customers
- All customers that have purchased Installation & Training, within 90 days of the installation
- Adtec Certified Operators (ACO)
- Limited Level Support, Warranty & Service Requests
- Multi-device system installations that have purchased Installation & Training from Adtec
- Distributors
- System Integrators
- Multi-device systems
- Single device users

Information needed for Support

To help expedite the troubleshooting process, please be prepared to provide the following information to the support representative.

Product(s) affected: Please provide a list of the Adtec Products involved including the Revision Number for each affected product.

Description of the Problem: Please include a detailed description of the problem. Include the approximate time and day the problem occurred, the spot ID of the material being inserted and what the operator reported about the incident. It is also helpful to note any recent changes to the system. More information is always better than too little information.

Your Contact Data: Please include contact information so we can reach you to discuss how to fix the problem, additional troubleshooting steps that are required or to gather more complete information regarding the problem. Please include your facility name (or call letters), your name, title, email address, telephone number, hours of work, and other contact persons if you are not available.

Advanced Support Plans

In addition to our basic Inquiry Response Policy, Adtec offers two advanced levels of priority inquiry support: Standard-Priority and Priority-24. The Standard-Priority & Priority-24 plans provide guaranteed* response times with the Priority-24 plan offering after hours and holiday support. Standard-Priority support is included with the Adtec Certified Operator (ACO) training. Contact Adtec Sales to upgrade your current support plan.

SUPPORT PLAN	PRIORITY -24	STANDARD-PRIORITY	LIMITED
Hours	24 Hours/Day 7 Days/Week	"9 AM – 5 PM (CST), Excluding Weekends & Holidays"	9 AM – 5 PM (CST) Excluding Weekends & Holidays
Call Response Time: Guaranty*	Same Day: 2 Hours (1st in order of call list)	Same Day: 4 Hours (2nd in order of call list)	48 Hours
Discounted Site Visits	25%	10%	None
Discounted Training	25%	10%	None
Repair Service: Guaranty*	1 Day Turnaround	3 Day Turnaround	None

One month free service extension will be awarded if Adtec fails to meet its service guarantee.

Standard-Priority Support Plan

Customers can improve upon our normal call processing times and can expedite inquiry support responses through our subscription Standard-Priority service plan. Under this plan all telephone inquiries are guaranteed** a telephone response of no more than 4 hours after they are received (within the designated hours of operation). Telephone inquiries received by 4:00 PM (CST) on weekdays, excluding Adtec holidays are guaranteed a same-day telephone response. However, inquiry responses may be made after hours until 8:00 pm (CST). Email and fax inquiries are limited in scope to normal business hours, excluding holidays. Standard-Priority customers are entitled to a 10% discount on site visit and training charges after the initial system/product installation and training. Standard-Priority customers also receive a 3-day turnaround time guaranty* on warranty and non-warranty repairs on Adtec manufactured equipment, excluding Studio Encoders.

Priority - 24 Support Plan (24 Hour)

In addition to our Standard-Support plan, after hours, weekend and holiday support is available with the Priority-24 support plan. This plan is a subscription only service available for service inquiries 24 hours a day, 7 days a week. All telephone inquiries are guaranteed* a telephone response of no more than 2 hours. Email and fax inquiries are limited in scope to normal business hours, excluding holidays. Calls after 5:00 PM will be forwarded to a Customer Services representative on call. Priority-24 customers are entitled to a 25% discount on site visit and training charges after the initial system/product installation and training. Priority-24 customers also receive a 1- day turnaround time guaranty* on warranty and non-warranty repairs on Adtec manufactured equipment, excluding Studio Encoders.

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B - Technical Ref. - Soloist 4111 HD

Video

- Video Outputs: One decode configurable to DVI-I, S-Video (4 Pin Mini-Din YC), Composite (BNC). Cable required for VGA, YUV and RGB.
- Error concealment and de-blocking filter.
- Video aspect format: 4x3 or 16x9
- Back to back frame accurate playback from same output port.

Standard Definition (SD) Decode

- Maximum bit rate: 15 Mbps
- MPEG 1
- MPEG 2 SD MP@ML, Full D1. NTSC, PAL B, G.
- MPEG 4.2 ASP@L5, Full D1. Rectangular shape video decoding up to 1280X720p30 resolution, support for B Pictures, data partitioning and error resiliency. No global motion compensation.
- MPEG 4.10 (AVC/H.264) BP@L3 up to 720X480p30 or 720X576p25 resolution, including FMO and ASO.

High Definition (HD) Decode

- Maximum bit rate: 40 Mbps
- MPEG - 2 MP@HL up to 1920X1080i60 or 1280X720p60 resolution.
- MPEG - 4.10 (AVC/H.264) MP@L4.1 and HP@L4.1 up to 1920X1080p24 or 1280X720p60 resolution.
- WMV9 MP@HL up to 1280X720p30 or 1920X1080p24 resolution.

Audio

- Audio Outputs: simultaneous S/PDIF digital audio (RCA female) and unbalanced analog stereo audio (1/8" female). Digital audio PCM at 16, 20 and 24 bps up to 5.1 channels.
- Dolby Digital AC-3: Bit rates up to 640kbps. Sample rates of 32, 44.1 and 48KHz. Multi-channel up to 5.1 on S/PDIF and downmix to 2 channel Dolby Pro Logic on analog.
- MPEG 1 and MPEG 2 Layer I, II and III (MP3) 2.0: Bit rates up to 448kbps (Layer I), 384kbps (Layer II) or 320kbps (Layer III). Sample rates of 16, 22.05, 24, 32, 44.1 and 48KHz. Single channel, dual channel, joint stereo and stereo modes.
- AAC-LC MPEG-2 and MPEG-4: Bit rates up to 384kbps. Sample rates of 7.35, 8, 11.025, 12, 16, 22.05, 24, 32, 44.1 and 48KHz.

- WMA9@L3 2.0 bit rates up to 192Kbps CBR or up to 360Kbps VBR. WMA9 Pro@M2 5.1 bit rates up to 768Kbps (CBR and VBR). Sample rates of 44.1, 48 and 96KHz.

Soloist Media Server

- Storage: 300GB internal provides up to 40 hours at 10Mbps.
- Embedded Linux real time operating system.
- Power: 70-240 VAC 50-60Hz and 65 Watts (20 Watts typical) of power.
- Size: 1RU rack mount chassis. 19" wide, 1.75" high, 10" deep.
- Weight: 8 lbs (3.6 Kg)
- Environmental: Active cooling (Fans), 0 to 90 Degrees Fahrenheit, Less than 70% RH, Non-Condensing

Communications and Control

- Ethernet 10/100 and GigE (RJ-45) Half Duplex, Full Duplex, Auto Negotiate
- Ethernet Protocols: Telnet, FTP, Adtec command API.
- Serial Communications: 2-RS232 (38400-115,200K, 8, 1 N)
- Embedded Automation: List, Loop, Schedule Logging.

Front Panel

- Keypad: Mode, Select, Enter, Escape, Up, Down, Left, Right
- Blue Translucent LCD (20 characters by 2 rows)
- Host Status LEDs Power, Alarm, Link, Busy, Storage.
- Status LEDs: Play, Multicast, Video, Audio, Display Targets (NTSC, PAL, 720, 1080, Other), Alarm

mediaControl Application

mediaControl configuration and control application requires one of the following:

- Windows 2000 or XP or Linux computer: Intel or AMD 32 bit processor at 2 GHz; 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.
- Macintosh OS-X (10.2 or greater) computer: G4 32 bit processor at 1 GHz, G5 64 bit processor (any); 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.

Note: Specifications subject to change without written notice



- Technical Ref. - edje 4111 HD

Video

- Video Outputs: One decode configurable to DVI-I, Composite (BNC). Cable required for VGA, YUV and RGB.
- Error concealment and de-blocking filter.
- Video aspect format: 4x3 or 16x9
- Back to back frame accurate playback from same output port.

Standard Definition (SD) Decode

- Maximum bit rate: 15 Mbps
- MPEG 1
- MPEG 2 SD MP@ML, Full D1. NTSC, PAL B, G.
- MPEG 4.2 ASP@L5, Full D1. Rectangular shape video decoding up to 1280X720p30 resolution, support for B Pictures, data partitioning and error resiliency. No global motion compensation.
- MPEG 4.10 (AVC/H.264) BP@L3 up to 720X480p30 or 720X576p25 resolution, including FMO and ASO.

High Definition (HD) Decode

- Maximum bit rate: 25 Mbps
- MPEG - 2 MP@HL up to 1920X1080i60 or 1280X720p60 resolution.
- MPEG - 4.10 (AVC/H.264) MP@L4.1 and HP@L4.1 up to 1920X1080p24 or 1280X720p60 resolution.
- WMV9 MP@HL up to 1280X720p30 or 1920X1080p24 resolution.

Audio

- Audio Outputs: Unbalanced analog stereo audio (1/8" female).
- Dolby Digital AC-3: Bit rates up to 640kbps. Sample rates of 32, 44.1 and 48KHz. Downmix to 2 channel Dolby Pro Logic.
- MPEG 1 and MPEG 2 Layer I, II and III (MP3) 2.0: Bit rates up to 448kbps (Layer I), 384kbps (Layer II) or 320kbps (Layer III). Sample rates of 16, 22.05, 24, 32, 44.1 and 48KHz. Single channel, dual channel, joint stereo and stereo modes.
- AAC-LC MPEG-2 and MPEG-4: Bit rates up to 384kbps. Sample rates of 7.35, 8, 11.025, 12, 16, 22.05, 24, 32, 44.1 and 48KHz.
- WMA9@L3 2.0 bit rates up to 192Kpbs CBR or up to 360Kpbs VBR. WMA9 Pro@M2 5.1 bit rates up to 768Kpbs (CBR and VBR). Sample rates of 44.1, 48 and 96KHz.

Edje Media Player

- Storage: 80GB internal provides up to 10 hours at 10Mbps.
- Embedded Linux real time operating system.
- Power: 70-240 VAC 50-60Hz or 12 VDC
- Size: 8.5" wide, 10.5" deep, 1.70" tall
- Weight: 4 lbs.
- Environmental: 0 to 90 Degrees Fahrenheit, Less than 70% RH, Non-Condensing

Communications and Control

- Ethernet 10/100 (RJ-45) Half Duplex, Full Duplex, Auto Negotiate
- Ethernet Protocols: Telnet, FTP, Adtec command API.
- Serial Communications: 2-RS232 (38400-115,200K, 8, 1 N)
- Embedded Automation: List, Loop, Schedule Logging.

Front Panel

- Keypad: Mode, Select, Enter, Escape, Up, Down, Left, Right
- Blue Translucent LCD (20 characters by 2 rows)
- Host Status LEDs Power, Alarm, Link, Busy, Storage.

mediaControl Application

mediaControl configuration and control application requires one of the following:

- Windows 2000 or XP or Linux computer: Intel or AMD 32 bit processor at 2 GHz; 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.
- Macintosh OS-X (10.2 or greater) computer: G4 32 bit processor at 1 GHz, G5 64 bit processor (any); 512MB memory; 1024x768 32 Bit color capable graphics card; TCP/IP compatible computer network.

Note: Specifications subject to change without written notice

D - Media Encoding Parameters

When creating content for the Soloist and edge 4111HD, you need so ensure that your encoding parameters match the decoder for best results.

MPEG 2 Encoding

Creating MPEG2 files, it is recommended to use the following parameters:

Multiplex Type: MPEG2 Transport Stream

Transport Steam composition:

- 1.) The file should start with a transport sync byte (0x47) and should maintain packet alignment throughout the entire duration.
- 2.) There should be a minimal amount of fill packets at the start of the file.
- 3.) The first non-fill packet should be the PAT packet.
- 4.) The next non-fill packet should be the PMT packet(s).
- 5.) The next non-fill packet should be the first video stream packet.
The first video stream packet should contain the following
 - a.) Adaptation indicator marking the presence of a PCR.
The adaptation flag field should have the discontinuity indicator set.
 - b.) Valid PES header with PTS and DTS.
 - c.) Valid video sequence header and GOP header.
- 6.) Use the following recommended PID values:
PMT: 0x1e0 (480dec)
PCR: 0x1e1 (481dec, must reference video PID)
Video: 0x1e1 (481dec)
Audio1: 0x1e2 (482dec)
Audio2: 0x1e3 (483dec)

Audio: 192Mbps AC-3 or MPEG Layer 2

HD Content:

- Resolution: up to 1920x1080 (1080i60 or 1080i50)
- Bit Rate: 25Mbps constant bit rate (CBR).

SD Content:

- Resolution: 720x480 NTSC or 720x576 PAL
- Bit Rate: 8Mbps constant bit rate (CBR).

NOTE: Content should be padded with a couple black frames front and back for improved visual transitions between clips.

MPEG 4.10/AVC/H.264 Encoding

H.264, MPEG-4 Part 10, or AVC, for Advanced Video Coding, is a digital video codec standard which is noted for achieving very high data compression. The ITU-T H.264 standard and the ISO/IEC MPEG-4 Part 10 standard (formally, ISO/IEC 14496-10) are technically identical.

Creating AVC files, it is recommended to use the following parameters:

Multiplex Type: MPEG2 Transport Stream

Transport Steam composition:

- 1.) The file should start with a transport sync byte (0x47) and should maintain packet alignment throughout the entire duration.
- 2.) There should be a minimal amount of fill packets at the start of the file.
- 3.) The first non-fill packet should be the PAT packet.
- 4.) The next non-fill packet should be the PMT packet(s).
- 5.) The next non-fill packet should be the first video stream packet.
The first video stream packet should contain the following
 - a.) Adaptation indicator marking the presence of a PCR.
The adaptation flag field should have the discontinuity indicator set.
 - b.) Valid PES header with PTS and DTS.
 - c.) Valid video sequence header and GOP header.
- 6.) Use the following recommended PID values:
PMT: 0x1e0 (480dec)
PCR: 0x1e1 (481dec, must reference video PID)
Video: 0x1e1 (481dec)
Audio1: 0x1e2 (482dec)
Audio2: 0x1e3 (483dec)

Audio: 192Mbps AC-3 or MPEG Layer 2

HD Content:

- Resolution: High Profile up to 1280x720 (720p50 or 720p60. note that 1080i60 is not supported)
- Bit Rate: 12Mbps constant bit rate (CBR).

SD Content:

- Resolution: Main Profile up to 720x480 NTSC or 720x576 PAL
- Bit Rate: 5Mbps constant bit rate (CBR).

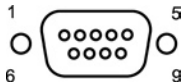
NOTE: Content should be padded with a couple black frames front and back for improved visual transitions between clips.

E - Connector Specifications

Soloist 4111HD Terminal Port

The Soloist 4111HD Terminal port is an industry standard RS232 DTE device on RJ45/RJ48. The default port settings are 115,200 baud, 8 data, 1 stop and no parity. The pinout is:

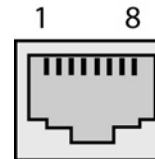
Pin	Use
1	Data Set Ready (DSR)
2	Carrier Detect (DCD)
3	Data Terminal Ready (DTR)
4	Ground (GND)
5	Receive Data (RXD)
6	Transmit Data (TXD)
7	Clear to Send (CTS)
8	Request to Send (RTS)



Soloist 4111HD RS-232 Port

The Soloist 4111HD RS-232 Port is an industry standard RS-232 DTE device on DB9, without hardware flow control. The default port settings are 38,400 baud, 8 data, 1 stop and no parity. The pinout is:

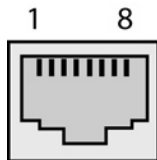
Pin	Use
1	Not Connected (NC)
2	Receive Data (RXD)
3	Transmit Data (TXD)
4	Not Connected (NC)
5	Ground (GND)
6	Not Connected (NC)
7	Not Connected (NC)
8	Not Connected (NC)
9	Not Connected (NC)



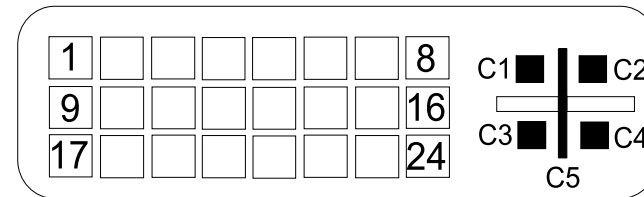
edje 4111HD COM1 and COM2

The edje 4111 COM1 and COM2 ports are customized RJ45/RJ48 connectors that allow RS232 and either RS-422 or RS-485. Note that there is no hardware flow control for RS-232 and that RS-485 is receive only. Also note that the RJ45-to-DB9 COM adapter included with the edje4111 HD only supports RS-232. The pinout of COM1 and COM2 is:

Pin	Use
1	RS232 Receive Data (RS232_RXD)
2	Ground (GND)
3	RS232 Transmit Data (RS232_TXD)
4	Ground (GND)
5	RS422 or RS485 Receive Data Positive (RS422_RXD+ or RS485_RXD+)
6	RS422 Transmit Data Negative (RS422_TX-)
7	RS422 or RS485 Receive Data Negative (RS422_RXD- or RS485_RXD-)
8	RS422 Transmit Data Positive (RS422_TX+)

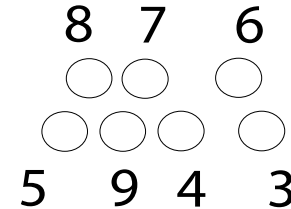


DVI-I Connector (Soloist 4111 HD and edje 4111 HD)



DVI-I Connector	
1 - 24 Digital	C1 - Red (Cr)
C2 - Green (Y)	C3 - Blue (Cb)
C4 - H sync	C5 - Return

7 Pin Media Port Connector (Soloist 4111 HD)



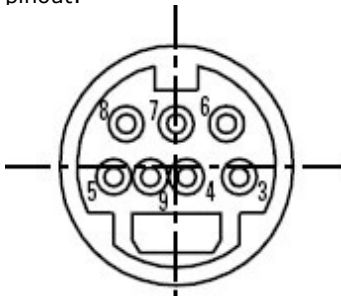
7 Pin Media Port pinout	
1,2,10 - Shield	3, 5, 9 - Return
4 - Composite	6 - S-Video Y
7 - SPDIF	8 - S-Video C

F - Soloist 4111HD Media Cable

The Soloist 4111 HD includes a media cable that provides three outputs: S-Video, Composite video and S/PDIF audio.

Soloist Media Port (7 Pin DIN)

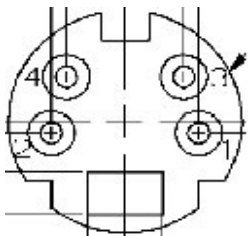
The Soloist HD has a female 7 pin DIN media port with the following pinout:



Pin	Use
3	S-Video Y and Composite Return
4	Composite Video
5	SPDIF Return
6	S-Video Y (Luma)
7	SPDIF (Digital Audio 110 Ohm)
8	S-Video C (Chroma)
9	S-Video C (Chroma) Return

S-Video Output

The media cable S-Video Output has a 4 pin female mini-DIN connector with the following pinout:



Pin	Use
1	S-Video Y RETURN
2	S-Video C (Chroma) RETURN
3	S-Video Y (Luma)
4	S-Video C (Chroma)

Composite Video Output

The media cable composite video output is a female RCA connector with the following pinout:



Pin	Use
SIGNAL	Composite Video
GROUND	Composite Video RETURN

SPDIF Audio Output

The media cable S/PDIF audio output is a female RCA connector with the following pinout:



Pin	Use
SIGNAL	SPDIF Audio
GROUND	S/DIF Audio RETURN



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