

SPECIFICATIONS

MPEG-2 Video Encoding	MP@ML, D1, 1/2 D1 and 2CIF, CIF, QCIF resolutions Unicast or Multicast transport streams Constant and variable bitrate encoding 1500 Kbit/s to 8 Mbit/s; PAL and NTSC
MPEG-4 (Part 2, 10) Video Encoding	D1, 1/2 D1, 2CIF, CIF and QCIF resolutions; Unicast or Multicast ISMA streams (RTP/RTSP); Constant, variable and average bitrate encoding; 14 Kbit/s to 8 Mbit/s; PAL and NTSC; MPEG-4 Dual Encode (Part 2 only). (Two simultaneous MPEG-4 encodes of the same input source, one CIF resolution low bitrate and one high bitrate at FD1 resolution.
Audio encoding	MPEG-2 – Layer 2 MPEG-4 – AAC LC
Video inputs	S-video CVBS (Composite) RGB (RGB + sync on Green) Scart (RGB + sync on CVBS) YPbPr Progressive/Interlaced
Audio inputs	Stereo line level (2 x RCA)
Network	10/100 BaseT for streaming and control interface
Serial port	RS232 interface for control and configuration
USB	USB v1.1 interface for control and configuration
Voltage	100-240 VAC
Power	200 Watts via IEC Mains connector
Environmental	0 – 40 degrees Celsius 32 – 104 degrees Fahrenheit
Chassis	Up to nine Transcoder modules with one power supply module in a chassis
Dimensions	5.25" (3U) H x 19" W x 8.75" D

FRONT PANEL INDICATORS AND CONNECTORS (See Figure A)

Video input lights	4 green lights for S-video, CVBS, SCART and RGB Solid green indicates video input is present, blinking green indicates video input is not present
MPEG-2/MPEG-4	Amber when MPEG-2 encoding is enabled Green when MPEG-4 encoding is enabled
USB	USB interface for control and configuration
10/100 Base-T	Ethernet interface
RS232	Serial interface for control and configuration
Power	Blue when power is applied

REAR PANEL CONNECTORS (See Figure B)

L and R audio	2 x RCA connectors for stereo line audio input
S-Video	4Pmini DIN for S-video input
CVBS	BNC for Composite input
Pb/B	BNC for Blue input
Pr/R	BNC for Red input
Y/G	BNC for Luminance or Green input

Figure A (Front)

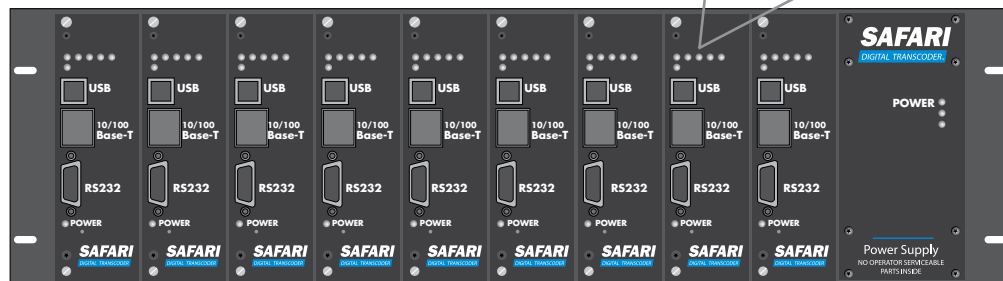
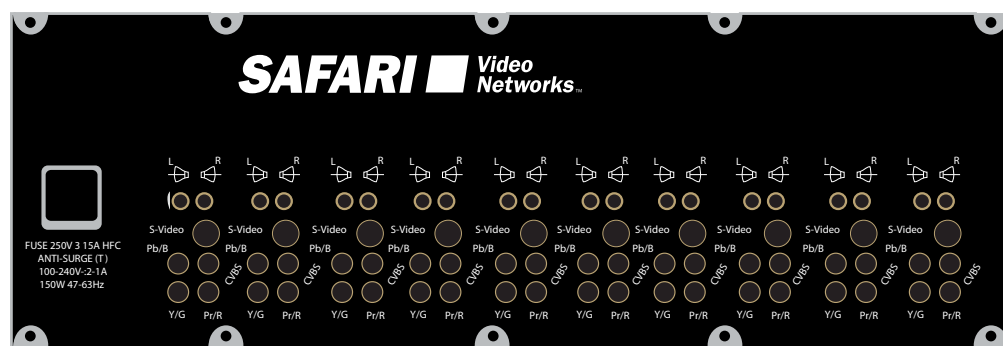


Figure B (Back)



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SAFARI

DIGITAL TRANSCODER™

CONFIGURATION & SET-UP GUIDE

The SAFARI Digital Transcoder was developed to deliver multimedia to a wide audience over IP networks and can generate either MPEG-2 or MPEG-4 (part 2 and 10) encoded streams.

CONFIGURATION OPTIONS

A. USING THE ETHERNET PORT

- Open a Web browser
- Enter the Default URL: "http://191.53.51.208" and press the 'Enter' key.
- Select IP Configuration. NOTE: It is recommended that a Static IP address be assigned.
- Enter new IP Address.
- Enter Subnet Mask and the Gateway Address (Router).
- Click 'Apply.'

B. USING RS-232

- Connect the RS-232 cable to the computer and to the Transcoder.
- Open and configure HyperTerminal (115200 8-N-1 No Flow Control)
- In HyperTerminal, press the 'Call' button.
- Power the Transcoder chassis.
- Push the Transcoder module into the Transcoder chassis.
- If everything is working correctly, a "CBT>" prompt will appear after unit has finished initializing and the 'Enter' key is pressed.
- Type "Help" to get a list of commands.
- To find current network settings, type "getipconf" at the "CBT>" prompt.
- To change network settings: at the "CBT>" prompt, type: "setipconf localaddr=<your IP address>, localnetmask=<your subnet mask>, gatewayaddr=<your gateway>".
Example: "setipconf localaddr=10.10.100.240, localnetmask=255.255.255.0, gatewayaddr=10.10.100.1"
- Press the 'Enter' key and wait for the unit to reboot.
- A new "CBT>" prompt will appear when it has finished rebooting.
- If the Transcoder module seems to have rebooted, but HyperTerminal has become unresponsive, pull the module out of the Transcoder chassis and push it back in.
- Connect the Transcoder to the network.

C. USING USB PORT

- Plug in a USB cable to the Transcoder and to a USB port on your PC.
- When the PC shows "New hardware found," put the driver CD in the CD drive and let it install the driver.
- Open and configure HyperTerminal (115200 8-N-1 No Flow Control)
- In HyperTerminal, press the 'Call' button.
- If everything is working correctly, a "CBT>" prompt will appear after the 'Enter' key has been pressed.
- Type "Help" to get a list of commands.
- To find current network settings, type "getipconf" at the "CBT>" prompt.
- To change network settings: at the "CBT>" prompt, type: "setipconf localaddr=<your IP address>, localnetmask=<your subnet mask>, gatewayaddr=<your gateway>".
Example: "setipconf localaddr=10.10.100.240, localnetmask=255.255.255.0, gatewayaddr=10.10.100.1"
- Press the 'Enter' key and wait for the unit to reboot.
- A new "CBT>" prompt will appear when it has finished rebooting.
- If the Transcoder module seems to have rebooted, but HyperTerminal has become unresponsive, pull the module out of the Transcoder chassis and push it back in.
- Connect the Transcoder to the network.

SYSTEM SETUP OPTIONS

A. MPEG-2 UNICAST

1. SAFARI DIGITAL TRANSCODER SETUP

- Open a Web browser and enter "http://<New IP address>".
- Select 'Encoding Standard,' choose MPEG-2 and click 'Apply.'
- Select 'Video Input' to select the video format of the video stream being received and click 'Apply.'
- Select 'Stream Setup' to configure the stream.
- In the 'Streaming Address' field, type in the address of the PC that is going to display the video. Example: 192.168.0.200.
- In the 'Ports' field, type in the port to be used. Example: 1234.
- Enable the stream and then click 'Apply.'

2. VLC SETUP

- Open 'VLC Media Player.'
- Select 'Open Network' from the 'Media' menu.
- Set 'Protocol' to 'UDP' and set 'Port' to the port number of the MPEG-2 stream.
- Click the 'Play' button and the Unicast MPEG-2 video window will open.

3. QUICKTIME SETUP

- This is not currently supported.

4. PATHWAYS SM® KIOSK CONTROLLER SETUP

- Open a Web browser and enter the Kiosk Controller IP address.
- Press the Add button.
- Enter description of the stream.
- Enter the 'URL' of the stream in the format "udp://:<Streaming Port>".
Example: udp://:1234
- Click the 'Save' button.

5. DMC SCHEDULER SETUP

- In the 'DMC Scheduler' field, select 'PCC.'
- Select 'Advanced Tools>System Configuration.'
- Select an input that you will define for this stream.
- Under 'Source' type, select "Stream."
- In the 'Special Info' field, type "udp://:<Streaming Port>".
Example: udp://:1234
- Save your changes.
- Refresh the system settings.

6. DEVICE COMMANDER SETUP

- NOTE: Due to software and port conflicts, streams are not viewable on the SAFARI server.
- Open 'Device Commander' and select 'Configure' from the 'File' menu.
 - Set SAFARI Streamer to 'Always' and all other streamers to 'Never.'
 - Select 'OK.'
 - Select the stream you wish to view from the menu on the left.
 - View the video.

B. MPEG-2 MULTICAST

1. SAFARI DIGITAL TRANSCODER SETUP

- Open a Web browser and enter "http://<New IP address>".
- Select 'Encoding Standard,' choose 'MPEG-2' and click 'Apply.'
- Select 'Video Input' to select the video format of the video stream being received and click 'Apply.'
- Select 'Stream Setup' to configure the stream.
- In the 'Streaming Address' field, type in the desired multicast address of the MPEG-2 stream. Example: 225.1.1.2
- In the 'Ports' field, type in the port to be used. Example: 1234.
- Enable the stream and then click 'Apply.'

2. VLC SETUP

- Open 'VLC Media Player.'
- Select 'Open Network' from the 'Media' menu.
- Set 'Protocol' to 'UDP,' 'Address' to the Multicast IP address set above, and 'Port' to the port number of the MPEG-2 stream. Example: Address: 225.1.1.2, Port: 1234.
- Click the 'Play' button and the Multicast MPEG-2 video window will open.

3. QUICKTIME SETUP

- Not supported without Apple QuickTime MPEG-2 Playback Component.

4. PATHWAYS SM® KIOSK CONTROLLER SETUP

- Open a Web browser and enter the Kiosk Controller IP address.
- Click the 'Add' button.
- Enter description of the stream.
- Enter the URL of the stream in the format "udp://Streaming Address>:<Streaming Port>". Example: udp://255.1.1.2.1234
- Click the 'Save' button.

5. DMC SCHEDULER SETUP

- In the 'DMC Scheduler' field, select 'PCC.'
- Select 'Advanced Tools>System Configuration.'
- Select an input that you will define for this stream.
- Under 'Source Type,' select 'Stream.'
- In the 'Special Info' field, enter "udp://<Streaming Address>:<Streaming Port>". Example: udp://225.1.1.2:1234
- Save your changes.
- Refresh the system settings.

6. DEVICE COMMANDER SETUP

- NOTE: Due to software and port conflicts, streams are not viewable on the SAFARI server.
- Open 'Device Commander' and select 'Configure' from the 'File' menu.
 - Set SAFARI Streamer to 'Always' and all other streamers to 'Never.'
 - Select 'OK.'
 - Select the stream you wish to view from the menu on the left.
 - View the video.

C. MPEG-4 UNICAST

1. SAFARI DIGITAL TRANSCODER SETUP

- Open a Web browser and enter "http://<New IP address>".
- Select 'Encoding Standard,' choose 'MPEG-4' and click 'Apply.'
- Select 'Video Input' to select the video format of the video stream being received and click 'Apply.'
- Select 'Stream Setup' to configure the stream.
- In the 'Streaming Address' field, type 0.0.0.0.
- In the 'Ports' field, type 0.
- Enable the stream and click 'Apply.'

2. VLC SETUP

- Open 'VLC Media Player.'
- Select 'Open Network' from the 'Media' menu.
- Set 'Protocol' to 'RTSP,' 'Address' to the IP address set above in the format '<IP Address>/streama' (where "streama" must be included and must be in lower case). Example: 192.168.0.132/streama.
- Click the 'Play' button and the Unicast MPEG-4 video window will open (limited to 4 total connections).

3. QUICKTIME SETUP

- Open 'Apple QuickTime.'
- Select 'File/Open URL.'
- Type "rtsp://<New IP Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama.
- Press 'OK' and the video will start playing (limited to 4 total connections).

4. PATHWAYS SM® KIOSK CONTROLLER SETUP

- Open a Web browser and enter the Kiosk Controller IP address.
- Click the 'Add' button.
- Enter description of the stream.
- Enter the URL of the stream in the format "rtsp://<Streaming Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama
- Click the 'Save' button.

5. DMC SCHEDULER SETUP

- In the 'DMC Scheduler' field, select 'PCC.'
- Select 'Advanced Tools>System Configuration.'
- Select an Input that you will define for this stream.
- Under 'Source Type,' select 'Stream.'
- In the 'Special Info' field, type "rtsp://<Streaming Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama
- Save your changes.
- Refresh the system settings.

6. DEVICE COMMANDER SETUP

- Note: Due to software and port conflicts, streams are not viewable on the SAFARI server.
- Open 'Device Commander' and select 'Configure' from the 'File' menu.
 - Set SAFARI Streamer to 'Always' and all other streamers to 'Never.'
 - Select 'OK.'
 - Select the stream you wish to view from the menu on the left.
 - View the video (limited to 10 total connections).

D. MPEG-4 MULTICAST

1. SAFARI DIGITAL TRANSCODER SETUP

- Open a Web browser and enter "http://<New IP address>".
- Select 'Encoding Standard,' choose 'MPEG-4' and click 'Apply.'
- Select 'Video Input' to select the video format of the video stream being received and click 'Apply.'
- Select 'Stream Setup' to configure the stream.
- In the 'Streaming Address' field, type in the desired multicast address of the MPEG-4 stream. Example: 225.1.1.2
- In the 'Ports' field, type in the port to be used. Example: 1234.
- Enable the stream and click 'Apply.'

2. VLC SETUP

- Open 'VLC Media Player.'
- Select 'Open Network' from the 'Media' menu.
- Set 'Protocol' to 'RTSP,' 'Address' to IP address set above in the format '<IP Address>/streama' (where "streama" must be included and must be in lower case). Example: 192.168.0.132/streama.
- Click the 'Play' button and the Multicast MPEG-4 video window will open.

3. QUICKTIME SETUP

- Open 'Apple QuickTime.'
- Select 'File/Open URL.'
- Type "rtsp://<New IP Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama
- Press 'OK' and the video will start playing.

4. PATHWAYS SM® KIOSK CONTROLLER SETUP

- Open a web browser and enter the Kiosk Controller IP address.
- Click the 'Add' button.
- Enter description of the stream.
- Enter the URL of the stream in the format "rtsp://<Streaming Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama
- Click the 'Save' button.

5. DMC SCHEDULER SETUP

- In the 'DMC Scheduler' field, select 'PCC.'
- Select 'Advanced Tools>System Configuration.'
- Select an input that you will define for this stream.
- Under 'Source Type,' select 'Stream.'
- In the 'Special Info' field, type "rtsp://<Streaming Address>/streama" ("streama" must be in lower case.) Example: rtsp://192.168.0.132/streama
- Save your changes.
- Refresh the system settings.

6. DEVICE COMMANDER SETUP

- Note: Due to software and port conflicts, streams are not viewable on the SAFARI server.
- Open 'Device Commander' and select 'Configure' from the 'File' menu.
 - Set SAFARI Streamer to 'Always' and all other streamers to 'Never.'
 - Select 'OK.'
 - Select the stream you wish to view from the menu on the left.
 - View the video.

TYPICAL MPEG-2 SETTINGS (MULTICAST)

To provide a reasonable TV quality picture, the following default MPEG-2 stream settings can be used:

Stream Enable/Disable	= Enabled
Streaming Address*	= 225.10.10.10
Streaming Port*	= 1234
Streaming TTL	= 1
Audio Bitrate	= 128
Encoding Resolution	= FD1
Variable Bit Rate encoding	= 4500Kbit/s
Max Latency	= 25
Max GOP size	= 50

TYPICAL MPEG-4 SETTINGS (MULTICAST)

To provide a reasonable TV quality picture, the following default MPEG-4 stream settings can be used:

Stream Enable/Disable	= Enabled
Streaming Address*	= 225.10.10.10
Streaming Port*	= 1234
Streaming TTL	= 1
Audio Bitrate	= 128
Encoding Resolution	= FD1
Average Bit Rate set	= 2500Kbit/s
Average Video Bit rate	= 5500Kbit/s
Average Peak Video Bit rate	= 5500Kbit/s
Max Latency	= 25
Max GOP size	= 50

*Streaming Addresses and Ports provided are **examples only** and should match the settings selected when configuring the Transcoder in MPEG-2 and MPEG-4 "SAFARI DIGITAL TRANSCODER SETUP" sections.

STEPS FOR UPDATING FIRMWARE

OPTION A – INTERNET

If SAFARI Digital Transcoder has Internet access and an upgrade address provided by Safari Montage:

1. Open a Web browser and type in the IP address of the Transcoder.
2. Click Software Upgrade.
3. Type in the address provided by Safari Montage.
4. Click Apply.
5. The MPEG-2/MPEG-4 light should start blinking red during the upgrade. (WARNING: Do not power off SAFARI Digital Transcoder during upgrade process)
6. When the upgrade is complete, you should see the message "Upgrade OK, the board will now reboot. You will need to restart your browser."
7. Restart your browser and type in the IP address of the SAFARI Digital Transcoder.
8. Verify that the new version matches that of the firmware provided.

OPTION B – FILE

If SAFARI Digital Transcoder does not have Internet access and/or upgrade files are provided by Safari Montage:

1. Extract contents of zipped file provided by Safari Montage to the root directory of any local web server (If you have Safari Pathways, the Safari Pathways server provides a very convenient web server to use for this purpose).
2. Open a Web browser and type in IP address of the Transcoder.
3. Click 'Software Upgrade.'
4. Type in the address of the local web server.
5. Click Apply.
6. The MPEG-2/MPEG-4 light should start blinking red during the upgrade. (WARNING: Do not power off SAFARI Digital Transcoder during upgrade process)
7. When the upgrade is complete, you should see the message "Upgrade OK, the board will now reboot. You will need to restart your browser."
8. Restart your browser and type in the IP address of the Transcoder.
9. Verify that the new version matches that of the firmware provided.