



# HELIUS MEDIAGATE ROUTER

SUPPORT MANUAL

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General introduction to the CD-based documentation.

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Documents the Video-Audio features of the MediaGate Router. This section correlates with the Video Services link in the Helius Management Console.

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# SECTION 1

## OVERVIEW

This manual is intended for trained personnel responsible for installation, configuration and maintenance support of the Helius MediaGate Router. This manual is intended to provide instructions on how to use the Helius Management Console™ to perform configuration, and maintenance of the Router.

A Support User is primarily responsible for setup and configuration of the server and routers, and arranging with the client to assign the appropriate bandwidth availability to their account.

This manual documents all possible functions of the router. The specific configuration of a given client may not include all of the available options and therefore, may look different than what is presented here.

This manual includes interactive components such as mouse over pop-ups, links within the document to other locations, bookmarked sections that provide a table of contents view, and links to other documents that reside on the Helius Support CD.

## Legal Declarations

All information in this document is proprietary and should not be copied or used without permission from Helius, Inc.

Use of this product is subject to acceptance of the user license agreements included with this product.

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## Versioning

MediaCore 2.8.2/3

## Safety

The Router contains parts connected to a power supply. Customers should never open the covers of a Router. No internal parts are intended to be field serviceable.



Electric shock hazard. Potentially lethal voltage.

Electrical safety measures should be used when working with the router.

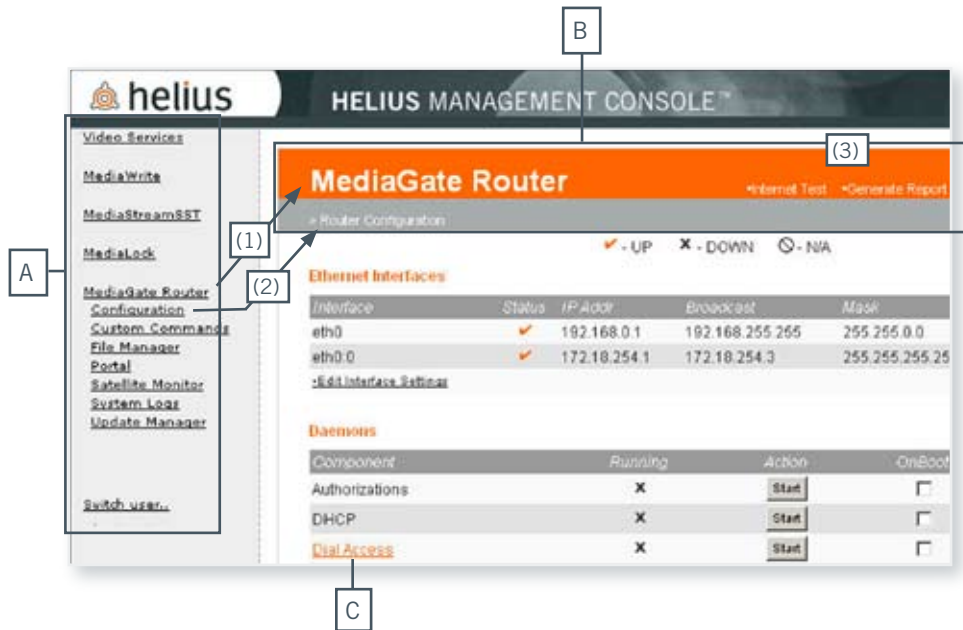


The following safety and caution procedures should be followed when working with or installing a Helius MediaGate Router.

- Do not expose the internal parts of the Router.
- Do not subject the Router to physical shock or vibration.
- Allow the Router to stabilize to room temperature before connecting and powering up.
- Prevent exposure to extreme hot or cold temperatures or moisture.
- Do not cover ventilation openings. Ensure air can circulate freely through ventilation openings.
- Do not allow fluids or objects to pass through ventilation openings.
- Do not place the Router close to an external source of heat or near devices generating magnetic fields.
- Never place in direct sunlight or expose to rain and moisture. Short circuit may cause fire or hazard.
- Use a damp chamois leather or soft cloth for cleaning. Never use an abrasive cleaner or cloth.

## The Helius Management Console

The Helius Management Console is a web-based tool that provides access to configuration, setup and maintenance options for MediaGate routers and servers. Technical support will access all configuration and maintenance options through the Helius Management Console.



### A Navigation Menu

The Navigation Menu is the main menu of the Helius Management Console. Main sections and subsections are included in the Navigation Menu. The Navigation Menu is always displayed while in the Helius Management Console.

### B Navigation Bar

The Navigation Bar is located across the top of the interface. The main section that is active (1) displays in the orange bar. Subsection information (2) displays in a link path below the main section. Some pages offer additional management pages and those links will display in the upper right hand corner of the Navigation Bar (3).

### C Links

Most links in the Helius Management Console are [underlined and orange](#).

The page that is open is the [MediaGate Router](#) > [Console](#) > [Configuration](#) page.


## How to Use this Manual

This manual is created as an interactive PDF. Some functions such as a back button will not be available but most of the mouse features function similar to a web interface.

When “jumping” to another location in the manual, use the bookmarks to return to the previous location.

Typographical conventions and symbols used in this manual are described in the next two pages.

Basic headings and subheadings are presented in blue text with no underline. Links that are available throughout the text will be set in the same shade of blue, but underlined.

Pop-ups requiring no action beyond passing the mouse cursor over the field may be present on some of the graphics. The presence of these pop-ups on a graphic will be indicated by a mouse icon . Most fields within the graphic will have a pop-up associated with the field explaining more about the field.

Link text that is blue and underlined will not have associated pop-ups that explain the link.




## Typographical Conventions


Typographical conventions are used to show the link path that should be selected in the Helius Management Console to perform an action. Within the document, some text will be linked to other locations. These links within the document use the same convention, but display in blue type to indicate they are “hotlinked” to another location.

	Example	Description	Explanation
A	<b><u>MediaWrite</u></b>	Bold, Underlined	Navigation menu link.
	<b><u><a href="#">MediaWrite</a></u></b>	Bold, Underlined, Blue	Live navigation menu link. Links within the manual to another location.
B	<b><u><i>Connections</i></u></b>	Bold, Underlined, Oblique	Navigation bar link.
	<b><u><i><a href="#">Connections</a></i></u></b>	Bold, Underlined, Oblique, Blue	Live navigation bar link. Links within the manual to another location.
C	<i>Daemons</i>	Oblique	Heading title of a section of the Console page.
	<i><u><a href="#">Daemons</a></u></i>	Oblique, Underlined, Blue	Heading title of a section of a Management Console page that links within the manual.
D	<i><u>DialAccess</u></i>	Oblique, Underlined	Title of a link within the Management Console.
	<i><u><a href="#">DialAccess</a></u></i>	Oblique, Underlined, Blue	Title of a link that is hotlinked within the manual.
E	START	All caps	Button on the Management Console.



## Symbols

Symbol	Meaning
>	Link path. Indicates link selections in the Helius Management Console to display the correct screen.
↓	Part of the link path. Indicates to scroll down the Console screen to the specified heading.
	Note Icon.
	Attention Symbol. Indicates caution should be taken.
	Mouse icon. The mouse icon indicates that there are hot spots on a graphic that provide pop-ups with additional information. Move the mouse cursor over the graphic on the page to discover the additional details of the graphic. When placed over a field with a pop-up, the pop-up should display within a second.

 The screen graphics in this manual are obtained using MS Internet Explorer 6.0. The appearance of windows in other browser versions may vary slightly but will function the same.

## Initiating a Support Connection

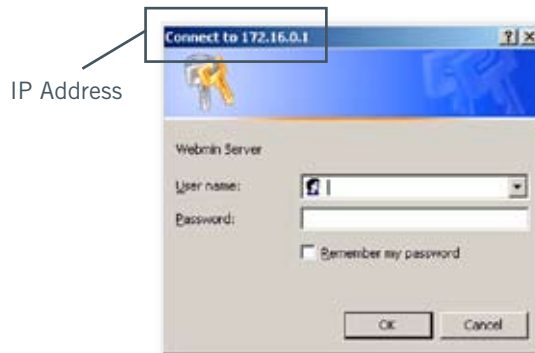
To access the client router, the IP address of the client is required.

1. Launch a web browser.
2. Specify the IP address of the equipment followed by “:1000” For example: “http://IP\_address:1000”.



Address `http://172.xxx.xxx.xxx:1000/`

The support login will display.



The IP address specified will display in the upper left hand corner of the login screen. Enter the appropriate user name and password.

Upon successful login, the default screen **MediaGate Router** > **Satellite Monitor** will display.

# SECTION 2

## VIDEO SERVICES

The Video Services section of the Management Console provides configuration and management for video, channel and file playback on the Router.



A screenshot of a menu titled "Video Services" with the following items listed below it: "Authorizations Config", "Channel Editor", "DVB to IP Config", "SAPgen Config", "Source Control", and "VA Config". Each item is underlined.

### [Authorizations Config](#)

Authorizations are used when restricted access to certain features or programs are required. This access is delegated by the Authorizations server. Authorizations Config provides the interface to identify the Authorizations server multicast address and interface.

### [Channel Editor](#)

Channel Editor provides the interface to create channels used to announce multicast video events or streams.

### [DVB to IP Config](#)

DVB to IP Config provides the interface to create and modify a video stream to be broadcast to the network.

### [SAPgen Config](#)

SAPgen Config provides the interface to setup and configure Session Announcement Protocols (SAPs).

### [Source Control](#)

Source Control provides a view of available programs (Playback Menu) and channels being received by the Router (Program Guide).

### [VA Config](#)

VA Config provides the interface to setup Video-Audio options and SAPListener settings.

## Authorizations Configuration

The Authorizations program listens for information from the assigned server authorizing a Router to receive a program. To setup and receive authorizations there must be an Authorizations server assigned and configured. The Router must be configured to receive its authorizations from the same address on which the Authorizations server is broadcasting that information.

To configure a Router to receive Authorizations, the following information needs to be gathered:

- The selected interface the Authorizations server is broadcasting on, and
- the multicast address and port of the Authorizations server.

### Steps to setup Authorizations

1. [Assign the settings of the Authorizations server.](#)
2. [Start the Authorizations service in the Daemons section of MediaGate Router > Configuration.](#)



For security reasons, if the Authorizations service is started on a Router, it will require Helius intervention or system re-imaging to disable Authorizations.

## Assign Authorizations Server

1. Select **Video Services** > **Authorizations Config**.

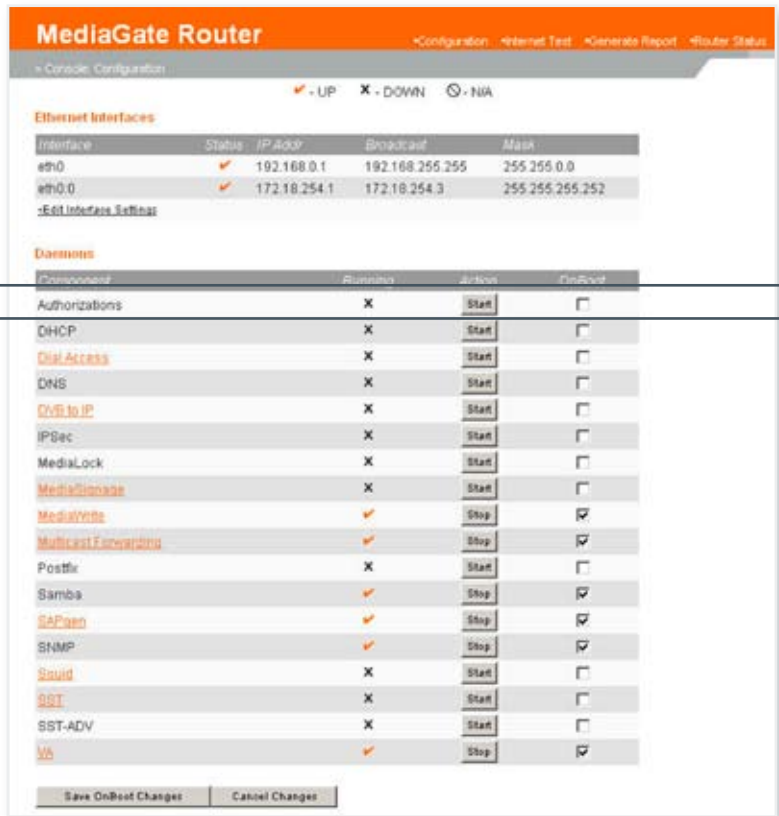


2. Select Interface for multicast address. If using MediaLock, Ipsec0 will need to be selected in addition to the physical interface.
3. Verify or change the multicast address or port of the authorizations server. This multicast address should match the Authorizations Config information on the selected server.
4. Select SAVE, if changes were made.

 If no interface is selected, this feature will not function.

## Start the Authorizations Service

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ **Daemons**.



The screenshot shows the MediaGate Router configuration interface. The 'Daemons' section is expanded, displaying a list of services. The 'Authorizations' service is highlighted with a red box. The 'Action' column for 'Authorizations' shows a 'Start' button. The 'OnBoot' column for 'Authorizations' shows an unchecked checkbox.

Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
Dial Access	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
DVI to IP	X	Start	<input type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaManager	X	Start	<input type="checkbox"/>
MediaVpn	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	✓	Stop	<input checked="" type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
SnPgen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Squid	X	Start	<input type="checkbox"/>
SST	X	Start	<input type="checkbox"/>
SST-ADV	X	Start	<input type="checkbox"/>
VS	✓	Stop	<input checked="" type="checkbox"/>

2. Select the START button in the *Action* column next to the service.
3. Activate (✓) the checkbox in the *OnBoot* column for the service to be enabled when the Router reboots or powers on.
4. Select SAVE ONBOOT CHANGES.

## Troubleshooting Authorizations

If an expected broadcast is not displayed in the Program Guide, verify that the Authorizations service is running and parameters are correctly set.

### Verify Service

To verify or start the Authorizations service, select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*. A √ should display in the *Running* column next to Authorizations. The button in the *Action* column next to Authorizations should display STOP if the service is activated.

### Verify Settings

Configuration settings are found in **Video Services** > **Authorizations Config**. These settings will identify the assigned Authorizations server.

If router settings are synchronized with the server and the service is running, verify that the server has identified the router as authorized to view the broadcast.

## Channel Editor

Channel Editor is used to create announcements of multicast video events or streams. PCs on the Local Area Network (LAN) must have a SAP enabled player such as Helius MediaStream Player in order to receive and display the information.

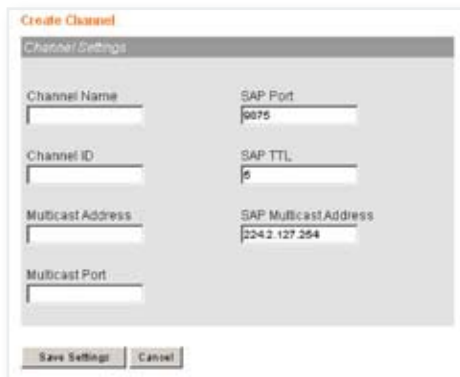
If Enable SAP is selected on the Router and DVB to IP Config is used, channel information will populate automatically. See [DVB to IP Config](#) for more information.

## Create A Channel

1. Select **Video Services** > **Channel Editor**.




2. Select CREATE CHANNEL.

The 'Create Channel' dialog box is shown with the following fields and values:

Channel Settings	
Channel Name	SAP Port
<input type="text"/>	<input type="text" value="9075"/>
Channel ID	SAP TTL
<input type="text"/>	<input type="text" value="5"/>
Multicast Address	SAP Multicast Address
<input type="text"/>	<input type="text" value="224.2.127.254"/>
Multicast Port	
<input type="text"/>	

At the bottom of the dialog are 'Save Settings' and 'Cancel' buttons.

3. Enter channel information. The SAP Port and SAP Multicast Address are set at industry default. SAP TTL may need to be increased based on the network structure.
4. Select SAVE SETTINGS.

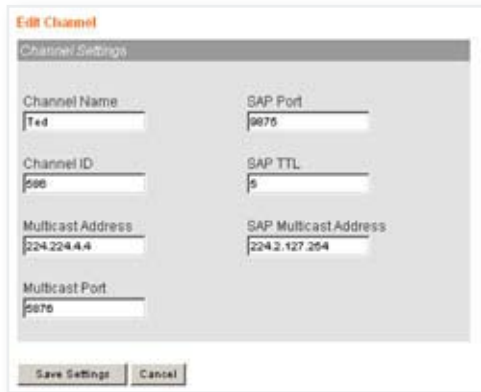
 Channel Name and Channel ID should be unique and not match other available channels in Channel Editor or the Electronic Program Guide. Channel information entered here will display in the Channel Editor and the Electronic Program Guide.

## Edit A Channel

1. Select **Video Services** > **Channel Editor**.



2. Select the highlighted Channel Name.



3. Edit settings.
4. Select SAVE SETTINGS.

## Delete A Channel

1. Select **Video Services** > **Channel Editor**.



2. Activate (✓) the checkbox to the left of the channel.
3. Select DELETE SELECTED.

## Create Event

Events can be identified and advertised for a specified channel on the network using Channel Editor.

1. Select **Video Services** > **Channel Editor**.



2. Select Events next to the channel.



3. Select CREATE EVENT.



**Create Event**

**Event Settings**

Event Name  Event ID **1**

Extended Description

Playback File

Start Time (YYYY-MM-DD HH:MM:SS)  ...

Duration (HH:MM:SS)

Single Event  Multiple Time Event  Repeat Event

**Optional Settings**

Force Record

Delete Recording At (YYYY-MM-DD HH:MM:SS)

Event SAP Address

OneTouch Host Name

Country   
United States  
Canada  
Mexico

Color Code

Content Category   
Movie/Drama  
News/Current affairs  
Show/Game show  
Sports  
Childrens/Youth Programs  
Music/Ballet/Dance  
Arts/Culture (without music)  
Social/Political issues/Economics  
Education/Science/Factual topics

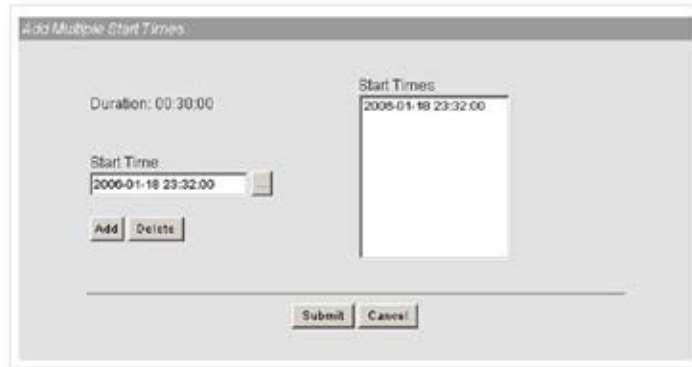
Content Description

4. Enter event information.
5. Select SAVE SETTINGS. The new event should display in the *Submitted Events* page when the *Events* link is selected.

## Multiple Event

Select Multiple time Event if the event is to be broadcast at various times and dates. If the times are repeated for several different days but at the same time, select Repeat Event.

To set multiple start times, select the Multiple Time Event radio button. The ADD Multiple Start Times window will appear.



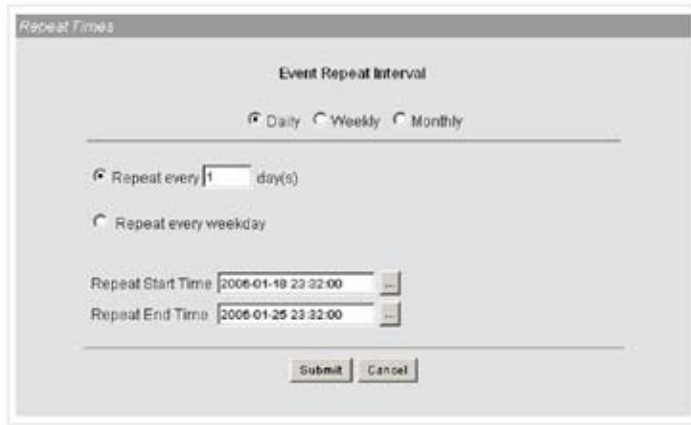
1. Select the ... button to display the calendar date selector.



2. Select the date and time.
3. Select SUBMIT.
4. Select ADD on the Multiple Time Event screen. Repeat steps 1-4 for each time slot.
5. Select SUBMIT on the Multiple Time Event screen when completed. These times may be changed at a later date by using the Edit Event feature.

## Repeat Times

Select Repeat Event if the event is to replay at the same time, but on different days, or weeks.



The 'Repeat Times' dialog box is titled 'Event Repeat Interval'. It features three radio buttons for frequency: 'Daily' (selected), 'Weekly', and 'Monthly'. Below these, there are two more radio buttons: 'Repeat every 1 day(s)' (selected) and 'Repeat every weekday'. At the bottom, there are two text input fields: 'Repeat Start Time' with the value '2006-01-18 23:32:00' and 'Repeat End Time' with the value '2006-01-25 23:32:00'. Each field has a small '...' button to its right. At the very bottom are 'Submit' and 'Cancel' buttons.

1. Select parameters for repeat interval.
2. Set the start and end times. This sets the date to begin the event repeat cycle and end the repeat cycle. Use the ... button to display the date selector.



The 'Date Selector' dialog box is titled 'Choose a date'. It displays a calendar for January 2006. The calendar grid shows days from Sunday to Saturday. To the right of the calendar are dropdown menus for 'Month' (set to 'January'), 'Year' (set to '2006'), 'Hour' (set to '23'), and 'Minute' (set to '30'). Below the calendar is a 'Date Time' field containing '2006-01-18 23:32:00' and a 'Today' button. At the bottom are 'Submit' and 'Cancel' buttons.

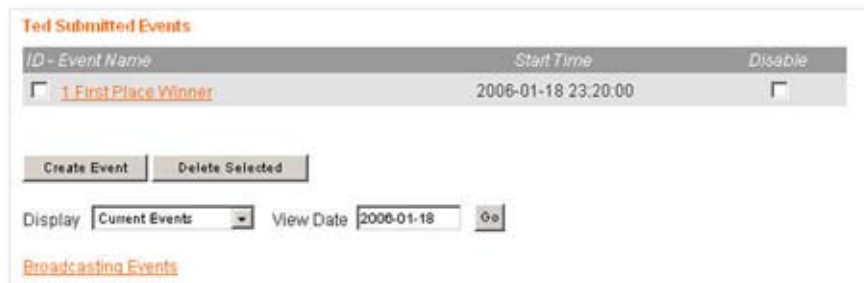
3. Select SUBMIT.
4. Select SUBMIT on the Repeat Times screen.

## Edit Event

1. Select **Video Services** > **Channel Editor**.



2. Select **Events** in the Events column of the channel row.



3. Select the highlighted name of the event to edit. The edit event page will display. For details of the fields in the edit event page, please refer to the Create Event page displayed on page 2-10.
4. Make changes.
5. Select **SAVE SETTINGS**.

## Delete Event

1. Select **Video Services** > **Channel Editor**.



2. Select Events in the *Events* column of the channel row.



3. Activate (✓) the checkbox to the left of the event name.
4. Select DELETE SELECTED.

## Disable Event

An event may be temporarily disabled by selecting the Disable checkbox in the Events page. The event may be re-enabled by de-activating the checkbox.

1. Select **Video Services** > **Channel Editor**.



2. Select Events in the *Events* column of the channel row.



3. Activate (✓) the checkbox in the *Disable* column of the event row.

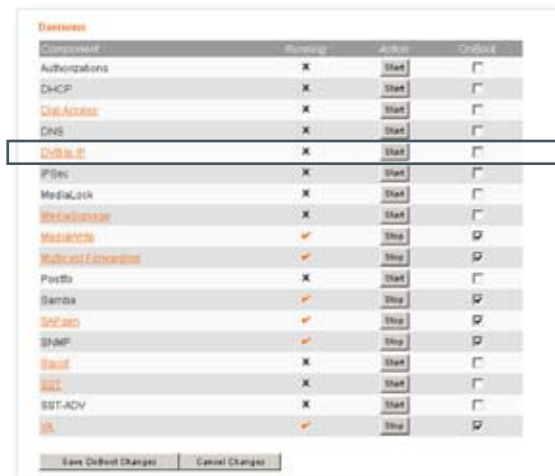
## DVB to IP Config

Digital Video Broadcast to Internet Protocol (DVB to IP) provides the ability to convert DVB to IP in order to forward the broadcasts to a network. In order for the streams to be viewed on local PCs on the network, an IP multicast viewer such as the Helius MediaStream Player needs to be present on each PC.

The DVB to IP service must be started for DVB to IP conversion to work and the Multicast Routing service must be enabled to receive and forward DVB to IP broadcasts.

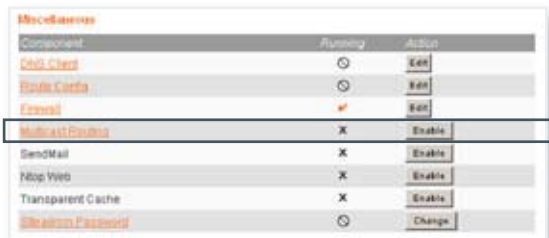
### Start DVB to IP Config Service

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
DirAccess	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
<b>DVB to IP</b>	X	Start	<input type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaManager	X	Start	<input type="checkbox"/>
MediaNds	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	✓	Stop	<input checked="" type="checkbox"/>
Parfs	X	Start	<input type="checkbox"/>
Parfs	✓	Stop	<input checked="" type="checkbox"/>
Scpfs	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Ssl	X	Start	<input type="checkbox"/>
SSL	X	Start	<input type="checkbox"/>
SSL-ADV	X	Start	<input type="checkbox"/>
UA	✓	Stop	<input checked="" type="checkbox"/>

2. Select the START button in the *Action* column next to DVB to IP.
3. Activate (✓) the checkbox in the *OnBoot* column.
4. Select SAVE ONBOOT CHANGES.
5. Scroll (↓) to *Miscellaneous*.



Component	Running	Action
CHL Client	⊙	Exit
Evolve Config	⊙	Exit
Evolve	✓	Exit
<b>Multicast Routing</b>	X	Enable
SendMail	X	Enable
Stop Web	X	Enable
Transparent Cache	X	Enable
Username Password	⊙	Change

6. Select ENABLE in the *Action* column of Multicast Routing.

## Create Stream

1. Select **Video Services** > **DVB to IP Config** > *Edit Stream Configuration*.



Status	Stopped <input type="button" value="Start"/>
Service	301 - Dandana TV
Stream Type	Program
Interface	eth0
Multicast Address	227.1.1.1
Port	7000
Packet Time To Live	1
Enable SAP	<input type="checkbox"/>

[Return to main Configuration Page](#)

2. Enter stream information.
3. Select START. The configuration window will close and return to DVB to IP Config.

## Stop Stream

1. Select **Video Services** > **DVB to IP Config** > *Edit Stream Configuration*.



The screenshot shows a window titled "Stream Configuration". The status bar at the top indicates "Streaming 301 to eth0 227.1.1.1:7000 as program" and includes a "Stop" button. Below the status bar, there are several configuration fields: "Service" is set to "301 - Dandana TV", "Stream Type" is "Program", "Interface" is "eth0", "Multicast Address" is "227.1.1.1", "Port" is "7000", "Packet Time To Live" is "1", and "Enable SAP" is unchecked. At the bottom of the window, there is a link that says "Return to main Configuration Page".

2. Select STOP.

## SAPgen Config

Session Announcement Protocols (SAPs) announce IP multicast streams to the network. A multicast address, port and interface must be specified to view announced multicast streams. Sessions announced using SAPgen will display in the Electronic Program Guide to the end user and be selectable using the remote control.

### Configure a SAP

1. Select **Video Services** > **SAPgen Config**.



The screenshot shows the Helius Management Console interface. The left sidebar contains a navigation menu with items like Video Services, Authorizations Config, Channel Editor, DVB to IP Config, Program Guide, SAPgen Config, VA Config, MediaWrite, MediaStreamSST, MediaStream, MediaLock, MediaGate Router, and Switch user. The main content area is titled 'Video Services' and 'SAPgen Config'. Below this is the 'SAPgen Configuration' section with a 'SAPgen Settings' table. The table has two columns and several rows of input fields. The fields are: Interface (eth0), Days of Events (7), SAP Frequency (in Seconds) (5), SAP Multicast Address (224.2.127.254), SAP Port (9875), SAP TTL (5), SAP Rate (Kbps) (30), and Delete Events After (30 Days). A 'Save Settings' button is located at the bottom of the configuration area. The footer of the console shows the Helius logo, copyright information (© 2004 Helius, Inc.), and the date/time (Tue Jul 5, 2005 7:13 pm).

SAPgen Settings	
Interface	Days of Events
eth0	7
SAP Frequency (in Seconds)	SAP Multicast Address
5	224.2.127.254
SAP Port	SAP TTL
9875	5
SAP Rate (Kbps)	Delete Events After
30	30 Days

2. Insert information or make changes.
3. Select SAVE SETTINGS.
4. Select **MediaGate Router** > **Console** > **Configuration** ↓ **Daemons**. This step may be skipped if the SAPgen service was already started for this router and *OnBoot* was checked.

**MediaGate Router** Configuration - Internet Test - Generate Report - Router Status

> Console: Configuration

✓ - UP   ✗ - DOWN   ⓧ - N/A

**Ethernet Interfaces**

Interface	Status	IP Addr	Broadcast	Mask
eth0	✓	192.168.0.1	192.168.255.255	255.255.0.0
eth0.0	✓	172.18.254.1	172.18.254.3	255.255.255.252

[-Edit Interface Settings](#)

**Daemons**

Component	Running	Action	OnBoot
Authorizations	✗	Start	<input type="checkbox"/>
DHCP	✗	Start	<input type="checkbox"/>
<a href="#">Dial Access</a>	✗	Start	<input type="checkbox"/>
DNS	✗	Start	<input type="checkbox"/>
<a href="#">DVR to IP</a>	✗	Start	<input type="checkbox"/>
IPSec	✗	Start	<input type="checkbox"/>
MediaLock	✗	Start	<input type="checkbox"/>
<a href="#">MediaSignage</a>	✗	Start	<input type="checkbox"/>
<a href="#">MediaVibe</a>	✓	Stop	<input checked="" type="checkbox"/>
<a href="#">Multicast Forwarding</a>	✓	Stop	<input checked="" type="checkbox"/>
Postfix	✗	Start	<input type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
<a href="#">SAPgen</a>	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
<a href="#">Squid</a>	✗	Start	<input type="checkbox"/>

5. Select START in the *Action* column next to SAPgen.
6. Activate (✓) the checkbox in the *OnBoot* column.

## Source Control

Source Control provides a snapshot of the channels and recorded video available on the Router.

## Program Guide


Channel and broadcast as well as record status may be verified using this screen. This information displays in the EPG also.

The screenshot shows the Helius Management Console interface. The left sidebar contains navigation links: Video Services, Authorizations Config, Channel Editor, DVB to IP Config, SAPgen Config, Source Control, VA Config, MediaWrite, MediaTraining, MediaStreamSST, MediaLock, MediaGate Router, MediaSignage, and Switch user. The main content area is titled 'Video Services' and shows a 'Program Guide' for 'Wed Jan 18, 2006 10:30 pm'. Below the title is a 'View Listings For' section with filters for 'satrouter', 'Jan 18, 2006', '10:30 pm', 'All Channels', and a search icon. The main table lists channels with their recording status and program information for various time slots.

Wed Jan 18, 2006		10:30 pm	11:00 pm	11:30 pm	12:00 am	>>
301	Dandana TV	Rec	No Info	No Info	No Info	No Info
304	DMC	Rec	No Info	No Info	No Info	No Info
305	Canal Algeria	Rec	No Info	No Info	No Info	No Info
306	KJC TV	Rec	No Info	No Info	No Info	No Info
307	RTV21	Rec	No Info	No Info	No Info	No Info
308	The Arabic Channel	Rec	No Info	No Info	No Info	No Info
313	NurTV	Rec	No Info	No Info	No Info	No Info
315	ADD-TV	Rec	No Info	No Info	No Info	No Info
327	Top Channel	Rec	No Info	No Info	No Info	No Info

## Playback Menu

Select Playback Menu on the Navigation Bar to display the Playback Menu. Playback Menu displays the video files available on the router. This information also displays in the Playback Menu of the end user interface.



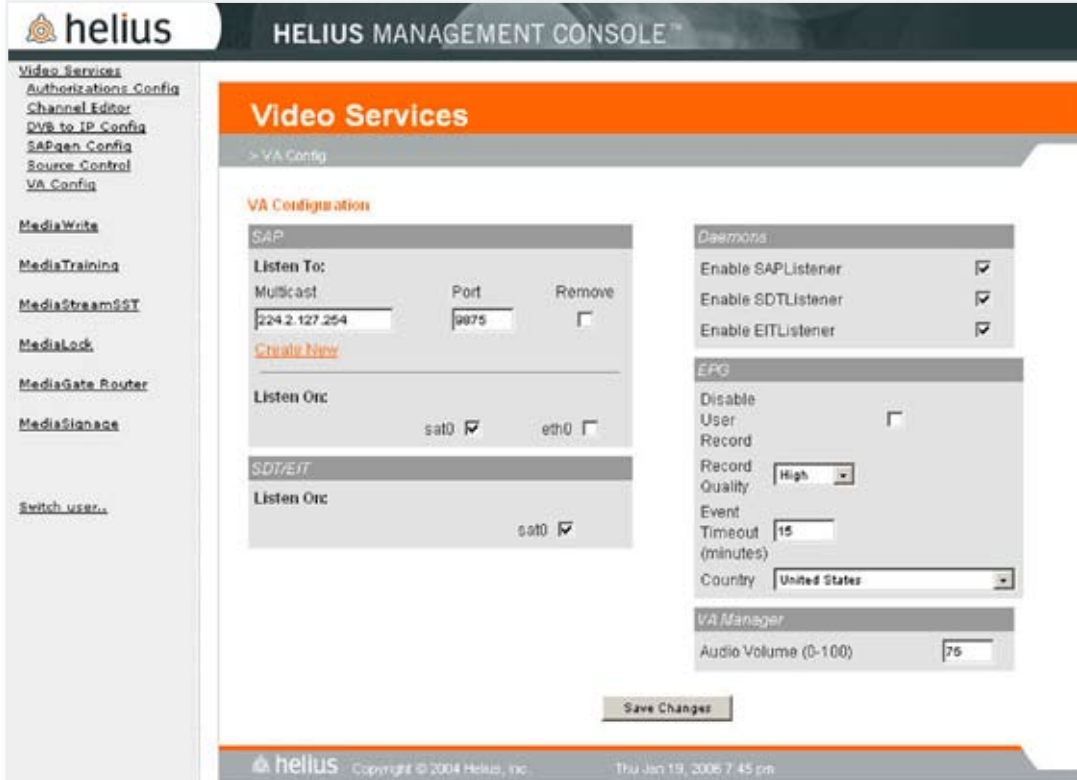
The screenshot shows the 'Video Services' interface. At the top, there is an orange navigation bar with 'Video Services' on the left and '\*Program Guide' and '\*Playback Menu' on the right. The '\*Playback Menu' link is circled in red. Below the navigation bar, the breadcrumb path '> Source Control: Playback Menu' is shown. The main content area is titled 'Playback Menu' and contains a section 'Play Files on Display...' with a dropdown menu set to 'satrouter' and a 'Go' button. Below this is a section 'Files in Content Directories' containing a table of video files.

Files in Content Directories		
<a href="#">Helius.mpg</a>	23:20 10/01/2006	
<a href="#">sst-adv-Helius.mpg</a>	23:20 10/01/2006	<a href="#">Pause/Play</a> <a href="#">Stop</a>

At the bottom of the interface, there is a footer with the 'helius' logo, 'Copyright © 2004 Helius, Inc.', and the date/time 'Thu Jan 19, 2006 6:38 pm'.

## VA Config

VA Config sets channel viewing and video playback parameters.



The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left sidebar contains a menu with the following items: Video Services, Authorizations Config, Channel Editor, DVR to IP Config, SAPgen Config, Source Control, VA Config, MediaWrite, MediaTraining, MediaStreamSST, MediaLock, MediaGate Router, MediaSignage, and Switch user... The main content area is titled "Video Services" and contains a sub-section for "VA Configuration".

**VA Configuration**

**SAP**

Listen To:

Multicast	Port	Remove
224.2.127.254	9075	<input type="checkbox"/>

[Create New](#)

Listen On:

sat0	<input checked="" type="checkbox"/>	eth0	<input type="checkbox"/>
------	-------------------------------------	------	--------------------------

**SD/EIT**

Listen On:

sat0	<input checked="" type="checkbox"/>
------	-------------------------------------

**Daemons**

Enable SAPListener	<input checked="" type="checkbox"/>
Enable SDTListener	<input checked="" type="checkbox"/>
Enable EITListener	<input checked="" type="checkbox"/>

**EFG**

Disable User Record

Record Quality: **High**

Event Timeout (minutes): **15**

Country: **United States**

**VA Manager**

Audio Volume (0-100): **75**

**Save Changes**

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Changes made in the VA section of Helius Management Console will cause VA to restart. This may cause a temporary loss of video.

## Create SAP Multicast

1. Select **Video Services** > **VA Config** > *Create New*.

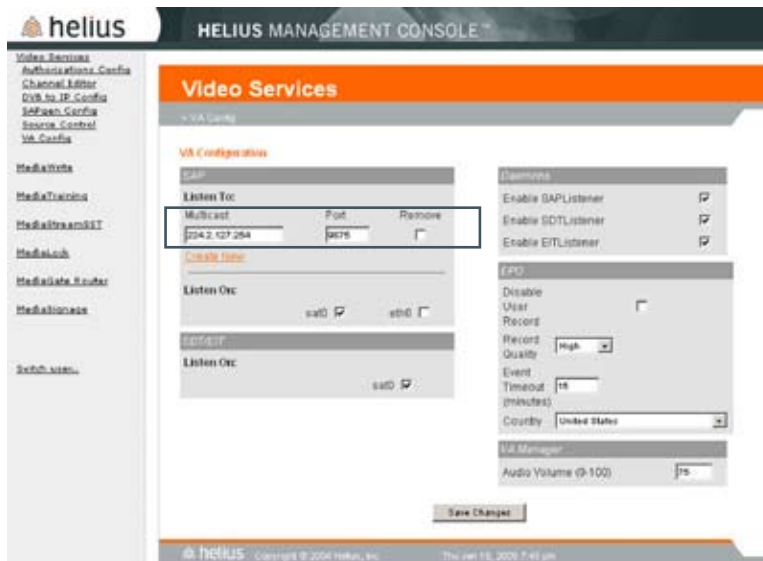


A dialog box titled "New SAP Multicast Address" with a light gray background. It contains two input fields labeled "Address" and "Port". Below these fields is a button labeled "Add Address".

2. Enter Multicast Address and Port.
3. Select ADD ADDRESS. The VA Config interface will re-display.
4. Select SAVE CHANGES.

## Delete SAP Multicast

1. Select **Video Services** > **VA Config**.



The Helius Management Console interface for Video Services. The left sidebar shows a navigation menu with options like "Video Services", "Subscriptions Config", "Channel Editor", etc. The main content area is titled "Video Services" and "VA Config". Under "VA Configuration", there is a "Listen To" section with a table:

Multicast	Port	Remove
224.2.127.254	3676	<input type="checkbox"/>

Below the table are sections for "Listen On" (with checkboxes for sat0 and eth0) and "SDT/ET". To the right, there are sections for "Listeners" (with checkboxes for Enable SAPListener, SDTListener, and ETListener), "EPO" (with a "Record" checkbox and a "Quality" dropdown set to "High"), "Event" (with a "Timeout (minutes)" input set to "15"), "Country" (set to "United States"), and "VA Manager" (with an "Audio Volume (0-100)" input set to "75"). A "Save Changes" button is at the bottom right.

2. Activate (✓) the checkbox in the *Remove* column of the *Listen To* multicast address and port of the address to be deleted.
3. Select SAVE CHANGES.

## SECTION 3

### MEDIAWRITE

MediaWrite is the Helius content distribution and management software.

[MediaWrite](#)  
[MediaViewer](#)  
[MediaViewer Admin](#)  
[License](#)

#### [MediaViewer](#)

Screen display of what files are available on the Router to a user with no password entry. These files may be downloaded to a local PC on the network through MediaViewer.

#### [MediaViewer Admin](#)

MediaViewer Admin allows modification of files in Package Manager, adjustment of settings for the Router and troubleshooting support such as access to the activity log and FEC Analysis.

#### [License](#)

View of licensing information.

## MediaViewer

MediaViewer provides the support user the same view as an end user who logs into the Helius Management Console through a customer PC with no password. MediaViewer is used by the end user to view and download available files from the Router to a PC on the network. In the support user interface, MediaViewer displays the Package Manager screen. No functions can be performed in this view by the support user.



The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left sidebar contains a menu with items such as "Video Services", "MediaWrite", "MediaViewer", "MediaViewer Admin", "Licenses", "MediaTraining", "MediaStreamSST", "MediaLock", "MediaGate Router", "MediaSessions", and "Switch user.". The main content area is titled "MediaWrite" and "MediaViewer: Package Manager". It features a table with the following data:

Package Name	Type	Size	Date	Info	Status
Sales_Training.mpg Sales Training	mpg	81.67 MB	19-Jan-2006 20:42:00		DOWNLOADING
Dress_Success.mpg Dress for Success	mpg	4.13 MB	19-Jan-2006 20:47:00		PENDING
Agency_225_Heros.mpg Heroes	mpg	183.54 MB	19-Jan-2006 21:02:00		PENDING
Having_a_bad_day.mpg Having a Bad Day	mpg	2.22 MB	19-Jan-2006 21:10:00		PENDING

Below the table is a link labeled "Refresh MediaViewer:". The footer of the interface shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Thu Jan 19, 2006 8:45 pm".

For more information on using the MediaViewer without login, refer to the MediaViewer Instruction manual.

# MediaViewer Admin


## Package Manager

Package Manager displays cataloged entries from the MediaServer. For detailed information on sections of the page, please move the mouse cursor over the section.

The screenshot shows the Helius MediaWrite Management Console. The top navigation bar includes links for Package Manager, Package Archive, Expiration Settings, Receiver Settings, Filter Settings, Database Settings, FEC Analysis, and Activity Log. The main content area is titled 'Package Manager' and displays a table of media packages. Each row includes a checkbox, package name, type, size, date, and status. A 'Deny Checked Entries' button is located below the table. The footer shows the Helius logo, copyright information, and the current date and time.

<input type="checkbox"/>	Package Name	Type	Size	Date	Info	Status
<input type="checkbox"/>	Sales_Training.mpg Sales Training	mpg	81.67 MB	19-Jan-2006 20:42:00	?	DOWNLOADING
<input type="checkbox"/>	Dress_Success.mpg Dress for Success	mpg	4.13 MB	19-Jan-2006 20:47:00	?	PENDING
<input type="checkbox"/>	Agency_225_Heros.mpg Heroes	mpg	183.54 MB	19-Jan-2006 21:02:00	?	PENDING
<input type="checkbox"/>	Having_a_bad_day.mpg Having a Bad Day	mpg	2.22 MB	19-Jan-2006 21:10:00	?	PENDING

### More Info

Detailed information about a package may be obtained by selecting the  icon.

## Package Archive

Package Archive provides a list of expired or deleted packages. Packages can have an expiration date assigned when they are created. This information initiates an automated delete function on the Router. At the date and time assigned, the package will be deleted from the Router and the package information will be preserved in Package Archive.

To permanently delete the package information, it must be deleted from Package Archive.

### Delete Package Information

1. Select **MediaWrite > Package Archive**.



2. Scroll to the package name and activate (✓) the checkbox in the left column.
3. Select DELETE CHECKED ENTRIES at the bottom of the page.

## Expiration Settings

Catalog listings are sent from the MediaServer on a regular basis for updating Package Manager with current information. If a package is absent from the catalog the specified number of times indicated in Expiration Settings, it will be removed from Package Manager.

Select **MediaWrite** > **MediaViewer Admin** > *Expiration Settings*.



MediaWrite

Package Manager Package Archive Expiration Settings Receiver Settings  
Filter Settings Database Settings FEC Analysis Activity Log

> MediaViewer Admin: Expiration Settings

### Expiration Settings

[Edit Settings](#)

Delete Entry After Missing from Catalog:  Times.

Auto-Expire Cached Packages?:

Keep Packages for:

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The expiration settings here will remove the entry as well as the package and move the package information from Package Manager to Package Archive.

-  Select SAVE SETTINGS to save changes.

## Receiver Settings

Select [MediaWrite](#) > [MediaViewer Admin](#) > [Receiver Settings](#).

Receiver Settings

Screen Refresh: 20 Seconds

Advance Connect Time: No Advance

Listen to Catalogs:

Interface: sat0

Multicast Addr: 224.100.0.1

Multicast Port: 9500

sat0 : 224.100.0.1 : 9500

Save Settings

helius Copyright © 2004 Helius, Inc. Thu Jul 7, 2005 5:03 pm

The Router default is set to listen over Sat0 unless MediaLock is licensed.

 Select SAVE SETTINGS to save changes.

## Filter Settings

Filter settings allows all packages from a particular Provider to be denied.

1. Select **MediaWrite** > **MediaViewer Admin** > **Filter Settings**.

	Accept	Deny
Default	<input checked="" type="radio"/>	<input type="radio"/>

Provider	Accept	Deny	Default
susan	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

2. Select SAVE SETTINGS to save changes.

## Database Settings

The database password may be changed.

1. Select **MediaWrite** > **MediaViewer Admin** > **Database Settings**

The screenshot displays the MediaWrite web interface for Database Settings. At the top, there is a navigation menu with links for Package Manager, Package Archive, Expiration Settings, Receiver Settings, Filter Settings, Database Settings (which is highlighted), FEC Analysis, and Activity Log. Below the navigation, the breadcrumb path is shown as MediaViewer Admin > Package Manager > Database Settings. The main content area is titled 'Database Settings' and is divided into two sections: 'Database Info' and 'Set New Password'. The 'Database Info' section shows the current database name as 'CATALOG', the user as 'catalogman', and the password as 'not displayed'. The 'Set New Password' section contains two text input fields for 'New Password' and 'Verify Password'. A 'Save Settings' button is positioned below these fields. The footer of the page features the Helius logo, the text 'Copyright © 2004 Helius, Inc.', and the date and time 'Thu Jul 7, 2006 5:03 pm'.

2. Select SAVE SETTINGS to save changes.

## FEC Analysis

FEC Analysis is used to analyze the Router package success rate in order to adjust settings on the server to optimize package delivery. Using the feedback from the Calculated Success Rates section, settings can be defined or adjusted for “good,” “better,” and “best” settings on the server.

At least one MediaWrite package transfer must be attempted before FEC Analysis can be performed successfully.

Select [MediaWrite](#) > [MediaViewer Admin](#) > [FEC Analysis](#).

MediaWrite

Package Manager Package Archive Expiration Settings Receiver Settings  
Filter Settings Database Settings FEC Analysis Activity Log

MediaViewer Admin: FEC Stats > Success Rate Table

**Parameters**

*FEC Analysis Parameters*

Limit to the previous  Transfer(s).

Limit to the previous

FEC Block Size  to

FEC Interleave Size  to

*Check to Enable Data Gathering for FEC Analysis*

Packet Statistics Enabled

**Calculated Success Rates**

FEC Setting Block/interleave Size	Success Rate (% Success/Total)
N/A	N/A

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Do not deselect Packet Statistics Enabled. This will stop the FEC Analysis tool from gathering more data from future file transfers.

## Activity Log

Selecting [MediaWrite](#) > [MediaViewer Admin](#) > [Activity Log](#) displays all package activity.

The screenshot displays the Helius Management Console interface. On the left is a navigation menu with categories like Video Services, MediaWrite, MediaViewer, MediaViewer Admin, License, MediaTraining, MediaStreamSST, MediaLock, MediaGate Router, MediaSignage, Switch user., and another Switch user.. The main content area is titled 'MediaWrite' and shows the 'Full Activity Log' for 'MediaViewer Admin: Activity Log'. The log contains a series of timestamped entries detailing system operations, such as starting services, checking tables, adding entries to a database, and receiving data from various sources. At the bottom of the log, there are sections for 'Files Downloaded from MediaViewer Admin' and 'Files Downloaded from MediaViewer', with the latter showing a specific file download from a support URL. The footer of the console includes the Helius logo, copyright information (© 2004 Helius, Inc.), and the date/time (Thu, Jan 19, 2006, 9:50 pm).

**Full Activity Log**

```
Jan 11 23:26:57 sabrouter MediaWrite[nt]: Starting Helius MediaWrite(tm) services.
Jan 11 23:26:58 sabrouter ConsistencyCheck[1019]: Checking and Repairing Tables
Jan 11 23:26:59 sabrouter Catalog_Receiver_Daemon[10197]: Catalog_Receiver_Daemon: Copyright (c) 2001 Helius, Inc. All Rights Reserved.
Jan 11 23:26:59 sabrouter Catalog_Cleaner_Daemon[10203]: Catalog_Cleaner_Daemon: Copyright (c) 2001 Helius, Inc. All Rights Reserved.
Jan 19 17:40:32 sabrouter MediaWrite[nt]: Starting Helius MediaWrite(tm) services.
Jan 19 17:40:32 sabrouter Catalog_Receiver_Daemon[1055]: Catalog_Receiver_Daemon: Copyright (c) 2001 Helius, Inc. All Rights Reserved.
Jan 19 17:40:32 sabrouter Catalog_Cleaner_Daemon[1050]: Catalog_Cleaner_Daemon: Copyright (c) 2001 Helius, Inc. All Rights Reserved.
Jan 19 20:43:35 sabrouter MediaViewerAdmin/index.cgi[19053]: Receiver Settings changed in MediaWrite.ini
Jan 19 20:43:39 sabrouter Catalog_Receiver_Daemon[18650]: Entry added to the database: "susan/Sales_Training.mpg"
Jan 19 20:43:40 sabrouter Catalog_Receiver_Daemon[18650]: Provider added to Filter table: susan
Jan 19 20:43:40 sabrouter Catalog_Receiver_Daemon[18650]: Entry added to the database: "susan/Dress_Success.mpg"
Jan 19 20:43:40 sabrouter Catalog_Receiver_Daemon[18650]: Entry added to the database: "susan/Agency_225_Heros.mpg"
Jan 19 20:43:43 sabrouter MediaWrite Received[1673]: "susan/Sales_Training.mpg": changed status to DOWNLOADING
Jan 19 20:43:43 sabrouter MediaWrite Received[18653]: created content dir for provider susan
Jan 19 20:43:43 sabrouter MediaWrite Received[18653]: "susan/Sales_Training.mpg": mode = Best Effort
Jan 19 20:43:43 sabrouter MediaWrite Received[18653]: "susan/Sales_Training.mpg": Connected to MediaCentral at 127.0.0.1:5000
Jan 19 20:43:43 sabrouter MediaWrite Received[18653]: "susan/Sales_Training.mpg": MCAddr=224.100.100.100:5800 Stream ID=2
Jan 19 20:43:43 sabrouter MediaWrite Received[18653]: "susan/Sales_Training.mpg": Waiting for data
Jan 19 20:44:55 sabrouter Catalog_Receiver_Daemon[18650]: Entry added to the database: "susan/Having_a_3rd_day.mpg"
Jan 19 20:48:57 sabrouter MediaWrite Received[18663]: "susan/Sales_Training.mpg": Transfer complete. 95941344 bytes received. FEC=10% Rate=9000000 bps
Jan 19 20:48:57 sabrouter MediaWrite Received[18663]: "susan/Sales_Training.mpg": Iteration 1: Last Packet=24396. No gaps.
Jan 19 20:47:02 sabrouter MediaWrite Received[18663]: m5sum = 56d886e22af0e0465db172294605e
Jan 19 20:47:04 sabrouter MediaWrite Received[1673]: "susan/Sales_Training.mpg": Changed status to DELIVERED
Jan 19 20:47:04 sabrouter MediaWrite Received[1673]: "susan/Dress_Success.mpg": changed status to DOWNLOADING
Jan 19 20:47:04 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": mode = Best Effort
Jan 19 20:47:04 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": Connected to MediaCentral at 127.0.0.1:5000
Jan 19 20:47:04 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": MCAddr=224.100.100.100:5800 Stream ID=2
Jan 19 20:47:04 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": Waiting for data
Jan 19 20:48:57 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": Transfer complete. 4329472 bytes received. FEC=10% Rate=9000000 bps
Jan 19 20:48:57 sabrouter MediaWrite Received[19015]: "susan/Dress_Success.mpg": Iteration 1: Last Packet=1233. No gaps.
Jan 19 20:48:57 sabrouter MediaWrite Received[19015]: m5sum = 21dcd2327492a9496d0600d23d5ea9
Jan 19 20:49:04 sabrouter MediaWrite Received[1673]: "susan/Dress_Success.mpg": Changed status to DELIVERED
```

**Files Downloaded from MediaViewer Admin**

**Files Downloaded from MediaViewer**

```
192.168.0.3 - support [19/Jan/2006:20:47:44 +0000] "GET /MediaViewerAdmin/Content/susan/Sales_Training.mpg HTTP/1.1" 200 85941344
```

helius Copyright © 2004 Helius, Inc. Thu, Jan 19, 2006, 9:50 pm

## License

The MediaWrite license key may be modified or entered here. Do not change the license key without Helius approval and information.

Select **MediaWrite** > **License**.

The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand sidebar lists various services: Video Services, MediaWrite, MediaViewer, MediaViewer Admin, License, MediaTraining, MediaStreamSST, MediaLock, MediaGate Router, MediaSignage, and Switch user.. The main content area is titled "MediaWrite" and contains a sub-section for "> License". Under "License Information", it shows "Current License Status" as "License is Valid" with a red checkmark. The "Current License Settings" section includes three input fields: "License Expiration (DD-mon-YYYY)" with the value "10-apr-2006", "License Key" with the value "07d1c2fa4194e60ed5b6c326889e", and "Product Key" with the value "HMWQQPMM". A "Save" button is located below these fields. The footer of the console shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Thu Jan 19, 2006 8:51 pm".

# SECTION 4

## MEDIASTREAM SST

### Overview

The MediaStream SST section of the Helius Management Console can be used to manage the SST and SST-ADV units connected with a specific MediaGate Router. SST and SST-ADV units allow for remote monitors to be used to display content.



SST



SST-ADV



Connections should not be made while an SST or SST-ADV is powered.  
Do not block the air vents on the sides and bottom of casing.

# SST



## OVERVIEW

The SST can be set up horizontally or vertically, and can display MediaTraining or MediaSignage content, or recorded video that is available on the Router. All SSTs on the same network should be connected to the same Router. Only one Router on a network should manage SSTs.



Video playback requires an MPEG that has an audio track. The audio track may be silent. This restriction applies only to video played on the SST.

## MEDIASIGNAGE

When displaying MediaSignage content, the SST will display only the Main Playlist of the Schedule. In order to display MediaSignage content, the SST must be assigned the zone to play. Please refer to Select a Zone later in this manual for more information.

## VIDEO PLAYBACK

When using the SST to select recorded video, the remote control may be used to select a video for playback from the Playback Menu on the MediaGate Router. The front panel of the SST must be in clear view and unobstructed and the remote control pointed directly at the sensor in order to work properly.

## POWER ON/OFF

The power button on the remote control will shut down software and some hardware features of the SST. Turning the SST off, then on again using the remote control power button causes a restart of the software.

To remove power completely, turn off and disconnect the SST. The SST must be disconnected before it can be removed from the Helius Management Console interface.

Please refer to [SST INSTALLATION STEPS](#) for information on how to install and use an SST. For more information on MediaSignage, please refer to the MediaSignage Provider Manual.

## SST Installation Steps

1. Start the SST service (see below)
2. [Add an SST](#)
3. [Connect the SST](#)
4. [Add location\(s\)](#)

### Start the SST Service

1. Select **MediaGate Router** > **Console** > **Configuration** ↓ *Daemons*.



The screenshot shows the Helius Management Console interface. The main content area is titled 'MediaGate Router' and displays configuration options. A 'Daemons' table is visible, listing various services and their status. The 'SST' service is highlighted with a red box. The 'Running' column for SST is marked with an 'X', and the 'OnBoot' column has a checked checkbox. The 'Action' column for SST shows a 'Start' button.

Component	Running	Action	OnBoot
DHCP	X	Start	<input type="checkbox"/>
File Shares	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
QoS	X	Start	<input type="checkbox"/>
HRTime	X	Start	<input type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaVid	X	Start	<input type="checkbox"/>
Samba	X	Start	<input type="checkbox"/>
SADcom	X	Start	<input type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
SSH	X	Start	<input type="checkbox"/>
SSH	✓	Stop	<input checked="" type="checkbox"/>

2. Select the START button in the *Action* column next to SST.
3. Activate (✓) the checkbox in the *OnBoot* column.
4. Select SAVE ONBOOT CHANGES.

Starting the SST service in the Daemons table will automatically start the DHCP service. The DHCP service is required for SST functionality. The Helius DHCP will be automatically reconfigured to respond only to those requests from the SST equipment and should not interfere with any other DHCP services on the network.

## Add an SST

The MAC address of the SST can be found on a label located on the underside of the SST. If an IP address is specified, instead of automatically assigned, the MAC address must be entered. This will associate the MAC and IP permanently. This information is required when two routers with SST functionality active are on the same network.

“Unregistered” may be entered for any number of SSTs attached to a router. The system will automatically assign IP addresses in all cases.

1. Select **MediaStream SST > Management**.



2. Select NEW SST.



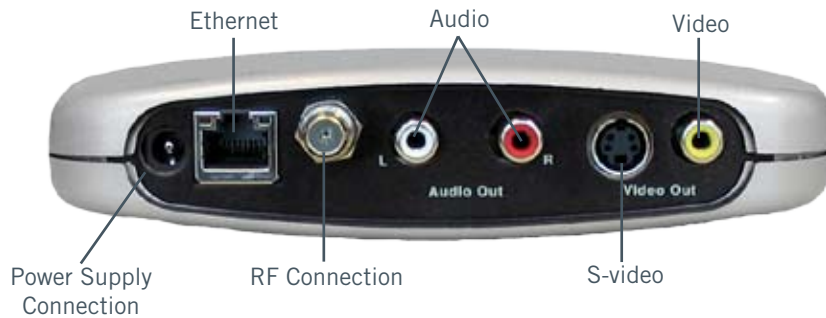
3. Enter a name, the MAC address and IP address or enter “unregistered.” Enter only the last 6 digits of the MAC address in the text box provided. Separate each 2 digits by a colon (:), for example 02:g6:0f.

## Connect the SST

1. Connect the audio and video cable(s) to the SST and the output device. The SST outputs video and audio on RF, Video-Audio RCA-type and S-video connectors simultaneously, but it is recommended that only one output be used at a time.

RCA-type connectors are color-coded for convenience. Audio connections must be used with RCA-type or S-video connections in order to have audio.

2. Connect the ethernet cable to the SST and the Local Area Network (LAN) for the MediaGate Router.
3. Connect the power supply first to the SST, then to an available 115V mains power receptacle. Power is applied.



Once power is applied to the SST, the SST will automatically retrieve configuration information. The video monitor may display splash screens, then go temporarily blank.

If the Router is already advertising the availability of video content via SAP, and the SST is configured to receive live broadcasts, the EPG screen will display with the available events on the attached monitor. By default, the SST will display live events.

To see available programs for the SST, check the Program Guide (**Video Services** > **Source Control** > **Program Guide**).

## Add Location(s)

When an SST is connected, it is automatically added to the drop down list in the Locations menu, but not assigned a location. An SST does not need a location defined in order to function.

1. Select **MediaStream SST > Locations**.



2. Select NEW LOCATION.



3. Enter a name, and select the SST from the drop down menu.
4. Select Program Guide or Playlist from the *Play List* drop down menu.
5. Select SAVE.



The Locations screen may be opened by selecting the SST link in the *Daemons* table in **MediaGate Router > Console > Configuration**.

## Restart SST

1. Select **MediaStream SST > Management**.
2. Select RESET in the *Reset* column next to the SST.

## Restart all SSTs

1. Select **MediaStream SST > Management**.
2. Select RESTART SST PROGRAM.

## Delete an SST

1. Disconnect the SST from the network.
2. Select **MediaStream SST > Locations**.
3. Activate (✓) the checkbox in the *Delete* column next to the SST.
4. Select SAVE.

## SST-ADV



### OVERVIEW

The SST-ADV can be set up horizontally or vertically and has a wireless option (antenna comes with wireless option).

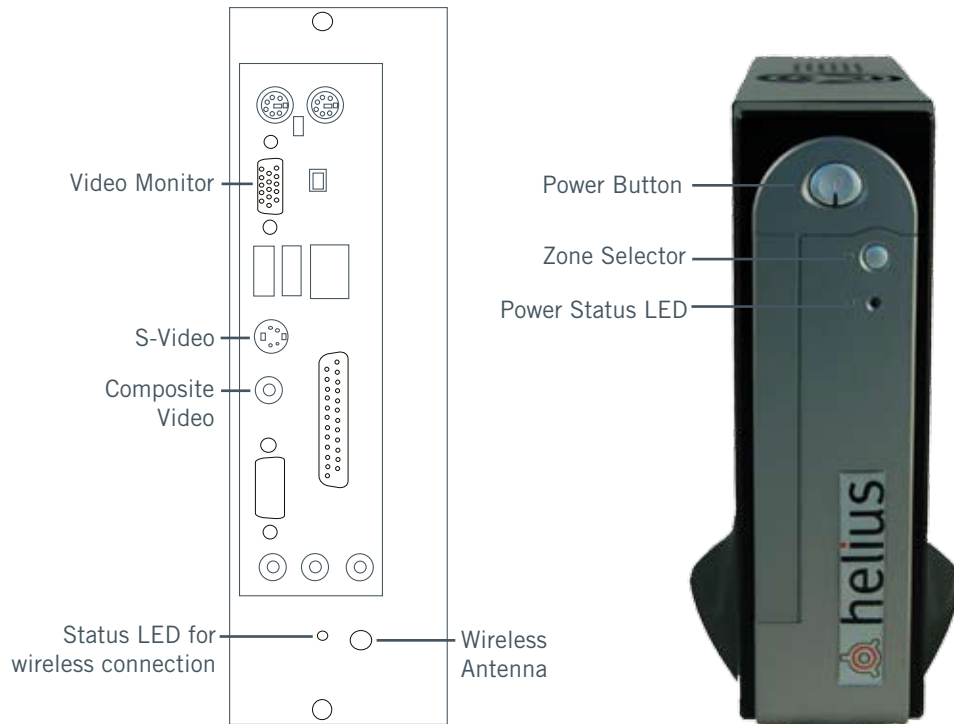
The SST-ADV is used for delivery of digital signage content using MediaSignage. The SST-ADV automatically registers when connected to the MediaGate Router network. Selection of what content is shown on the SST-ADV may be done locally from the SST-ADV or remotely by dialing in to the MediaGate Router and selecting the zone. See [Selecting an SST-ADV Schedule](#) in this section.

### MEDIASIGNAGE

When displaying MediaSignage content, the SST-ADV will display the configuration assigned by the Schedule. An SST-ADV may be assigned a zone to play either by logging in to the MediaGate Router or pressing the channel selection button on the front of the SST-ADV. Please refer the MediaSignage Provider Manual for more information about MediaSignage and the SST-ADV.

## SST-ADV Installation

The SST-ADV may be installed as wireless or connected via Ethernet. The SST-ADV downloads content from the MediaGate Router to play on a locally attached monitor or TV. The MediaGate Router must be connected, and functioning and have received the first Schedule prior to connecting and powering the SST-ADV on.



1. Connect the video output to the appropriate video connection. Connection will be either using a monitor (Video Monitor), S-video or composite connections. Not all three will be used at the same time.
2. Connect the audio cables.
3. Set the SST-ADV on a stable foundation. A stand is enclosed to aid in placement.
4. Press the power button on the front of the SST-ADV to power on.

The SST-ADV will automatically configure and connect to the MediaGate Router and download the first Schedule. The default zone will begin playback on the SST-ADV.

## Selecting the SST-ADV Schedule

When the SST-ADV is first powered on it will download all zone schedules from the MediaGate Router and assign itself the default zone.

Zones may be changed in two ways:

1. Press the zone selection button on the front of the SST-ADV.
2. Log in to the MediaGate Router and assign the zone.



Zone selection button

\*\*\*Housewares\*\*\* Zone

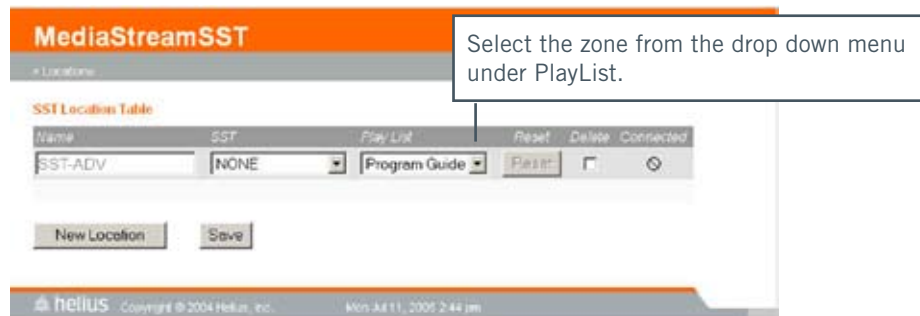
Each press and release of the zone selection button cycles through the zones available.

When the desired zone displays as above, stop pressing the zone selection button. Within 5 seconds, the SST-ADV will begin updating the zone by downloading the information from the MediaGate Router.

Downloading of files may take a few minutes.

OR

Log in to the MediaGate Router. Select **MediaStream SST** > **Locations**.

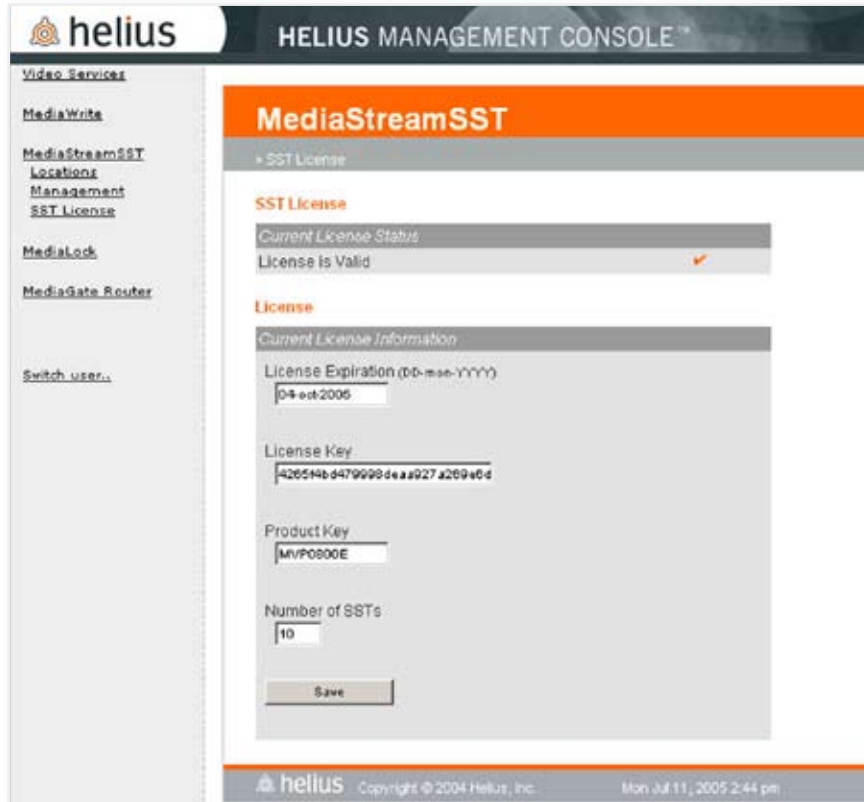


## SST License

A license must be obtained for the expected number of SSTs and SST-ADVs that will be used on the network with the Router.

License information can be verified or changed on this screen. Do not make any license changes without Helius involvement.

Select **MediaStream SST** > **License**.



The screenshot displays the Helius Management Console interface. The main content area is titled "MediaStreamSST" and contains a section for "SST License". Under "SST License", there is a "Current License Status" section indicating "License is Valid" with a checkmark. Below this is a "License" section with "Current License Information". The information includes: "License Expiration (dd-mm-yyyy)" set to "04-oct-2005", "License Key" set to "42654bd479998dea927a269e6d", "Product Key" set to "MVP0800E", and "Number of SSTs" set to "10". A "Save" button is located at the bottom of the form. The footer of the console shows the Helius logo, copyright information for 2004, and the date/time: "Mon Jul 11, 2005 2:44 pm".

The total number of SSTs licensed on this page must include all SSTs and SST-ADVs that will be used in conjunction with this MediaGate Router.

# SECTION 5

## MEDIALOCK

MediaLock is the Heliuss secure data encryption system. This feature provides IP-Sec security in a one-way satellite environment without requiring a back channel. MediaLock requires additional hardware called a MediaLock Gateway to perform encryption of data. The Heliuss MediaGate Router performs the decryption of data.

Receiver view is a support tool to view the output of an IPsec look command. The data from this screen can be compared with the data on the MediaLock hardware at the NOC to troubleshoot MediaLock problems or to verify proper security on the system.



The screenshot displays the Heliuss Management Console interface. The main content area is titled "MediaLock" and shows the "Receiver View" output of an IPsec look command. The output is as follows:

```
satrouter.nodomain Wed Feb 1 21:53:21 GMT 2006
Destination Gateway Gateway Flags MSS Window irtt Iface
63.29.129.0 0.0.0.0 255.255.255.0 U 40 0 0 sat0
```

The footer of the console shows the Heliuss logo, copyright information for 2004 Heliuss, Inc., and the date and time: Wed Feb 1, 2006 9:53 pm.

# SECTION 6

## MEDIAGATE ROUTER

### Overview

The Helius MediaGate Router section provides configuration and settings options, access to custom commands and file upload as well as maintenance and troubleshooting features.

A screenshot of a menu for the MediaGate Router. The menu items are: MediaGate Router, Console, Custom Commands, File Manager, Portal, Satellite Monitor, System Logs, and Update Manager. Each item is underlined.

MediaGate Router  
Console  
Custom Commands  
File Manager  
Portal  
Satellite Monitor  
System Logs  
Update Manager

#### [Console](#)

Local Router settings for ethernet, time and services, plus test, status and report features.

#### [Custom Commands](#)

A set of custom commands that initiate tests or functions on the Router.

#### [File Manager](#)

File Manager provides the Graphical User Interface (GUI) for accessing files on the Router. This interface is limited in order to protect the Router from accidental file deletion.

#### [Portal](#)

Portal provides an overall snapshot of current router channel and file playback activity, status and general information.

#### [Satellite Monitor](#)

View of satellite settings and signal strength.

#### [System Logs](#)

Detailed list of available logs for troubleshooting.

#### [Update Manager](#)

Interface for downloading and applying patches.

# Console

## Configuration

MediaGate Router > Console > Configuration.



**helius HELIUS MANAGEMENT CONSOLE™**

**MediaGate Router** Configuration | Network Test | Generate Report | Router Status

Console Configuration

UP - DOWN - N/A

### Ethernet Interfaces

Interface	Status	IP Addr	Broadcast	Mask
eth0	✓	192.168.0.1	192.168.255.255	255.255.0.0
eth0.0	✓	172.18.254.1	172.18.254.3	255.255.255.252

### Daemons

Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
Dial Access	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
DoS to IP	✓	Stop	<input checked="" type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaSpine	X	Start	<input type="checkbox"/>
MediaVids	✓	Stop	<input checked="" type="checkbox"/>
Multicast Forwarding	✓	Stop	<input checked="" type="checkbox"/>
Postfix	X	Start	<input type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
SMTPd	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Snout	X	Start	<input type="checkbox"/>
SST	X	Start	<input type="checkbox"/>
SST-ADV	X	Start	<input type="checkbox"/>
VA	✓	Stop	<input checked="" type="checkbox"/>

Save OnBoot Changes | Cancel Changes

### Time Settings

Local Time	Time Zone
Wed Feb 1 22:03:20 GMT 2006	GMT

### Miscellaneous

Component	Running	Action
ONS Client	⊙	Edit
Route Config	⊙	Edit
Forward	✓	Edit
Multicast Routing	X	Enable
SendMail	X	Enable
Ntop Web	X	Enable
Transparent Cache	X	Enable
Webadmin Password	⊙	Change

helius Copyright © 2004 Helius, Inc. Wed Feb 1, 2006 10:03 pm

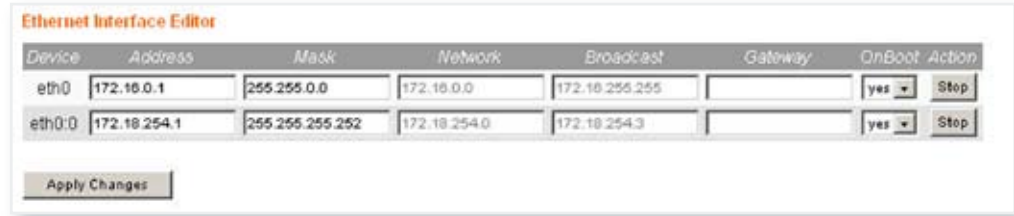
## Edit Ethernet Interfaces



Interface	Status	IP Addr	Broadcast	Mask
eth0	✓	192.168.0.1	192.168.255.255	255.255.0.0
eth0:0	✓	172.18.254.1	172.18.254.3	255.255.255.252

[Edit Interface Settings](#)

1. Select *Edit Ethernet Interfaces*.



Device	Address	Mask	Network	Broadcast	Gateway	OnBoot	Action
eth0	172.16.0.1	255.255.0.0	172.16.0.0	172.16.255.255		yes ▾	Stop
eth0:0	172.18.254.1	255.255.255.252	172.18.254.0	172.18.254.3		yes ▾	Stop

[Apply Changes](#)

2. Once modifications have been made, select APPLY CHANGES.

## Daemons

This section provides descriptions of links that are not available elsewhere for the services available through the Daemons table. Scroll down to the Daemons table on the Configuration page.

### Dial Access

Component	Running	Action	OnBoot
Authorizations	X	Start	<input type="checkbox"/>
DHCP	X	Start	<input type="checkbox"/>
<b>Dial Access</b>	X	Start	<input type="checkbox"/>
DNS	X	Start	<input type="checkbox"/>
DVB to IP	✓	Stop	<input checked="" type="checkbox"/>
IPSec	X	Start	<input type="checkbox"/>
MediaLock	X	Start	<input type="checkbox"/>
MediaWrite	✓	Stop	<input checked="" type="checkbox"/>
Samba	✓	Stop	<input checked="" type="checkbox"/>
SAPgen	✓	Stop	<input checked="" type="checkbox"/>
SNMP	✓	Stop	<input checked="" type="checkbox"/>
Squid	X	Start	<input type="checkbox"/>
SST	X	Start	<input type="checkbox"/>
VA	✓	Stop	<input checked="" type="checkbox"/>

DVP to IP, MediaWrite, SAPgen, SST and VA are covered in those sections of this manual.

Please select the appropriate bookmark link to jump to that section to learn more about the interface displayed by selecting this link in the Daemons section.

1. Select *Dial Access*.



**Dialup Global Data**

Global Data

Inactivity Timeout (min.)

Modem Initialization

Enable auto dial  Enable modem sound

Status: Disconnected

**Dialup Account Data**

Order	Phone Number	Username	Password
1	5551212	USER	PASSWORD
2			

2. Enter dial-up access information.
3. Select APPLY, then OK.



When adding a new account, the priority number determines the order in which it is dialed. If a new account is assigned the same priority as an existing account, it will be placed after the existing account on the list.

## Squid

Squid uses access policies to either allow or deny access to domains.

### Configure Access Policies

1. Select the Squid link in the *Daemons* table.

**Browsing - Default Access**

Default Access Policy:  Allow  Deny

**Browsing - Access Control Lists** New ACL

Name	Policy	Remove
------	--------	--------

Save Cancel

2. Select New ACL.

**Access Control List**

Configuration

Name:

Type: Destination Domain

Policy:  Allow  Deny  None

Domains:  Add Domain

Remove Domains

Save Cancel

3. Enter the policy information.
4. Select ADD DOMAIN. Repeat for each domain.
5. Select SAVE.

# Time Settings

## Local Time



**helius HELIUS MANAGEMENT CONSOLE™**

MediaGate Router [Internal Test](#) [Generate Report](#)

Router Configuration: Configuration > Time Settings and Synchronization

Current system time: Tue Jul 19 13:55:55 UTC 2005

### Helios Time Communication

Settings

Multicast Address: 224.0.1.1

UDP Port: 140

### Helios Time Server

Time Server Settings

Communication Interface: eth0

Multicast Interval: 300

TTL: 5

### Helios Time Client

Time Client Settings

Communication Interface: eth0

Step Time Threshold (sec): 30

Reset Time Threshold (sec): 3600  Reboot

Consecutive Packets for Average: 3

Time Packet Tolerance (pkts): 2

### Enable NTP Time

Client Option (time consumed)

Broadcast  Receive only (noNtp) Broadcast Delay (in seconds): 300

Time Source Servers

Server:

Server:

Server:

### Change System Date and Time

Source	Day	Date	Month	Year	Hour	Min	Sec	Time Zone
Hardware:	Tue	19	Jul	2005	13	55	19	n/a
System:	Tue	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	UTC

### Set to Satellite Time

Source	Day	Date	Month	Year	Hour	Min	Sec	Time Zone
Satellite:	n/a	0	0	0	0	0	0	n/a

None

helius Copyright © 2004 Helius, Inc. Tue Jul 19, 2005 1:55 pm

## Time Zone

### Set Time Zone



1. Select the highlighted text under *Time Zone*.



2. Select the ... button to display a drop down list with selections for time zone.



3. Select the time zone, then select OK. The Time Zone Editor screen will re-display with the selection in the text box.
4. Select APPLY. The screen will refresh and display the changes made.

## Miscellaneous

### DNS Client

#### Identify a DNS Server



Component	Running	Action
DNS Client	<input type="checkbox"/>	Edit
Route Config	<input type="checkbox"/>	Edit
Firewall	<input checked="" type="checkbox"/>	Edit
Multicast Routing	X	Enable
SendMail	X	Enable
Ntop Web	X	Enable
Transparent Cache	X	Enable
Siteadmin Password	<input type="checkbox"/>	Change

1. Select DNS Client or the EDIT button to set the hostname and domain.



**Edit DNS Options**

DNS Client Options

Hostname: mgr.helius.net

DNS Servers: 127.0.0.1

Save DNS

2. Enter DNS server address.
3. Select SAVE DNS.

## Route Config

### Add A Route



Component	Running	Action
DNS Client	<input type="checkbox"/>	Edit
Route Config	<input type="checkbox"/>	Edit
Firewall	<input checked="" type="checkbox"/>	Edit
Multicast Routing	X	Enable
SendMail	X	Enable
Ntop Web	X	Enable
Transparent Cache	X	Enable
Siteadmin Password	<input type="checkbox"/>	Change

1. Select *Route Config* or the EDIT button in the *Action* column.



**Route Config**

Current Routes

No Routes found.

Add Route Delete Routes

2. Select ADD ROUTE.



**Route Config**

Add Route

Network  Netmask

Gateway

Interface

Add Route Cancel

3. Enter network information and select interface or gateway address. At this time, you cannot use slash notation to specify a subnet mask. Subnet masks should be entered in 255.255.0.0 format, not /16.
4. Select ADD ROUTE to save.

## Edit a Route



1. Select the route link in the *Current Routes* column.



2. Make changes.
3. Select ADD ROUTE to save changes.

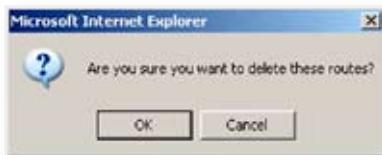
## Delete a Route



1. Select Route Config or EDIT.



2. Activate () the checkbox in the *Delete* column.
3. Select DELETE ROUTES.



4. Select OK to confirm route deletion.

## Firewall



Three choices are available for configuration: Blocking, Redirect and NAT.

### ***Blocking***

Blocking allows specific ports or IP addresses to be identified for blocking.

### ***Redirect***

Redirect creates rules to forward a request on a specific incoming port to another IP address on the Local Area Network (LAN). Redirect can only apply to incoming packets originating from outside the network and requires a public IP address.

### ***NAT***

Network Address Translation (NAT) is used to change outgoing traffic to the IP address specified.

## ***Blocking***

### ***Set Blocking Rule***

1. Select *Blocking*.



The screenshot shows a dialog box titled "Current Blocking Rules". It features a table with three columns: "IP Address", "Port", and "Delete?". Below the table is a link labeled "Add New Rule" and two buttons: "Save" and "Cancel".

IP Address	Port	Delete?
------------	------	---------

[Add New Rule](#)

Save Cancel

2. Select *Add New Rule*.



The screenshot shows a dialog box titled "Add New Blocking Rule". It has a "Rule Properties" section with two input fields: "IP Address" and "Port". Below the fields are "Save" and "Cancel" buttons.

Rule Properties

IP Address

Port

Save Cancel

3. Enter an IP address and port.
4. Select SAVE. Repeat for each IP and port. Select SAVE for each entry.

### ***Delete Blocking Rule***

1. Select *Blocking*.



The screenshot shows the "Current Blocking Rules" dialog box with one rule added. The table has a row with "192.168.0.6" in the "IP Address" column, an empty "Port" column, and a checked checkbox in the "Delete?" column. The "Add New Rule" link and "Save" and "Cancel" buttons are also visible.

IP Address	Port	Delete?
192.168.0.6		<input checked="" type="checkbox"/>

[Add New Rule](#)

Save Cancel

2. Activate (✓) the checkbox in the *Delete* column next to the rule.
3. Select SAVE.

## Redirect

### Add Redirect Rule

1. Select *Redirect*.

Current Redirect Rules

Incoming Port	New IP Address	New Port	Delete?
---------------	----------------	----------	---------

[Add New Rule](#)

Save Cancel

2. Select *Add New Rule*.

Add New Redirect Rule

Rule Properties

Incoming Interface: eth0  
Incoming Port:   
Protocol: top  
New IP Address:   
New Port:

Save Cancel

3. Enter the port information of the incoming packets and the IP address and port to redirect the packet through.
4. Select SAVE.

### Delete Redirect Rule

1. Select *Redirect*.

Current Redirect Rules

Interface	Incoming Port	Protocol	New IP Address	New Port	Delete?
eth0	9500	top	172.16.0.54	5800	<input checked="" type="checkbox"/>

[Add New Rule](#)

Save Cancel

2. Activate (✓) the checkbox in the *Delete* column of the blocking rule to be deleted.
3. Select SAVE.

## NAT

### NAT Configuration

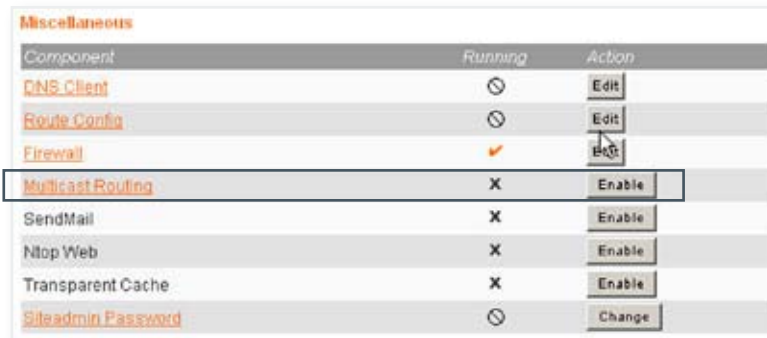
1. Select NAT.



2. Select or change *Target*.
3. Activate (✓) the checkbox in the *Add/Retain* column.
4. Select SAVE.

## Multicast Routing

### Enable Multicast Routing



1. Select ENABLE.
2. Select Multicast Routing.



3. Activate (✓) the checkbox next to the interface.
4. Select SAVE.

## Internet Test

1. Select *Internet Test* in the navigation bar.



2. Enter the target information. Timeout seconds equal how long to run the test before stopping.
3. Select START TEST. Using the ENTER key on the keyboard will not work.

```
Internet test in progress.

PING 192.168.0.9 (192.168.0.9): 56 octets data
64 octets from 192.168.0.9: icmp_seq=0 ttl=64 time=0.1 ms
64 octets from 192.168.0.9: icmp_seq=1 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=2 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=3 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=4 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=5 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=6 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=7 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=8 ttl=64 time=0.0 ms
64 octets from 192.168.0.9: icmp_seq=9 ttl=64 time=0.0 ms

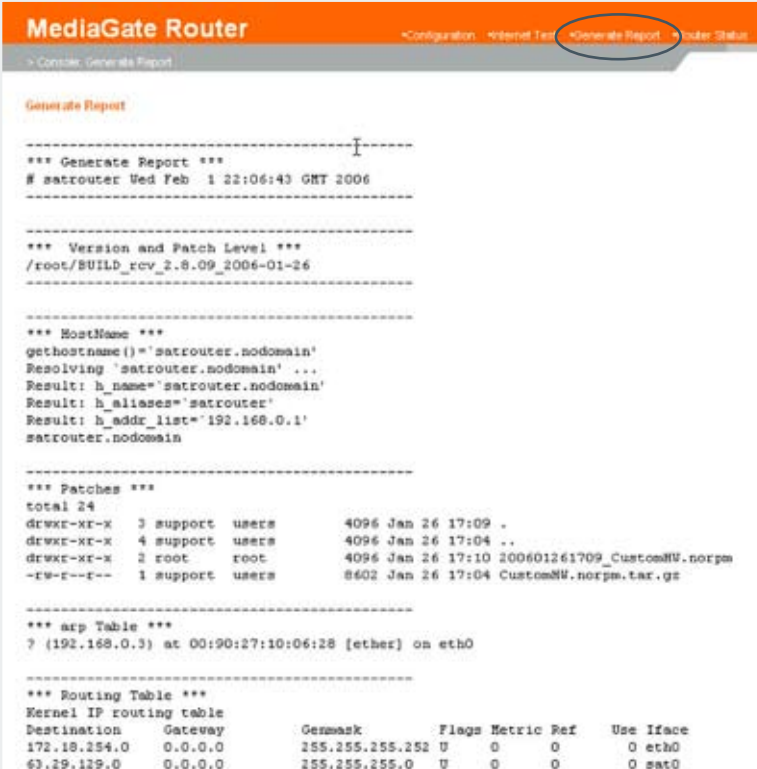
--- 192.168.0.9 ping statistics ---
10 packets transmitted, 10 packets received, 0% packet loss
round-trip min/avg/max = 0.0/0.0/0.1 ms

Connectivity Status: Good internet connection
```

The Internet Test results will display onscreen.

## Generate Report

Select **Generate Report** on the Navigation Bar of the Configuration page.



```
MediaGate Router
<Configuration <Internet Test <Generate Report <Router Status
> Console: Generate Report

Generate Report
-----
*** Generate Report ***
# satrouter Wed Feb 1 22:06:43 GMT 2006
-----

*** Version and Patch Level ***
/root/BUILD_rcv_2.8.09_2006-01-26
-----

*** HostName ***
gethostname()="satrouter.nodomain"
Resolving 'satrouter.nodomain' ...
Result: h_name="satrouter.nodomain"
Result: h_aliases="satrouter"
Result: h_addr_list="192.168.0.1"
satrouter.nodomain
-----

*** Patches ***
total 24
drwxr-xr-x 3 support users 4096 Jan 26 17:09 .
drwxr-xr-x 4 support users 4096 Jan 26 17:04 ..
drwxr-xr-x 2 root root 4096 Jan 26 17:10 200601261709_CustomHW.norpm
-rw-r--r-- 1 support users 8602 Jan 26 17:04 CustomHW.norpm.tar.gz
-----

*** arp Table ***
? (192.168.0.3) at 00:90:27:10:06:28 [ether] on eth0
-----

*** Routing Table ***
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
172.18.254.0 0.0.0.0 255.255.255.252 U 0 0 0 eth0
63.29.129.0 0.0.0.0 255.255.255.0 U 0 0 0 sat0
```

Ethernet and hardware (MAC) addresses may be found in Generate Report for configuration purposes.

## Router Status

To select **Router Status**, go to **MediaGate Router > Portal** and select the *more router details* link in the bottom portion of the screen.

## Custom Commands



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# Custom Commands

[Help](#)

**RunLevel**  
RunLevel ( 0-6)   
Are you sure  Yes  No

**Enable/Disable Softdog**  
Disable  Yes  No  
Reboot  Yes  No

**Send Text to message log**  
Text to send to /var/log/messages

**TCPDUMP**  
Interface [sa0]   
Options   
Max Seconds to run [30 sec]

**grep /var/log/messages**  
String to search for   
Options

**Tail /var/log/messages**  
Max Duration (120 secs default)

**Running Processes**

**mailq**

**sendmail now**

**Reapply CustomHW Patch**  
Are you sure?  Yes  No

**Upreconds**

**Dial-up logs**  
Number of lines (200)

**SOF**

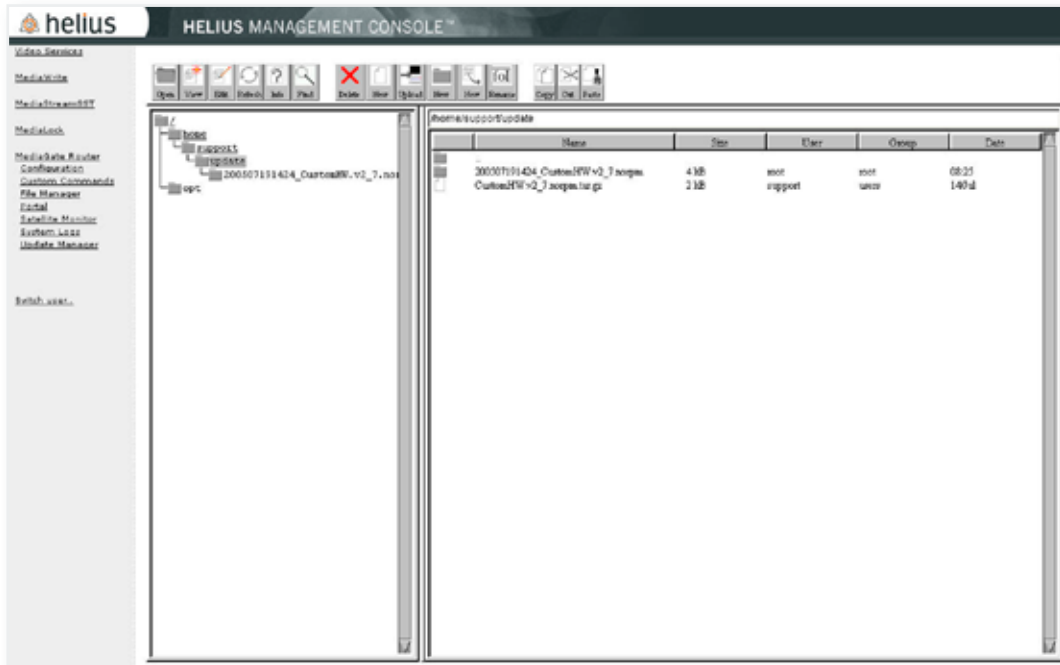
**mouted stats**

**Drop SDT tables**  
Are you sure?  Yes  No  
Reboot Router?  Yes  No

**Media Services**  
MediaWrite  
MediaTraining  
MediaStreamSST  
MediaLock  
MediaGate Router  
Console  
Custom Commands  
File Manager  
Portal  
Satellite Monitor  
System Logs  
Update Manager  
MediaSessions  
Switch user...

## File Manager

File Manager is a Graphical User Interface (GUI) that allows an administrator to access files on the MediaGate Router. Limited access is available to protect the Router from accidental file deletion.



Use the tool buttons to manage the files.



File Manager is a Java application and some Windows features such as dragging and dropping files are not available. File transfer will be slow.

## Portal

The Portal provides a snapshot of Router status, channels available and files actively playing as well as modem functions.



**helius HELIUS MANAGEMENT CONSOLE**

**MediaGate Router**

Portal

**Helius Router Links**  
[Router Status Monitor](#)  
[MediaCenter](#)

**Helius Support Services**  
 Helius +1.801.764.9020

**Status Overview**

Interface	sat0
Router Name	satrouter.hodomain
Signal Strength	62
Signal Received	✓
Frontend Locked	✓
Carrier Locked	✓
MAC Address	00 D0 5C 23 8D 8C
Satellite IP Address	192.168.100.1

[More router details](#)  
[Configure a router configuration report](#)

**Channel Selector**  
 Please select desired channel:

- 300 The Radio Channel
- 313 NewTV
- 315 Ado TV
- 327 Top Channel
- 2000 Pfizer General Channel
- 2001 Training Private Channel
- 2002 NHO Private Channel
- 2003 DM Private Channel
- 2004 CEC Private Channel
- 2005 RM DM Private Channel
- 2007 2007
- 2006 2006

**Play Video File**

**Modem Control**  
 Status: ✗ Disconnected  
 IP Address:   
 Modem:    
 Enable auto dial:

helius Copyright © 2004 Helius, Inc. View: Feb 1, 2004 13:02 pm

**Test Results**

Name	Status	Details
Satellite Signal	✗	<a href="#">Details</a>
Signal BER	✗	<a href="#">Details</a>
Signal Strength (%)	⊕	<a href="#">Details</a>
Multicast Data	✗	<a href="#">Details</a>
Video & Audio	✗	<a href="#">Details</a>
SAP Services	✗	<a href="#">Details</a>
Authorizations	(NotStarted)	<a href="#">Details</a>
Mediarite	✓	<a href="#">Details</a>
Mail Services	✓	<a href="#">Details</a>
BST Services	(NotStarted)	<a href="#">Details</a>
Uptime Records	0 days, 00:11:20	<a href="#">Details</a>
Longest / # Reboots	1 day, / 4	<a href="#">Details</a>
Disk Usage	✗	<a href="#">Details</a>
Error Messages	* Warning	<a href="#">Details</a>
System Activity Report	(NA)	<a href="#">Details</a>

**Backup Global Data**

**Global Data**

Inactivity Timeout (min.):

Modem Initialization:

Enable auto dial  Enable modem sound

Status: Disconnected

**Backup Account Data**

Order	Phone Number	Username	Password
1	0051212	USER	PASSWORD
2			

## Satellite Monitor



**helius HELIUS MANAGEMENT CONSOLE**

Widep Services  
MediaWrite  
MediaTraining  
MediaStreamSST  
MediaLock  
**MediaGate Router**  
Console  
Custom Commands  
P/A Manager  
Portal  
Satellite Monitor  
System Logs  
Update Manager  
MediaEncaps

Switch user...

### MediaGate Router

Satellite Monitor

Satellite Monitor for satrouter.todomain

Interface	Frontend Locked	Signal Received	Carrier Locked	BER	Signal Strength	Edit
sat0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0.0e+00		62 <a href="#">Tuner</a> <a href="#">PIDs</a>

Satellite Network

Interface	HW Address	IP Address	Sat. Gateway	Mask	Default GW
sat0	sat0	00:D0:5C:23:8D:8C	192.168.100.1	63.29.129.100	255.255.255.0

helius Copyright © 2004 Helius, Inc. View File 1, 2006 10:00 pm

Satellite Monitor provides configuration options and status information for the satellite connections.

## Sat0

The Sat0 link opens a configuration page for the network.



Satellite Controls for sat0

Actions  
[Edit Allowed IP Options](#)

License Information for sat0

Item	Status
Expiration	17-oct-2005
Key	beca6c5222c6e76512abfa68d6ab5246
Product Key	HSR9800E
License Status	<input checked="" type="checkbox"/>

Allowed IP Options for sat0

Option		
<input type="checkbox"/> 2 Security	<input type="checkbox"/> 12 MTU Reply	<input type="checkbox"/> 22
<input type="checkbox"/> 3 Loose Source Route	<input type="checkbox"/> 13 Experimental Flow Control	<input type="checkbox"/> 23
<input type="checkbox"/> 4 Time Stamp	<input type="checkbox"/> 14 Experimental Access Control	<input type="checkbox"/> 24
<input type="checkbox"/> 5 Extended Security	<input type="checkbox"/> 15 ENCODE	<input type="checkbox"/> 25
<input type="checkbox"/> 6 Commercial Security	<input type="checkbox"/> 16 IMI Traffic Descriptor	<input type="checkbox"/> 26
<input type="checkbox"/> 7 Record Route	<input type="checkbox"/> 17 EIP	<input type="checkbox"/> 27
<input type="checkbox"/> 8 Stream ID	<input type="checkbox"/> 18 Traceroute	<input type="checkbox"/> 28
<input type="checkbox"/> 9 Strict Source Route	<input type="checkbox"/> 19 Address Extension	<input type="checkbox"/> 29
<input type="checkbox"/> 10 Experimental Measurement	<input type="checkbox"/> 20 RA	<input type="checkbox"/> 30
<input type="checkbox"/> 11 MTU Probe	<input type="checkbox"/> 21	<input type="checkbox"/> 31

[Save Options](#)

## Sat0 Edit

Device sat0	
Component	Value
Address	192.168.100.1
Mask	255.255.255.0
Gateway	
Satellite Gateway	63.29.129.100
Network Driver	nat-survivable
OnBoot	<input checked="" type="checkbox"/>
Default GW	<input type="checkbox"/>

Save Interface Settings

Always select SAVE INTERFACE SETTING for changes to take effect.

## Tuner

The tuner points the router to receive from the identified satellite. Tuner settings are identified by the satellite provider.

Transponder Settings for sat0	
Component	Value
Frequency (GHz)	12.02
Symbol Rate (Mpsps)	40.303
Input	LNB A
FEC Rate	Auto
Polarization	Horizontal
Fixed Polarization	<input type="checkbox"/> Fixed

LNB Settings for sat0	
Component	Value
Ku-band Cross-over Frequency (GHz)	11.7
Local Oscillator Ku-band Low (GHz)	9.75
Local Oscillator Ku-band High (GHz)	10.75
Local Oscillator C-band (GHz)	5.15

Save Tuner

Always select SAVE TUNER for changes to take effect.

## PIDs

PID stands for Program Identifiers. A PID defines a datastream through which all data will come. Customers may have one or more PIDs depending on their satellite provider and options they select.

Index	PID	Use
1	<input type="text"/>	Data MPE (IP) ▾
2	<input type="text"/>	Data MPE (IP) ▾
3	<input type="text"/>	Data MPE (IP) ▾
4	<input type="text"/>	Data MPE (IP) ▾
5	<input type="text"/>	Data MPE (IP) ▾
6	<input type="text"/>	Data MPE (IP) ▾

Save Settings

Always select SAVE SETTINGS for changes to take effect.

## System Logs

Log destination	View	Active?	Messages selected
File /dev/console	<input type="checkbox"/>	No	kern *
File /var/log/messages	<input checked="" type="checkbox"/>	Yes	* info , cron,news,mail,smtperr,auth none
File /var/log/debug	<input checked="" type="checkbox"/>	Yes	* debug , news,mail,smtperr,auth none
File /var/log/secure	<input checked="" type="checkbox"/>	Yes	smtperr * , auth *
File /var/log/mail	<input checked="" type="checkbox"/>	Yes	mail *
File /var/log/news	<input checked="" type="checkbox"/>	Yes	news *
File /var/log/spooler	<input checked="" type="checkbox"/>	Yes	smtp,news err
All users	<input type="checkbox"/>	No	* emerg
Syslog server on localhost	<input type="checkbox"/>	No	* emerg
File /var/log/Helius/errrc	<input checked="" type="checkbox"/>	Yes	* err
File /dev/swap/TrapFile	<input checked="" type="checkbox"/>	Yes	* crit
File /var/log/Helius/doogle	<input checked="" type="checkbox"/>	Yes	local2 info
File /var/log/Helius/doogle.err	<input checked="" type="checkbox"/>	Yes	local2 err
File /var/log/Helius/VA	<input checked="" type="checkbox"/>	Yes	local1 info
File /var/log/Helius/VA.err	<input checked="" type="checkbox"/>	Yes	local1 err
File /var/log/Helius/MediaWrite	<input checked="" type="checkbox"/>	Yes	local3 info , local3 notice
File /var/log/Helius/MediaWrite.err	<input checked="" type="checkbox"/>	Yes	local3 err
File /opt/MediaWrite/log/activity.log	<input checked="" type="checkbox"/>	Yes	local3 info
File /var/log/Helius/MediaWrite.notice	<input checked="" type="checkbox"/>	Yes	local3 notice
File /var/log/Helius/MR	<input checked="" type="checkbox"/>	Yes	local0 * local1 * local2 * local3 * local4 * local5 * local6 * local7 *
File /var/log/Helius/MR.err	<input checked="" type="checkbox"/>	Yes	local0 err local1 err local2 err local3 err local4 err local5 err local6 err local7 err

Select VIEW to display the detailed log for review. Once opened, the log parameters may be adjusted.

```

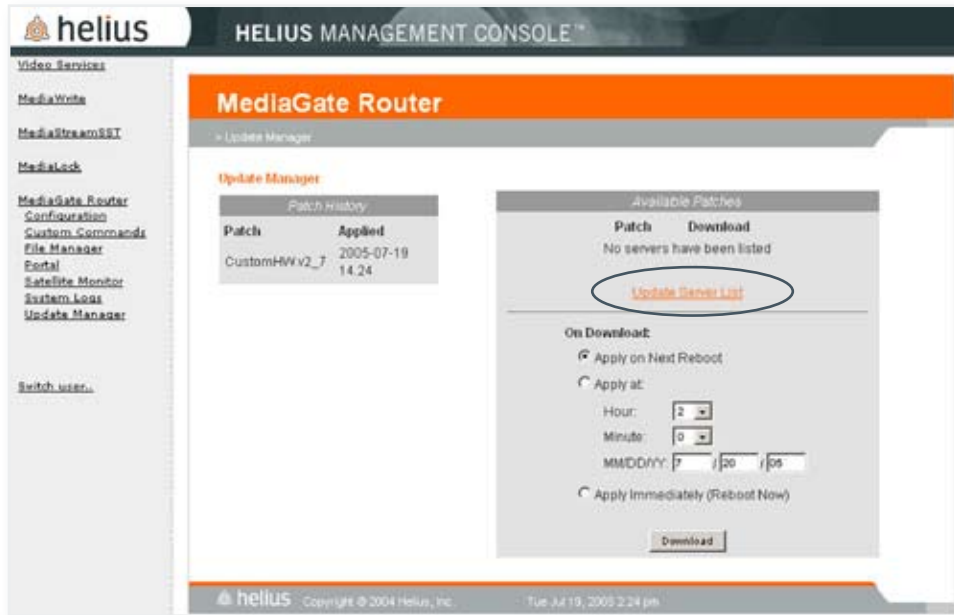
Feb 1 21:44:15 satrouter inetd[912]: pid 25708: exit signal 13
Feb 1 21:44:15 satrouter inetd[912]: pid 25710: exit signal 13
Feb 1 21:44:16 satrouter inetd[912]: pid 25730: exit status 104
Feb 1 21:44:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 21:47:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 21:50:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 21:53:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 21:56:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 21:59:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 22:02:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 22:05:16 satrouter kernel: sat0: route loop, possibly missing explicit route to destination address
Feb 1 22:05:44 satrouter inetd[912]: pid 24948: exit signal 13
Feb 1 22:05:45 satrouter inetd[912]: pid 27013: exit status 104
Feb 1 22:06:14 satrouter inetd[912]: pid 27545: exit signal 13
Feb 1 22:06:14 satrouter inetd[912]: pid 27546: exit signal 13
Feb 1 22:06:14 satrouter inetd[912]: pid 27549: exit signal 13
Feb 1 22:07:32 satrouter inetd[912]: pid 28417: exit status 104
Feb 1 22:07:32 satrouter inetd[912]: pid 28418: exit signal 13
Feb 1 22:07:33 satrouter inetd[912]: pid 28422: exit signal 13
Feb 1 22:07:33 satrouter inetd[912]: pid 28421: exit signal 13
  
```

Last 20 lines of /var/log/messages Refresh

USE 0 FOR ALL ENTRIES

Format options: CSV and Standard. CSV format allows easy importation into a database.

## Update Manager



### Update Server List

1. Select Update Server List.



2. Select Add New Server.



3. Enter server URL and username and password.
4. Select SAVE NEW SERVER.
5. Select SAVE SERVERS.

# SECTION 7

## MEDIACLASSROOM

### Overview

MediaClassroom provides classroom training in two environments: OneTouch™ Live and OneTouch™ OnDemand. Live classroom training provides Interactive Distance Learning features on the MediaGate Router. OnDemand classroom training provides video training in a classroom environment.

The OneTouch site controller is an integrated part of the MediaGate Router and provides the ability to set up and use individual keypads for login in a classroom environment.

[OneTouch](#)  
[OnDemand Classroom](#)  
[Site Controller](#)

#### [OnDemand Classroom](#)

Video training environment for classrooms.

#### [Site Controller](#)

Interactive Distance Learning features and configuration options on the site controller.

## OnDemand Classroom

OnDemand is video training in a classroom environment requiring keypad login. The system logs participant ID, and answers for course credit. This information is sent to the identified OnDemand server to record course completion and provide reports.

### Identify the OnDemand Server

1. Select **MediaClassroom** > **OnDemand Classroom**.



2. Identify the OnDemand server information. This is the server that will receive participant and course completion information.

## Site Controller

The configuration features in MediaClassroom Live provide the ability to confirm OneTouch site controller configurations. These settings affect the site controller and keypads for Interactive Distance Learning. The site controller is an integrated part of the MediaGate Router.

Please refer to the next few pages for descriptions of the available configurations.

## Host Options

Host Options provides information to confirm site number and Internet settings for the One-Touch site controller, and phone configuration for voice and analog/digital audio settings. Please see next page for details.



**helius** HELIUS MANAGEMENT CONSOLE™

Video Services  
MediaClassroom  
OnDemand Classroom  
Site Controller  
MediaWrite  
MediaStreamSST  
MediaLock  
MediaGate Router  
Switch user

### OneTouch

Host Options \*Voice \*Keypad \*Advanced  
Site Controller Host Options

#### Select Host

FRHOST1

#### General

Site Number: 22

Internet Settings  
Host IP Address: 172.16.0.100  
Port Number: 6000  
Protocol:  TCP  UDP

#### Voice

Telephone Interface  
Prefix: Suffix:

Host Inhibition Factor:  High  Normal  Low  Global  
Site Inhibition Factor:  High  Normal  Low  Global

Margin:  High  Normal  Low  Global  
Talker Start:  Host  Normal  Site  Global

#### Audio

	Analog	Digital
Host Delay (ms)	65535	65535
Host Gate	65535	65535
Site Delay (ms)	65535	65535
Site Gate	65535	65535

#### Name

Change Host Name  
FRHOST1

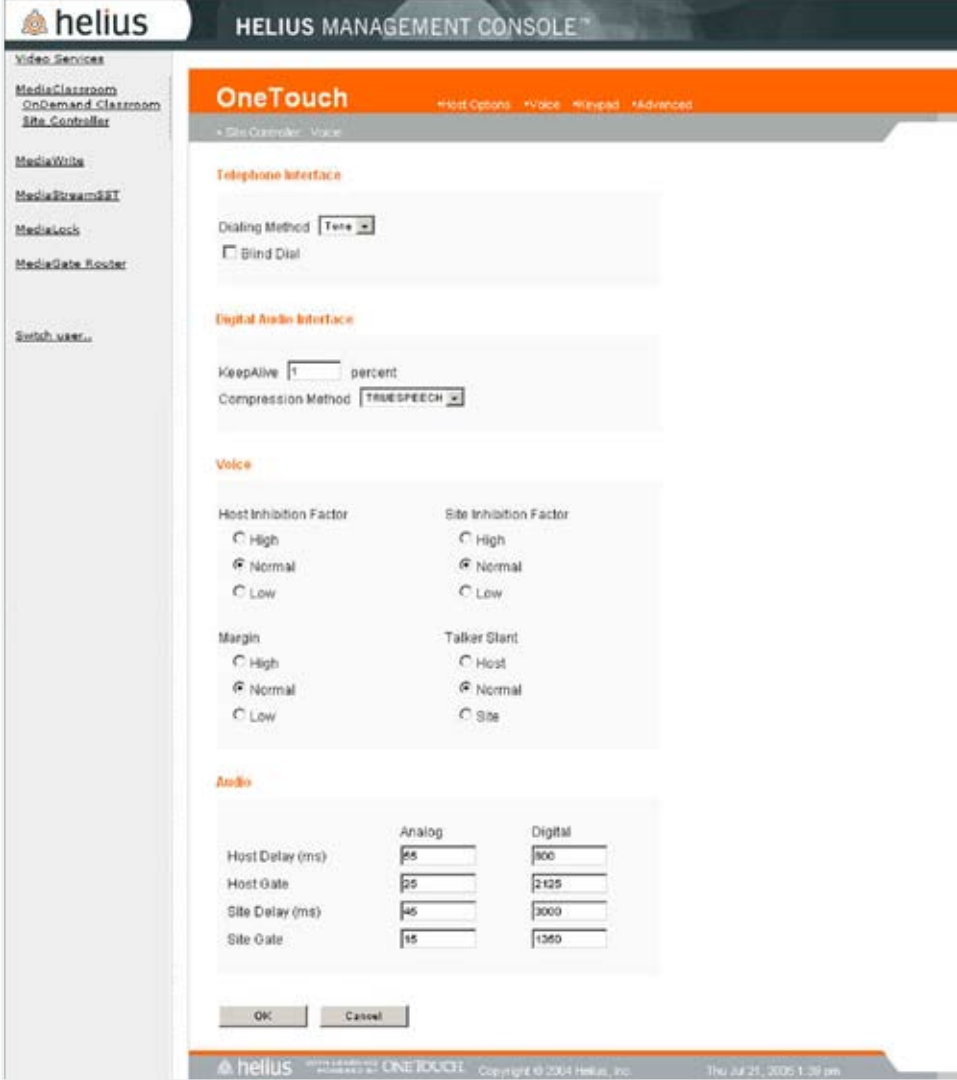
OK Cancel Create New Host Delete Host

helius ONE TOUCH Copyright © 2004 Helius, Inc. Thu Jul 21, 2005 1:33 pm

## Voice

Verify or change telephone and digital audio interface, analog and digital settings that are used for IDL sessions.

Select **MediaClassroom** > **Live** > **Voice**.



The screenshot displays the Helius Management Console interface. The left sidebar contains a navigation menu with the following items: Video Services, MediaClassroom (selected), OnDemand Classroom, Site Controller, MediaWrite, MediaStreamSET, MediaLock, MediaGate Router, and Switch user. The main content area is titled "OneTouch" and includes sub-sections for "Telephone Interface", "Digital Audio Interface", "Voice", and "Audio".

**Telephone Interface**

- Dialing Method:
- Blind Dial

**Digital Audio Interface**

- KeepAlive:  percent
- Compression Method:

**Voice**

<b>Host Inhibition Factor</b>	<b>Site Inhibition Factor</b>
<input type="radio"/> High	<input type="radio"/> High
<input checked="" type="radio"/> Normal	<input checked="" type="radio"/> Normal
<input type="radio"/> Low	<input type="radio"/> Low

<b>Margin</b>	<b>Talker Stent</b>
<input type="radio"/> High	<input type="radio"/> Host
<input checked="" type="radio"/> Normal	<input checked="" type="radio"/> Normal
<input type="radio"/> Low	<input type="radio"/> Site

**Audio**

	Analog	Digital
Host Delay (ms)	<input type="text" value="25"/>	<input type="text" value="300"/>
Host Gate	<input type="text" value="25"/>	<input type="text" value="2425"/>
Site Delay (ms)	<input type="text" value="45"/>	<input type="text" value="3000"/>
Site Gate	<input type="text" value="15"/>	<input type="text" value="1350"/>

OK Cancel

helius HELIUS MANAGEMENT CONSOLE ONE TOUCH Copyright © 2004 Helius, Inc. Thu Jul 21, 2006 1:38 pm

## Keypad

Select [MediaClassroom](#) > [Live](#) > [Keypad](#).



OneTouch Host Options Voice Keypad Advanced  
> Site Controller: Keypad

Keypad

Initial Keypad Display

Allow Keypad Setup

OK Cancel

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## Advanced

Select [MediaClassroom](#) > [Live](#) > [Advanced](#).



OneTouch Host Options Voice Keypad Advanced  
> Site Controller: Advanced

TCP

Retry Timeout (sec)

UDP

Send Timeout (ms)	<input type="text" value="65535"/>	Ack Timeout (ms)	<input type="text" value="65535"/>
Min Retry Timeout (sec)	<input type="text" value="65535"/>	Max Retry Timeout (sec)	<input type="text" value="65535"/>
Send Window Size	<input type="text" value="65535"/>	Receive Window Size	<input type="text" value="65535"/>
Send Packet Size	<input type="text" value="65535"/>	Receive Packet Size	<input type="text" value="65535"/>
Keepalive Timeout (sec)	<input type="text" value="65535"/>	Keepalive Count	<input type="text" value="65535"/>
Retransmit Count	<input type="text" value="65535"/>		

Hardware

Serial Number	000000
Model Number	SC_LINUX
Audio Board Rev	6

OK Cancel

helius WITH CLASSROOM PROVIDED BY ONE TOUCH Copyright © 2004 Helius, Inc. Thu Jul 21, 2005 1:39 pm

# SECTION 8

## SWITCH USER

Select Switch User.... to display the login screen.



Login with a different support level or select CANCEL to close this window.

# SECTION 9

## MEDIATRaining

### License

The screenshot shows the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left sidebar lists various services: Video Services, MediaWrite, MediaTraining License (highlighted), MediaStreamSST, MediaLock, MediaGate Router, MediaSignage, and Switch user... The main content area is titled "MediaTraining" and contains a "License" section. Under "MediaTraining License", the "Current License Status" is "License is Valid" with a green checkmark. The "Current License Information" section displays the following details:

- License Expiration (DD-Mon-YYYY): 23-Jul-2008
- License Key: ec2e882288f3b5e62cafb0b4498
- Product Key: HMT800E

A "Save" button is located at the bottom of the license information section. The footer of the console shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Fri May 26, 2006 8:16 pm".

No changes should be made to the license page without Helius assistance.

# SECTION 10

## MEDIASIGNAGE

### Overview

MediaSignage functions are primarily managed at the server level, but local stories can be added by logging in to the Router. These stories will be added to the crawler feed.

[MediaSignage](#)  
[Crawler Stories](#)  
[Frame Configuration](#)  
[License](#)  
[Playlist Configuration](#)

**Crawler Stories** allow localized stories to be added to the crawler feed.

**Frame Configuration:** All frame configuration should be configured from the server. No local configuration should be applied. Do not make any changes to this section.

**License:** License information should not be changed without assistance from Helius personnel.

**Playlist Configuration:** All frame configuration should be configured from the server. No local configuration should be applied. Do not make any changes to this section.



Note that Frame Configuration and Playlist Configuration should be done only at the server level. Do not make any adjustments to the information in these sections on the Router.

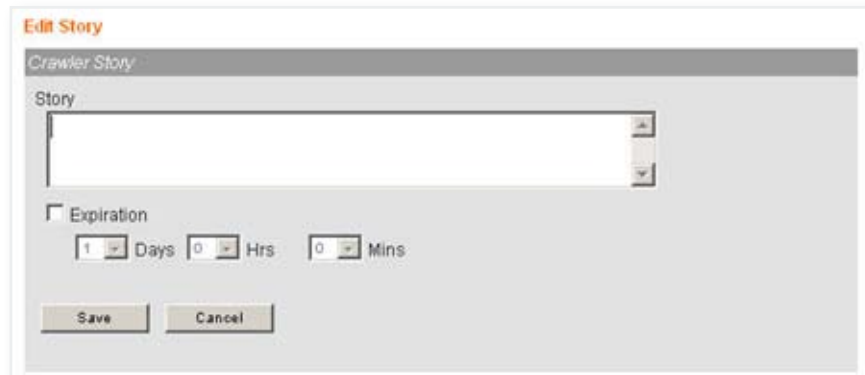
## Crawler Stories

Local stories or information may be added to the crawler feed by logging into the local Router. Providing an expiration date will allow these stories to be automatically removed at the appropriate time.



## Add a Story

1. Select ADD.



2. Type the story into the body section.
3. Activate (✓) the Expiration checkbox and select an expiration time.
4. Select SAVE. The story will be added to the crawler feed and automatically removed when the expiration time frame has been met.
- 5.

# License

The screenshot displays the Helius Management Console interface. The top navigation bar includes the Helius logo and the text "HELIUS MANAGEMENT CONSOLE™". A left-hand sidebar lists various service categories: Video Services, MediaWrite, MediaTraining, MediaStreamSST, MediaLock, MediaGate Router, MediaSignage (with sub-items: Crawler Stories, Frame Configuration, License, Playlist Configuration), and a "Switch user..." link. The main content area is titled "MediaSignage" and contains a "License" section. Under "MediaSignage License", the "Current License Status" is shown as "License is Valid" with a green checkmark. Below this, the "License" section provides "Current License Information" with input fields for "License Expiration (DD-MM-YYYY)" (23-Jul-2006), "License Key" (54a205d054e513c79f56d52c6678), and "Product Key" (HD50800E). A "Save" button is located at the bottom of the form. The footer of the console shows the Helius logo, "Copyright © 2004 Helius, Inc.", and the date/time "Tue May 30, 2006 2:24 pm".



# APPENDIX A

## GLOSSARY OF TERMS

### **Glossary of Terms**

This Glossary of Terms is separated into Definitions and Acronyms.

## Definitions

### Catalog

A list of packages to be sent via MediaWrite containing all send details.

### Digital Video Broadcast (DVB)

DVB is standard satellite video only. DVB cannot be multicast nor forwarded on to other devices on a network as DVB. To be multicast to other devices on a network, DVB must be converted to IP. For devices on the network to receive DVB to IP broadcasts, they must be configured to the multicast address and port and interface the router is broadcasting on and have software loaded that allows DVB to IP viewing. Helius MediaStream Player provides DVB to IP viewing capability on local PCs.

### Dynamic Host Configuration Protocol (DHCP)

A protocol that allows network administrators to centrally manage and automate assignment of IP addresses on a network. Using TCP/IP, each machine that can connect to the Internet requires a unique IP address. When an organization provides computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer, and if computers move to another location in another part of the network, a new IP address must be entered. DHCP allows a network administrator to supervise and distribute IP addresses from a central point by automatically sending a new unique IP address when a computer is connected to the network in any location.

### File Transfer Protocol (FTP)

The standard Internet protocol for file transfer. FTP is the simplest way to exchange files between computers on the Internet. FTP is an application protocol that uses TCP/IP.

### Internet Protocol (IP)

Specifies the format of packets, also called datagrams, and the addressing scheme. Most networks combine IP with a higher-level protocol called Transport Control Protocol (TCP) which establishes a virtual connection between a destination and a source. IP by itself is similar to a letter: it allows you to address a package and drop it in the system, but there is no direct link between you and the recipient. TCP acts as the postal delivery service by establishing a connection between two hosts so that they can send messages back and forth for a period of time.

## **IP Address**

A 32-bit address assigned to hosts using TCP/IP. Each address contains a network number, a subnetwork number (optional) and a host number. The network number and subnetwork number are used for routing. The host number is used to address an individual host within a network or subnetwork.

IP addresses can be private or public. Public addresses are sanctioned by the Internet Assigned Number Authority (IANA).

## **IP datagram**

The unit end-to-end transmission in the protocol. An IP datagram consists of an IP header followed by transport layer data such as a message.

## **IPSec**

A developing standard for security at the network or packet-processing layer of network communication. Earlier security approaches have inserted security at the application layer of the communications model. IPSec is useful for implementing virtual private networks and for remote user access through dialup connections to private networks. Security arrangements can be handled without requiring changes to individual user computers.

## **Local Area Network**

A network of interconnected workstations sharing the resources of a single processor or server within a relatively small geographic area. Using Fiber Distributed Digital Interface (FDDI) extends a LAN over a much wider area and now a LAN may serve as few as four or five computers in a single location or several thousand.

## **Low Noise Block (LNB)**

Converts satellite dish signals to an intermediate frequency.

## **Multicasting**

Allows one host computer on the Internet to send content to other computers that have identified themselves as interested in receiving the originating computer's content. Multicasting can be used for such applications as updating the address books of mobile computer users in the field, sending out company newsletters to a distribution list, and broadcasting high bandwidth programs of streaming media to an audience that has set up a multicast group membership.

## Point-to-Point Protocol

A protocol for communication between two computers using a serial interface such as a personal computer connected by phone line to a server. For example: An Internet Service Provider (ISP) may provide a PPP connection so the provider's server can respond to user requests, pass them on to the Internet and forward requested Internet responses back to the user. PPP uses IP and is designed to handle other protocols as well. PPP is sometimes considered a member of the TCP/IP suite of protocols. Relative to the Open Systems Interconnection (OSI) reference model, PPP provides layer 2 (data-link layer) service: PPP packages TCP/IP packets from a user's computer and forwards them to the server where they can actually be put on the Internet.

## Simple Mail Transfer Protocol (SMTP)

A TCP/IP used in sending and receiving email. SMTP has limited ability to queue messages at the receiving end and is generally used for sending messages. POP3 or IMAP allow the user to save messages in a server mailbox and download them periodically from the server so POP3 or IMAP are generally used for receiving messages. Most mail programs allow specification of an SMTP server and a POP server.

## Spider

A program that automatically fetches Web pages. Another term for these programs is webcrawler. Most Web pages contain links to other pages, so a spider can start almost anywhere. As soon as it sees a link to another page, it goes off and fetches it. MediaWrite can send spider packages to receivers to speed up browsing when using the MediaGate Router as the Internet access point.

## Squid

A full-featured Web proxy cache with the following features:

- proxying and caching of HTTP, FTP, and other URLs
- proxying for SSL
- cache hierarchies
- ICP, HTCP, CARP, Cache Digests
- transparent caching
- WCCP
- extensive access controls
- HTTP server acceleration
- SNMP
- caching of DNS lookups

## Status Messages/MediaWrite

PENDING	Package is being prepared for sending.
DOWNLOADING	Package is being sent from the server to the router. This message appears on the router.
SENDING	Package is being sent from the server to the router. This message appears on the server.
DELIVERED	Package was received by the router.
DELETED	Package has been deleted. This message displays in Package Archive.
ERROR	Something occurred to stop transmission of the package. Usually the package needs to be resent. It is suggested that all settings and connections on the router be checked to assure the IP addresses and configuration are correct for receiving packages.
INCOMPLETE	Package transfer initially failed and is waiting for a scheduled re-send to complete.

## Subnet Address

The part of an IP address that is specified as the subnetwork by the subnet mask.

## Subnet Mask

Address mask used in IP to indicate the bits of an IP address being used for the subnet address.

## Subnetwork

In IP networks, a network sharing a particular subnet address. Subnetworks are arbitrarily segmented by administrators to provide a multi-level hierarchical routing structure while shielding the subnetwork from the addressing complexity of any attached networks.

## Transmission Control Protocol (TCP)

A method used in conjunction with IP to send data in the form of message units between computers over the Internet. IP takes care of handling the actual delivery of data and TCP takes care of keeping track of the individual units of data (packets) that a message is divided into for efficient routing through the network.

## Acronymns

<b>BER</b>	Bit Error Rate
<b>CA</b>	Conditional Access
<b>CAM</b>	Conditional Access Module (Channel Access Method)
<b>CM</b>	Content Manager (former playlist acronym)
<b>CSV</b>	Comma Separated Value
<b>DHCP</b>	Dynamic Host Configuration Protocol
<b>DNS</b>	Domain Name System
<b>DVB</b>	Digital Video Broadcast
<b>EIT</b>	Event Information Table
<b>EPG</b>	Electronic Program Guide
<b>FEC</b>	Forward Error Correction
<b>GUI</b>	Graphical User Interface
<b>HMC</b>	Helius Management Console
<b>HSR</b>	Helius Satellite Router
<b>IGMP</b>	Internet Group Management Protocol
<b>IP</b>	Internet Protocol
<b>IP/DVB</b>	Internet Protocol/Digital Video Broadcast
<b>LAN</b>	Local Area Network
<b>LNB</b>	Low Noise Block
<b>MAC</b>	Media Access Control (Hardware address)
<b>MGR</b>	MediaGate Router
<b>MVP</b>	Music-Video-Pictures
<b>NAT</b>	Network Address Translation
<b>NOC</b>	Network Operations Center
<b>NTP</b>	Network Time Protocol
<b>PID</b>	Program Identifier (DVB)/Process ID number (MGR)
<b>PPP</b>	Point-to-Point Protocol
<b>PSTN</b>	Public Switched Telephone Network. Same as PTSN.
<b>PTSM</b>	Public Telephone Switched Network. Same as PSTN.
<b>RF</b>	Radio Frequency
<b>SAP</b>	Session Announcement Protocol (also: Service Advertising Protocol)
<b>SDT</b>	Service Description Table
<b>SMTP</b>	Simple Mail Transfer Protocol
<b>SNMP</b>	Simple Network Management Protocol

<b>SQF</b>	Signal Quality Factor
<b>SSP</b>	Satellite Service Provider
<b>SST</b>	Not an acronym. Product Name
<b>TCP</b>	Transmission Control Protocol
<b>TDT</b>	Time and Date Table
<b>TTL</b>	Time To Live
<b>UDP</b>	User Datagram Protocol or Usenet Death Penalty
<b>VA</b>	Video-Audio



# APPENDIX B

## TROUBLESHOOTING

### Overview

Basic troubleshooting should include determining that the end user has followed instructions in the use of the Router and its features. After determining that end user error has not caused the problem, question the caller to find out enough details to adequately define steps for resolving the problem.

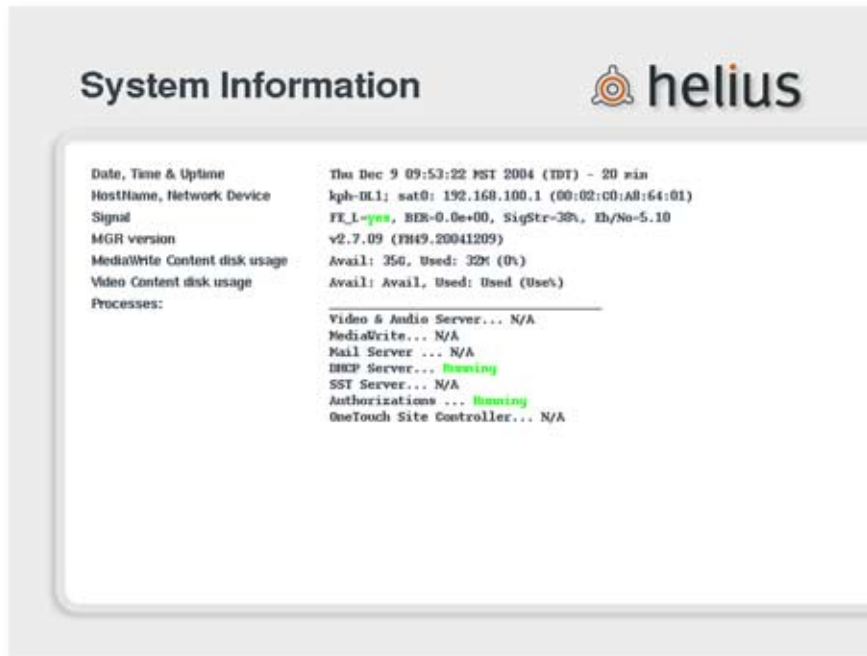
This section provides some guidance for problems that can arise. Other sections include information on troubleshooting problems specific to those sections. Please refer to other sections for more information.

This section assumes an understanding of how to use the Helius Management Console and its features to check information, adjust and configure settings and retrieve logs or reports.

## System Information

If the end user is still able to access menus displayed by the Router on the video monitor, the user can assist in troubleshooting by displaying the System Information page.

1. Have the user should press 99999 (five 9's) on the remote control while in full screen mode or EPG.
2. Have the user press OK when the numbers are entered.



## EPG Screen Error Messages

The EPG screen at the user site can display one of the following messages:

- **NO DATA**  
Indicates the channel is being announced over the satellite, but nothing is being broadcast
- **NO SIGNAL**  
Indicates the receiver is currently not receiving satellite signal.
- **NOT AUTHORIZED**  
Indicates the current channel is encrypted and this console has not been authorized to view this broadcast.

### NO DATA

If NO DATA displays, change channels to verify data is available on other channels.

### NO SIGNAL

If NO SIGNAL is displayed, have the customer site verify that the receiver is connected properly to the satellite. If the equipment is connected properly, perform the following:

1. Select **MediaGate Router** > **Satellite Monitor**.
2. Check the tuning and PIDs to verify the satellite network is configured correctly.

### NOT AUTHORIZED

If NOT AUTHORIZED is displayed, you may need to verify that the receiver is configured for the correct authorizations server:

1. Select **Video Services** > **Auth Config**.
2. Verify that the site is approved to receive the broadcast indicated.
3. If the site is authorized to receive the broadcast on the receiver, verify the same information on the server.

## Event Timeout

### Problem:

Properly advertised events are removed from the Program Guide.

### Possible Causes

- Loss of Satellite signal
- SAP, SDT, EIT Listener process has been stopped
- Server stops sending announcements (SAP, SDT, EIT)
- Announcement is unable to be written to the database
- Event timeout does not allow enough time before cancelling the announcement

### Possible Solutions

- Check Satellite connections.
- Check Satellite reception--did this occur during bad weather, or could snow be blocking the reception?
- Event Timeout needs to be greater--adjust settings in the Helius Management Console.
- Check server logs/router logs for announcement information.
-

## MediaClassroom Troubleshooting

Occasionally, site problems occur between the host and the viewer. An attempt has been made to identify some of these problems and the possible causes and resolutions.

### Echo

Persistent echos may be caused at either the host or viewer site. Settings may sometimes be adjusted on the Router to help minimize the occurrence of echo.

- Location of the keypads in relation to the speaker or monitor.  
If the keypads are too close or too far away from the TV monitor speakers an echo or undesirable feedback may occur. Recommended distance from the site controller is 1.5 feet. It is not advised to pick up the keypad in order to speak into it. This affects the cord connection and can result in audio issues.
- Ambient noise.  
Ambient noise at the Presentation server may cause an undesirable persistent echo to occur at the remote classroom site. Adjust the Host Inhibition Factor.

Ambient noise at the remote classroom site may cause an undesirable persistent echo to occur at the host site. Adjust the Site Inhibition Factor.

- Excessive audio compression in the path of the viewer's voice to the Presentation server or excessive audio compression in the path of the mixed voices can produce a persistent echo.

### Feedback/Attenuation/

Persistent echos may be caused at either the host or viewer site. Settings may be adjusted on the Router to help minimize the occurrence of echo.

- Location of the keypads in relation to the speaker or monitor.  
If the keypads are too close or too far away from the TV monitor speakers an echo or undesirable feedback may occur. [place distance information here]
- Ambient noise.  
Ambient noise at the Presentation server may cause an undesirable persistent echo to occur at the remote classroom site. Adjust the Host Inhibition Factor.

Ambient noise at the remote classroom site may cause an undesirable persistent echo to occur at the host site. Adjust the Site Inhibition Factor.

-

## Site Is Silent

Analog and Digital sites have network connectivity or they could not log into a broadcast. In the site database on the presentation server, the following codes are used:

- 1 = Analog (Default)
- 2 = Direct
- 3 = Digital

The following sections describe the steps that occur during a Live session

### Analog Sites

1. User presses the call button, data is sent to the presentation server that the site has a question.
2. The presenter sees the site has a question on his presentation server screen.
3. The presenter selects to allow the question.
4. The presentation server sees the site is Analog.
5. The presentation server sends a phone number to the site controller through the network connection.
6. The site controller dials the phone number.
7. If the presentation server does not get a phone call within one minute, the presentation server sets the site to "Site Is Silent."

### Digital Voice Return Site

1. User presses the call button, data is sent to the presentation server that the site has a question.
2. The presenter sees the site has a question on his presentation server screen.
3. The presenter selects to allow the question.
4. The presentation server sees the site is Digital.
5. The presentation server sends a command to the site controller through the network connection. The control port is TCP 7000; the audio stream is on UDP 6500 and 6501 (for second keypad connection).
6. If there is no response from the site controller within one minute, the presentation server sets the site to "Site Is Silent."

Under normal circumstances, UDP settings are not adjusted from the default. This page describes the process for informational purposes.

## Missing Files

### File Missing

If an expected file for playback is not found in the Playback Menu, confirm whether the file was sent by MediaWrite or recorded locally by checking the log files. To check log files, select **MediaGate Router** > **System Logs**.

To check whether MediaWrite received the files, select **MediaWrite** > **MediaViewer Admin** > *Package Manager* or *Activity Log*. Package Manager will display file information and status. The Activity Log will display whether the files were received and then archived or deleted.

To check whether the files have been deleted, select **MediaWrite** > **MediaViewer Admin** > *Package Archive*. If the file was received and automatically deleted, it will display in Package Archive. The file will need to be resent if it has been deleted.

Server logs may be checked to determine if the package was sent and whether it will require resending. If the customer is not authorized to receive a package it will not be delivered to their receiver. Refer to the MediaServer Support Manual for more information.



Helius, Inc.  
333 South 520 West Ste. 330  
Lindon, UT 84042  
[www.helius.com](http://www.helius.com)