Cisco RF Gateway 10 GUI User Guide

First Published: July 5, 2013
Last Updated: October 12, 2015

Cisco RF Gateway 10 (RFGW-10) GUI is a web-based interface for configuring and managing the Cisco RFGW-10 Universal Edge Quadrature Amplitude Modulation (UEQAM) device.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the "Feature Information for Cisco RFGW-10 GUI" section on page 131.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS, Catalyst OS, and Cisco IOS XE software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Contents

Prerequisites for Cisco RFGW-10 GUI

- HTTP server enabled Cisco RFGW-10 UEQAM device with the GUI embedded in the IOS image.
- JavaScript-enabled browser.

Restrictions for Cisco RFGW-10 GUI

- Avoid simultaneously starting the GUI client with CPU-intensive operations. This helps reduce the CPU impact on the Cisco RFGW-10 UEQAM supervisor card.
- Any CPU-intensive or high storage usage applications should be deferred to the network management system (NMS) applications.

Information About Cisco RFGW-10 GUI

The Cisco RFGW-10 GUI is an embedded web application residing in the Cisco RFGW-10 UEQAM chassis. The GUI image (RFGW_GUI.tar) is embedded in the Cisco RFGW-10 IOS-XE image and is installed as part of the IOS-XE image installation. There are no configuration steps for installing this application.

Following are some of its important features:

- An intuitive interface that combines easy navigation with point-and-click provisioning of services, thereby reducing the complexity of configuring services and features.
- Support to manage the Cisco RFGW-10 system.
- A monitoring interface with flexible choice of statistics and graphs.
- Bulk configuration in a single attempt.

You can access this application through a web browser that has IP connectivity to the chassis. For information on how to access the application, see the "How to Use the Cisco RFGW-10 GUI Tool" section on page 123.

Recommended Browsers and Display Settings

We recommend the following browsers and display settings:

Client Platform	Web Browser	Display Settings
Windows XP or Windows 7	• Mozilla FireFox version 10.x up to 26.x • Internet Explorer version 8.0 and 9.0 • Opera version 10x and above • Google chrome 33.0 • Safari 5.1	1024x768 or above

Note The Cisco RFGW-10 GUI is best viewed on Mozilla Firefox version 10.x or above.

General Instructions

These are some general instructions and information:

- Click **AddRow** to add multiple rows.
- A new row added in a page or pane appears in green color.
- A row appears in yellow color when it is edited.
- An invalid entry appears in red color.
- Click **Select All** to check the **Delete** checkbox for all entries. Click **DeSelect All** to uncheck the **Delete** checkbox for all entries.
- Click the **Refresh** button to refresh data on the current page.
- Check the **Auto Refresh** checkbox to refresh a page every 10 seconds. Uncheck the checkbox to disable auto refresh.
- Check the **Apply All** checkbox at the bottom of a page or pane to apply the value entered in a current field to all entries in that page or pane. For example, in the **DS384 3 Video Qam Channel Configuration pane**, select the desired value from **Cable Mode** in one row (row changes to yellow color) and check the **Cable Mode Apply All** checkbox to apply the selected value to all **Cable Mode** fields in the pane. The checkbox is disabled when multiple rows are in edit mode.

Note You must check the **Apply All** checkbox while applying the changes.

- A QAM channel configuration cannot be edited after it is assigned to a QAM replication group.
- Every page and pane with configurable fields have validation embedded in them. A common javascript validation occurs and appropriate messages are displayed in a popup window.
- A confirmation message is displayed each time you click the **Delete** button.
- Use the navigation icons (|<<, <<, >>, >>|) or check the **Show All** checkbox at the top of a pane to view data presented across multiple pages.
- Click a header field (hyperlink appears on mouse-over) to sort the content either in ascending or descending order.
- Some pages or panes show the current LED status. See the relevant hardware documentation to interpret the LED status.
- It is recommended that before the **Copy** process is initiated, the destination RF Port should be set to default. This is done by checking the **Default** checkbox on the destination RF Port configuration pane.This ensures that the **Copy** process runs smoothly without any error messages.

- Action buttons such as **Apply**, **Clear New**, **Delete** are enabled only after the corresponding action like entering data in the fields or selecting a row is performed. Until then they are disabled.
- A blue color **Loading** timer icon appears in the main configuration pages to indicate that data is being loaded.

Figure 1 Loading Icon

Monitoring Pages

The Cisco RFGW-10 GUI application includes the following monitoring pages:

- Summary, page 4
- Monitor, page 10
- Alarm, page 29

Summary

The summary page provides a snapshot of the Cisco RFGW-10 system with the following information:

- Chassis Information—View chassis related information such as Redundancy, Alarms, SUP GbE Inputs, and SUP GbE Input Statistics..
- Line Card Bandwidth Information—View line card related information such as redundancy, GbE bandwidth, QAM bandwidth, QAM bandwidth utilization details for the selected line card.
- Line Card Session Information—View DEPI or Video session information for the selected line card.

Chassis

Use this page to view chassis related information.

Figure 2 Chassis Page

Table 1 Chassis Page Field Description

Field	Description
Redundancy	
Slot 1	State of the Supervisor card in slot 1.
Slot 2	State of the Supervisor card in slot 2.
Mode	Mode in which the system is operating.
Configured Redundancy Mode	Redundancy mode configured on the system.
Operating Redundancy Mode	Current redundancy mode of the system.
System Uptime	Time duration of how long the system has been alive.
Alarms	
Source	Source module where the alarm is generated.
Time Stamp	Provides the time stamp of the chassis event.
Severity	Severity classification of the alarm.
Description [Index]	Alarm description.
SUP GbE Inputs Shows bandwidth of each Gigabit Ethernet port and depicts bandwidth both graphically (bar graph, where one bar indicates 10 per cent of bandwidth) and numerically. Click a GbE to view its IP address configuration and performance report.	

Table 1 Chassis Page Field Description (continued)

Field	Description
SUP GbE Input Statistics	
Shows information about each input GbE port.	
Rx Bytes	Number of input bytes.
Tx Bytes	Number of output bytes.
Error Pkts	Total error count.
Rx Unicast Pkts	Number of input unicast packets.
Tx Unicast Pkts	Number of output unicast packets.
Rx Multicast Pkts	Number of input multicast packets.
Tx Multicast Pkts	Number of output multicast packets.
Rx Broadcast Pkts	Number of input broadcast packets.
Tx Broadcast Pkts	Number of output broadcast packets.
Note Only the active Supervisor card GbE are listed.	

Line Card *slot*

Click a line card (DS384 *slot* or DS48 *slot*) to view its information.

Figure 3 Line Card Bandwidth Information Page

Figure 4 Line Card Bandwidth Video Session Information Page

Figure 5 Line Card Session Information Page

Table 2 Line Card slot Page Field Description

Field	Description
LC Redundancy Status	
State	Active or standby.
Mode	Redundancy mode of the line card (Primary or Secondary).
LC Group	Line card group number.

Table 2 Line Card slot Page Field Description (continued)

Field	Description
Role	Current state of the line card.
Peer Slot	Slot number where the peer line card resides in the chassis.
Peer State	Current state of the peer line card.
LC GbE Input	
Ten GigabitEthernet interfaces	Click a 10GE to view its IP address configuration and performance report. **Note** Not suppported on the Cisco DS-48 line card.
GigabitEthernet interfaces	Click a GE to view its IP address configuration and performance report.
Display Mode	
Select **Bandwidth** to view bandwidth usage details. • For the Cisco DS-384 line card (eight RF ports) and Cisco DS-48 line card (twelve RF ports), the following bandwidth details are displayed for each channel on an RF port: – Bandwidth used on the channel (graphical representation; each bar indicates 10 per cent of bandwidth). – Bandwidth used on the channel (numerical representation). – Bandwidth utiliation percentage. Click on channel to view its detailed bandwidth information.	
Select **Session** to view session count information for each channel on an RF port on the line card. • For the Cisco DS-384 line card (eight RF ports), the following session details are displayed for each channel on an RF port: – Number of video sessions. – Number of DEPI sessions. Click on channel to view its detailed session information. • For the Cisco DS-48 line card (twelve RF ports), the DEPI session details are displayed for each channel on an RF port. A QAM channel is identified as: • Pilot QAM—Using a green color asterisk. Place the cursor on the channel to view its QRG information. • Replicate QAM—Using a blue color asterisk. Place the cursor on the channel to view its QRG and pilot QAM information.	
Display Channel	

Table 2 Line Card slot Page Field Description (continued)

Field	Description
All	Select **All** to view Bandwidth or Session (DEPI/VIDEO) information for all channels on selected RF ports on the line card. Select **Display Mode** as **Bandwidth** and **Display Channel** as **All** to view QAM channel bandwidth information. Select **Display Mode** as **Session** and **Display Channel** as **All** to view QAM channel session (DEPI/VIDEO) information.
V-Session	Select **V-Session** to view Bandwidth or Session (VIDEO) information for all channels on selected RF ports on the line card. When the **Display Mode** is **Session** and **Display Channel** is **V-Session**, the number of video sessions configured on each QAM channel for each RF port is displayed. When the **Display Mode** is **Bandwidth** and **Display Channel** is **V-Session**, the bandwidth used on the video mode QAM channel is displayed using the grey color graphical representation.
D-Session	Select **D-Session** to view Bandwidth or Session (DEPI) information for all channels on selected RF ports on the line card. When the **Display Mode** is **Session** and **Display Channel** is **D-Session**, the number of DEPI sessions configured on each QAM channel for each RF port is displayed. When the **Display Mode** is **Bandwidth** and **Display Channel** is **D-Session**, the bandwidth used on the DEPI mode QAM channel is displayed using the grey color graphical representation.

Click a QAM channel to view its detailed session information.

- Blue color—Represents bandwidth (graphical).
- Grey color—Represents bandwidth for selected session type.
- Red color—Represents bandwidth reaching 100 per cent.
- VS—Represents video sessions.
- DS—Represents DEPI sessions.

Monitor

Use the tree-based navigation on the Monitor page to do this:

- Monitor—View Supervisor card, TCC card, or line card session count information.
- Inventory—View chassis, Supervisor card, line card, TCC card, power supply and fan tray inventory information.
- Environment—View environment information of the chassis.
- Performance—View Supervisor and line card input and output port performance information.
- TCC Cards—View DTI client and client port status information for the TCC cards.
- DEPI—View chassis and line card DEPI session information for selected line card, RF port and QAM channel.
- Video—View video sessions and packets information.
- CLI Output—Use the **show** commands and view output.

Monitor

Use this page to view hardware modules location, device information and session count information.

Figure 6 Monitor Page

SUP and LC Information	
SUP Cards	1 (Slot 2)
DS48 LC Cards	2 (Slot 8,Slot 10)
DS384 LC Cards	1 (Slot 3)
TCC Cards	1 (Slot 14)

System Information	
Device Description	Cisco Systems, Inc. Cable-RFGW 14 slot switch
IOS Ver @ Active SUP	Cisco IOS Software, IOS-XE Software, RFGW-10 Software (rfgwk10-ENTSERVICESK9-M), Version 03.02.99.SQ5 EXPERIMENTAL IMAGE ENGINEERING NOVA_WEEKLY BUILD, synced to THROTTLE_PULL_POINT_V150_2_SQB_THROTTLE
Device Uptime	1 day, 22 hours, 49 minutes
Device Name	RFGW-10-GUI

DEPI Global Session Information		
Total Manual DEPI Session	Total L2TP DEPI Session	Total DEPI Session
32	0	32

Video Global Session Information		
Total Unicast Session	Total Multicast Session	Total Video Session
60	0	60

360509

Table 3 Monitor Page Field Description

Field	Description
SUP and LC Information	
SUP Cards	Number of Supervisor cards installed in the chassis and its slot location.
DS48 LC Cards	Number of Cisco DS-48 line cards installed in the chassis and its slot location.
DS384 LC Cards	Number of Cisco DS-384 line cards installed in the chassis and its slot location.
TCC Cards	Number of TCC cards installed in the chassis and its slot location.
System Information	
Device Description	Device information.
IOS Ver @ Active SUP	Cisco IOS-XE version running on the active Supervisor card.
Device Uptime	Time duration of how long the device has been alive.
Device Name	Name of the device.
DEPI Global Session Information	
Total Manual DEPI Session	Total number of manual DEPI sessions on the chassis.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the chassis.
Total DEPI Session	Total number of DEPI sessions on the chassis.
Video Global Session Information	
Total Unicast Session	Total number of unicast sessions on the chassis.
Total Multicast Session	Total number of multicast sessions on the chassis.
Total Video Session	Total number of video sessions on the chassis.

Inventory

Use this page to view the system inventory information.

Figure 7 Inventory Page

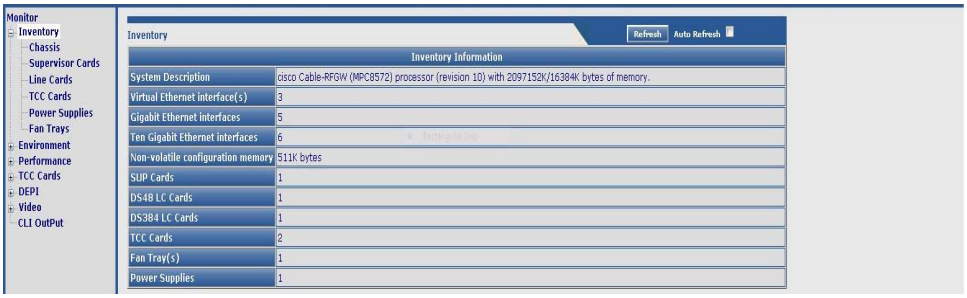


Table 4 Inventory Page Field Description

Field	Description
Inventory Information	
System Description	Brief description of the chassis.
Virtual Ethernet interface(s)	Total number of virtual Ethernet interfaces configured in the chassis.
Gigabit Ethernet interfaces	Total number of GigabitEthernet interfaces configured in the chassis.
Ten Gigabit Ethernet interfaces	Total number of Ten GigabitEthernet interfaces configured in the chassis.
Non-volatile configuration memory	Non-volatile configuration memory capacity in bytes.
SUP Cards	Total number of Supervisor cards installed in the chassis.
DS48 LC Cards	Total number of Cisco DS-48 line cards installed in the chassis.
DS384 LC Cards	Total number of Cisco DS-384 line cards installed in the chassis.
TCC Cards	Total number of TCC cards installed in the chassis.
Fan Tray(s)	Total number of fan trays installed in the chassis.
Power Supplies	Total number of power supplies used in the chassis.

Use the tree-based navigation to do the following:

- Chassis—View chassis inventory related information.
- Supervisor Cards—View supervisor card inventory related information.
- Line Cards—View line card inventory related information.

- TCC Cards—View TCC card inventory related information.
- Power Supplies—View power supply inventory related information.
- Fan Trays—View fan tray inventory related information.

Environment

Use this page to monitor and report the environmental conditions important for the overall health of Cisco RFGW-10 UEQAM.

Figure 8 Environment Page

Table 5 Environment Page Field Description

Field	Description
Environment Information	
Chassis Type	Chassis type description.
Power Consumed by Backplane	Power (in Watts) consumed by the backplane.
Switch Bandwidth Utilization	Bandwidth utilization by the switch.
Fantray Status	Current fan tray status.
Fantray Removal Timeout	The time interval by when you must install a fan tray must be installed or replace it in the chassis during an OIR to avoid automatic shut down. The maximum time is 4 minutes, that is 240 seconds.
Power Consumed by Fantray	Power (in Watts) consumed by the fan tray.
Module LED Status	
Slot	Slot location where the hardware module resides on the chassis.
Description	Name of the hardware module.
LED Status	Current LED status.

Use the tree-based navigation to do the following:

- Temperature—View environment temperature related information. The following colors are used to indicate temperature status:
  - Green—Active; when the current temperature is less than the threshold temperature.
  - Blue—Warning; when the current temperature is greater than or equal to the threshold temperature.
  - Red—Critical; when the current temperature is greater than or equal to the critical temperature.
  - White—Shutdown; when the current temperature is greater than or equal to the shutdown temperature.

Table 6 Temperature Page Field Description

Field	Description
Environment Temperatures	
Module	Hardware component identifier.
Sensor Name	Sensor name.
Temperature	Current temperature of the chassis.
Threshold Temp	Recommended threshold temperature.
Critical Temp	Maximum temperature that indicates critical threshold.
Shutdown Temp	Temperature at which the chassis shuts down.
Status	Current status.

- Power—View environment power related information.

Table 7 Power Page Field Description

Field	Description
Power	
Power supplies needed by system	Number of power supplies required for normal functioning of the chassis.
Power supplies currently available	Number of power supplies currently used by the chassis.
Power consumed by Backplane	Power (in Watts) consumed by the backplane.
Power consumed by Fantray	Power (in Watts) consumed by the fantray.
Power Supply Detail	
Power Supply	Power supply identifier.
Model No	Model information of the power supply.
Type	Type of power supply.
Status	Current status of the power supply.
Fan Sensor	Current status of the fan sensor.

Table 7 Power Page Field Description (continued)

Field	Description
Inline Status	Inline power status.
Power Summary Details	
System Power (12V)	Amount of system power used and maximum available.
Inline Power (-50V)	Amount of Inline power used and maximum available.
Backplane Power	Amount of backplane power used and maximum available.
Total	Displays the total power used and maximum available details.

- CPU/Memory Status—View CPU and memory utilization related information.

Table 8 CPU/Memory Status Page Field Description

Field	Description
CPU Utilization	
Core Details for Core 0 and Core 1	
For 5 Seconds	CPU utilization percentage for 5 seconds.
For 1 Minute	CPU utilization percentage for 1 minute.
For 5 Minutes	CPU utilization percentage for 5 minutes.
Memory Utilization	
Memory Details for System, Process and Configuration	
Total(K)	Total memory available for the system, process and configuration.
Used(K)	Memory used for the system, process and configuration.
Free(K)	Memory unused or available for the system, process and configuration.
Util %	Memory utilization percentage for the system, process and configuration.

Performance

Use this page to view all the GigabitEthernet and Ten GigabitEthernet performances categorized as Input and the performance information of each QAM channel categorized as Output.

Figure 9 Performance Page

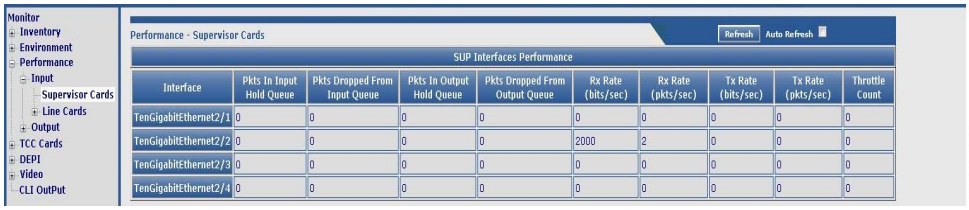
Table 9 Performance Page Field Description

Field	Description
Input Ports Details	
Interface	Interface type and identifier.
IP Address	Enter the interface IP address.
Status	Current input interface status.
Protocol	Protocol status of the input interface.
Output Ports Details	
QAM Card	QAM line card name.
Slot	Slot location on the chassis where the line card resides.
Description	Brief description of the line card composition.

Use the tree-based navigation to do the following:

- Input—View Ethernet interface input port related information.
  - Supervisor Cards—View supervisor Ethernet interface performance information.

Figure 10 Input Supervisor Cards Page



  - Line Cards—View all line card Ethernet interface performance information:
    a. Packets In Input Hold Queue
    b. Packets Dropped From Input Queue
    c. Packets In Output Hold Queue
    d. Packets Dropped From Output Queue
    e. Receive Rate (bits/sec)
    f. Receive Rate (Packets/sec)
    g. Transmit Rate (bits/sec)
    h. Transmit Rate (Packets/sec)
    i. Throttle Count
- Output—Use the tree-based navigation to view QAM channel performance information for the selected line card or RF port.

Figure 11 Output Line Cards Page

  - Line Cards—View all line card QAM channel bandwidth information:
    a. Total bandwidth
    b. Used bandwidth

c. Bandwidth reserved for Video
d. Maximum transfer unit

– DS384/DS48 *slot*—View selected line card QAM interface performance information:

a. Packets In Input Hold Queue
b. Packets Dropped From Input Queue
c. Packets In Output Hold Queue
d. Packets Dropped From Output Queue
e. Receive Rate (bits/sec)
f. Receive Rate (Packets/sec)
g. Transmit Rate (bits/sec)
h. Transmit Rate (Packets/sec)
i. Throttle Count

TCC Cards

Use this page to view TCC card status information.

Figure 12 TCC Cards Page

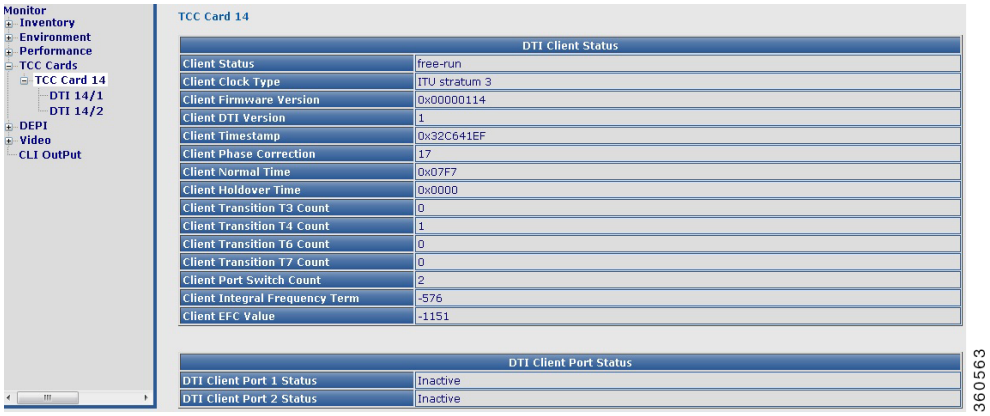
Table 10 TCC Cards Page Field Description

Field	Description
TCC Cards-DTI Client Status	
DTI Status (TCC 13 and TCC 14)	
DTI Client Status	TCC card status information.
DTI Client Port 1 Status	Active or inactive.
DTI Client Port 2 Status	Active or inactive.

Use the tree-based navigation to do the following:

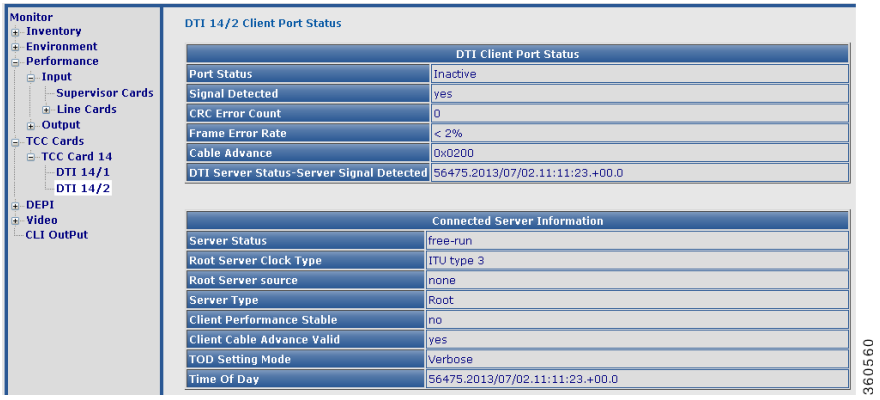
- TCC Card *slot*—View DTI client and port status information.

Figure 13 TCC Card slot Page



- DTI *slot/port*—View DTI client port status and connected server information.

Figure 14 DTI slot/port Page



DEPI

Use this page to view chassis and line card DEPI session count and session information.

Figure 15 DEPI Page

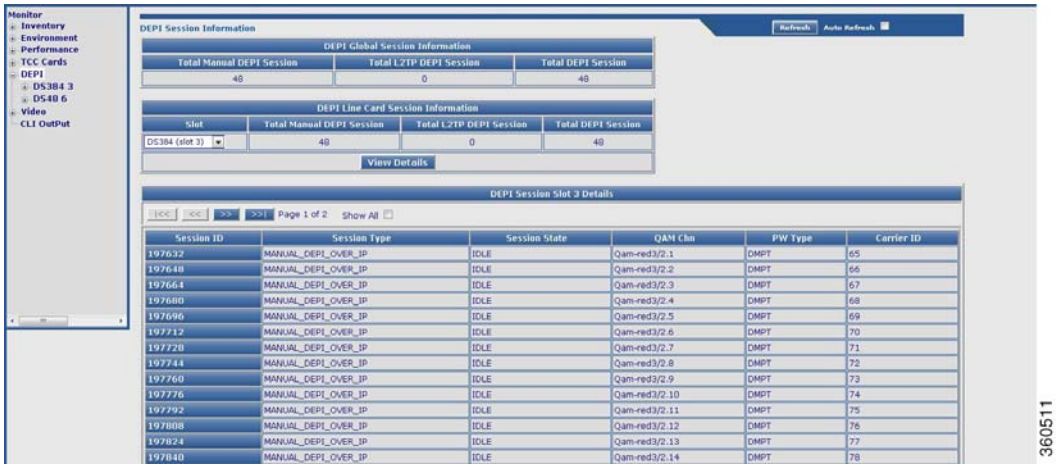


Table 11 DEPI Page Field Description

Field	Description
DEPI Global Session Information	
Total Manual DEPI Session	Total number of manual DEPI sessions on the chassis.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the chassis.
Total DEPI Session	Total number of DEPI sessions on the chassis.
DEPI Line Card Session Information	
Slot	Slot where the line card resides. Use the drop-down list to choose a line card and click **View Details** to view its DEPI session information.
Total Manual DEPI Session	Total number of manual DEPI sessions on the line card.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the line card.
Total DEPI Session	Total number of DEPI sessions on the line card.
DEPI Session Slot *slot* Details	
Session ID	DEPI session ID. Click a session ID to view its DEPI session basic and verbose information.
Session Type	DEPI session type.
Session State	DEPI session current state.
QAM Chn	QAM channel information for the DEPI session.

Table 11 DEPI Page Field Description (continued)

Field	Description
PW Type	DEPI mode for the DEPI session.
Carrier ID	Carrier ID for the DEPI session.
Use the tree-based navigation to view the line card, RF port, or channel level specific DEPI information.	

Video

Use this page to view all video session summary information.

Figure 16 Video Page

Table 12 Video Page Field Description

Field	Description
Video Sessions Summary	
Active	Total number of active video sessions on the chassis.
Idle	Total number of idle video sessions on the chassis.
Off	Total number of sessions in “OFF” state.
Blocked	Total number of sessions in “Blocked” state.
PSI-Ready	Total number of video sessions that are PSI-ready.
UDP	Total number of UDP sessions on the chassis.
ASM	Total number of ASM sessions on the chassis.
SSM	Total number of SSM sessions on the chassis.
Remap	Total number of video sessions configured as Remap.
Data	Total number of video sessions configured as Data.
PassThru	Total number of video sessions configured as PassThru.
Shell	Total number of video shell sessions.
Bound	Total number of video bound sessions.
Init	Total number of sessions in “init” state.

Table 12 Video Page Field Description (continued)

Field	Description
Total Sessions	Total number of video sessions on the chassis.
Total Bitrate	Bitrate value for the chassis (in bps).

Local Session

Use this page to view chassis and line card video local session information.

Figure 17 Local Session Page

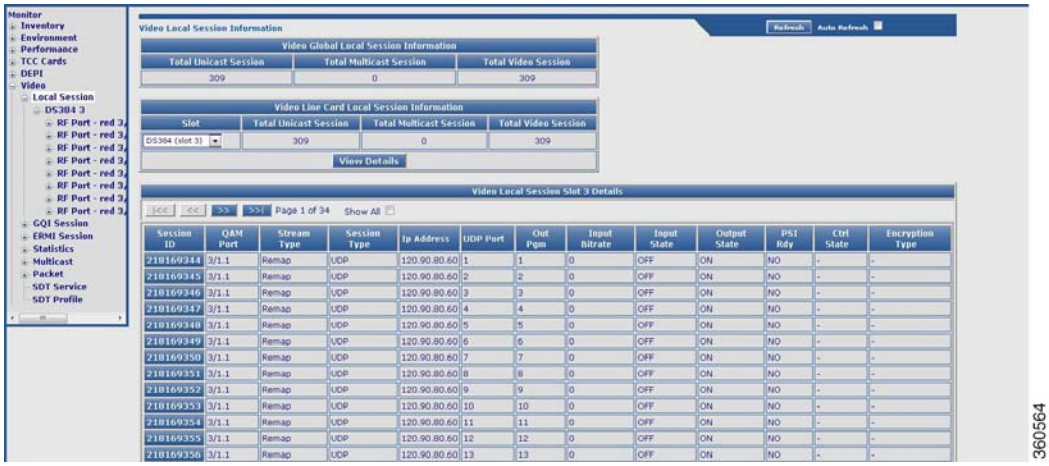


Table 13 Local Session Page Field Description

Field	Description
Video Global Session Information	
Total Unicast Session	Total number of unicast video local sessions on the chassis.
Total Multicast Session	Total number of multicast video local sessions on the chassis.
Total Video Session	Total number of video local sessions on the chassis.
Video Line Card Session Information	
Slot	Use the drop-down list to choose a slot and click **View Details** button to view its video local session details.
Total Unicast Session	Total number of unicast video local sessions on the selected line card.
Total Multicast Session	Total number of multicast video local sessions on the selected line card.
Total Video Session	Total number of video local sessions on the selected line card.

Table 13 Local Session Page Field Description (continued)

Field	Description
Video Session Slot All Details	
Session ID	Click a session ID to view its detailed video session information.
QAM Port	QAM port information.
Stream Type	Video session stream type.
Session Type	Video session type.
Ip Address	Video session IP address.
UDP Port	UDP port number.
Out Pgm	Single ProgramTransport Stream (SPTS) or Multiple ProgramTransport Stream (MPTS) program number.
Input Bitrate	Actual bitrate measured on the input.
Input State	State on the input.
Output State	State on the output.
PSI Rdy	PSI ready state.
Ctrl State	Controller state.
Encryption Type	Current encryption type of the session.
Note Use the tree-based navigation available at the line card, RF Port and QAM channel level to view configured local session information.	

GQI Session

Use this page to view chassis and line card video GQI session information.

Table 14 GQI Session Page Field Description

Field	Description
Video Global GQI Session Information	
Total Unicast Session	Total number of unicast video GQI sessions on the chassis.
Total Multicast Session	Total number of multicast video GQI sessions on the chassis.
Total Video Session	Total number of video GQI sessions on the chassis.
Video Line Card GQI Session Information	
Slot	Use the drop-down list to choose a slot and click **View Details** button to view its video GQI session details.
Total Unicast Session	Total number of unicast video GQI sessions on the selected line card.

Table 14 GQI Session Page Field Description (continued)

Field	Description
Total Multicast Session	Total number of multicast video GQI sessions on the selected line card.
Total Video Session	Total number of video GQI sessions on the selected line card.
Video GQI Session Slot *slot* Details	
GQI Session ID	Click a GQI session ID to view its detailed video session information.
QAM Carrier	QAM carrier information.
QP Id	QAM partition identifier.
SCM Id	Session control manager identifier.
Stream Type	Video session stream type.
Session Type	Video session type.
Ip Address	Video session IP address.
UDP Port	UDP port number.
Out Pgm	Single ProgramTransport Stream (SPTS) or Multiple ProgramTransport Stream (MPTS) program number.
Input Bitrate	Actual bitrate measured on the input.
Input State	State on the input.
Output State	State on the output.
PSI Rdy	PSI ready state.
Encrypt	Encryption status and type.

Note Use the tree-based navigation available at the line card, RF Port and QAM channel level to view configured GQI session information.

ERMI Session

Use this page to view chassis and line card edge resource manager interface (ERMI) session count information.

Table 15 ERMI Session Page Field Description

Field	Description
Video Global ERMI Session Information	
Total Unicast Session	Total number of unicast video ERMI sessions on the chassis.
Total Multicast Session	Total number of multicast video ERMI sessions on the chassis.
Total Video Session	Total number of video ERMI sessions on the chassis.
Video Line Card ERMI Session Information	

Table 15 ERMI Session Page Field Description (continued)

Field	Description
Slot	Use the drop-down list to choose a slot and click **View Details** button to view its video ERMI session details.
Total Unicast Session	Total number of unicast video ERMI sessions on the selected line card.
Total Multicast Session	Total number of multicast video ERMI sessions on the selected line card.
Total Video Session	Total number of video ERMI sessions on the selected line card.
Video ERMI **Session Slot** ***slot*** **Details**	
ERMI Session ID	Click an ERMI session ID to view its detailed video session information.
QAM Carrier	QAM carrier information.
QP Id	QAM partition identifier.
SCM Id	Session control manager identifier.
Stream Type	Video session stream type.
Session Type	Video session type.
Ip Address	Video session IP address.
UDP Port	UDP port number.
Out Pgm	Single ProgramTransport Stream (SPTS) or Multiple ProgramTransport Stream (MPTS) program number.
Input Bitrate	Actual bitrate measured on the input.
Input State	State on the input.
Output State	State on the output.
PSI Rdy	PSI ready state.
Session Grp	Session group identifier.
Note Use the tree-based navigation available at the line card, RF Port and QAM channel level to view configured ERMI session information.	

Use the tree-based navigation to do the following:

- DS384 *slot*—View line card ERMI session information.
- ERRP Statistics—View ERMI ERRP statistics information.
- ERRP Server—View ERMI ERRP server information.
- ERRP Server Resources—View ERMI ERRP server resources information.
- RTSP Statistics—View ERMI RTSP statistics information.
- RTSP Server—View ERMI RTSP server information.

Statistics

Use this page to view all line card video packet statistics summary information.

Table 16 Statistics Page Field Description

Field	Description
Video Packets Statistics	
Slot Id	Slot location where the line card resides on the chassis.
LBG Id	Load balancing group identifier.
Multicast Groups	Number of multicast groups.
Multicast Sessions	Number of multicast sessions.
Unicast Sessions	Number of unicast sessions.
Multicast DS Packets	Number of multicast downstream packets.
Unicast DS Packets	Number of unicast downstream packets.
Total Multicast Sessions	Total number of multicast sessions on the chassis or line card.
Total Unicast Sessions	Total number of unicast sessions on the chassis or line card.

Use the tree-based navigation to do the following:

- DS384 *slot*—View line card video packet statistics brief and detailed information.

Multicast

Use this page to view all line card or selected line card video route multicast information.

Table 17 Multicast Page Field Description

Field	Description
Video Route Multicast	
Line Cards	Use the drop-down list to select a line card to view its video route multicast information or All to view a summary of all routes configured on the line card and click **Details**.
Video Route Multicast Slot *slot* Information	
Source	Multicast source IP address.
Group	Multicast group IP address.
Rx-Interface	Input interface (GbE/10GbE).
Tx-slot/LBG	Output slot and load balancing group.
Sessions	Total number of sessions.

Use the tree-based navigation to do the following:

- Up Link—View the video multicast uplink summary information.

Table 18 Up Link Page Field Description

Field	Description
Video Multicast Uplink	
Uplink Interface	Uplink interface (GbE/10GbE).
Status	Current status of the uplink interface.
Allocated Streams	Total number of streams allocated for the uplink interface.
Maximum Bandwidth	Maximum bandwidth available for the uplink interface.
Allocated Bandwidth	Maximum bandwidth allocated for the uplink interface.
Backup Interface	Backup uplink interface.
Backup Activated	Backup activation status.

Packet

Use this page to view global video insertion packet information.

Table 19 Packet Page Field Description

Field	Description
Global Video Packets Information	
Packet Stream ID	Packet stream identifiers of the video packets.
Interface	QAM channel or QAM subinterface.
Version	Video packet version.
Times Repeat	Packets repetition state such as continuous.
Actual Repeated	Number of times the packets are repeated.
Insert Rate (bps)	Rate at which packets are inserted.
Number of Pkts Inserted	Number of packets inserted.
State	Status of the packets (on or off).
Use the tree-based navigation to view this information at a line card, RF port, or chassis level.	

SDT Service

Use this page to view all Subscriber Descriptor Table (SDT) service related information.

Figure 18 SDT Service Page

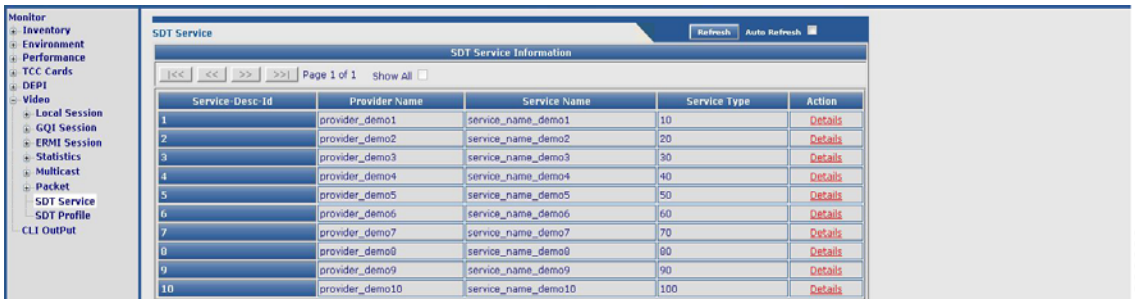


Table 20 SDT Service Page Field Description

Field	Description
SDT Service Information	
Service-Desc-Id	SDT service descriptor identifier.
Provider Name	SDT service provider name.
Service Name	SDT service name.
Service Type	SDT service type.
Action	Click *Details* to view associated SDT profiles for the selected Service-Desc-Id.

SDT Profile

Use this page to view all Subscriber Descriptor Table (SDT) profile related information.

Figure 19 SDT Service Page

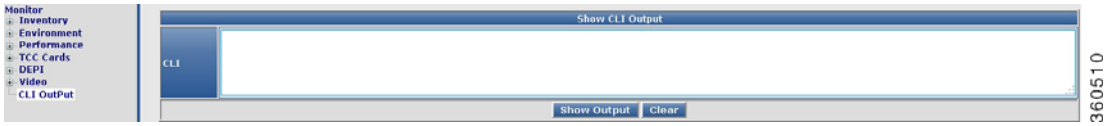
Table 21 SDT Service Page Field Description

Field	Description
SDT Profile Information	
SDT Profile	SDT service descriptor identifier.
Action	Click *Details* to view the service id, descriptor id and associated QAM information for the selected SDT Profile id.

CLI Output

Use the CLI Output page to use the **show** commands.

Figure 20 CLI Output Page



Enter the **show** command in the CLI field and click **Show Output** to view the command output, or **Clear** to abort.

Note Commands like the **show tech** command take a long time to execute and hence it is not recommended to execute such commands.

Alarm

Use the tree-based navigation on the Alarm page to do the following:

- Alarms—Use this page to view all alarms logged in the system.
- Severe Logs—Use this page to view top 20 severe logs displayed based on the highest severity level.
- Logging—Use this page to view common logging information.
- All Logs—Use this page to view all logs.

Alarms

Use this page to view all alarms logged in the system.

Figure 21 Alarms Page

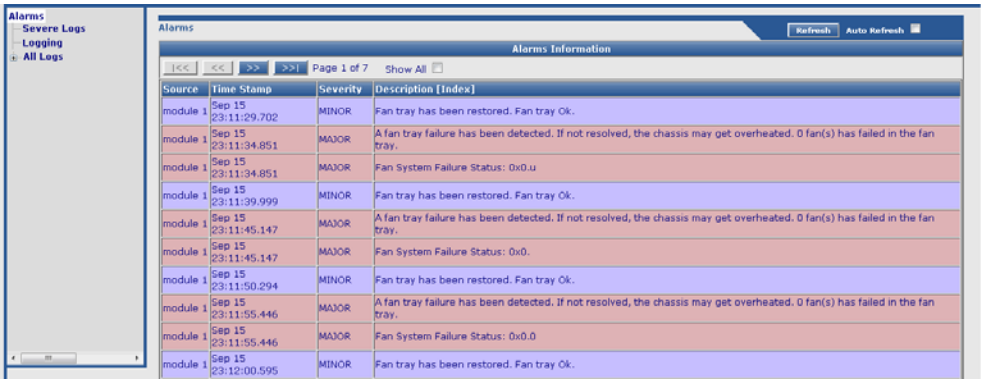


Table 22 Alarms Page Field Description

Field	Description
Alarms	
Source	Source module where the alarm is generated.
Time Stamp	Provides the time stamps for the Alarm events.
Severity	Severity classification of the alarm.
Description [Index]	Alarm description.

Note:

- Critical—Alarms with severity as critical are displayed in red color.
- MAJOR—Alarms with severity as major are displayed in orange color.
- Minor—Alarms with severity as minor are displayed in blue color.

Severe Logs

Use this page to view the top 20 severe logs in the system.

Figure 22 Severe Logs Page

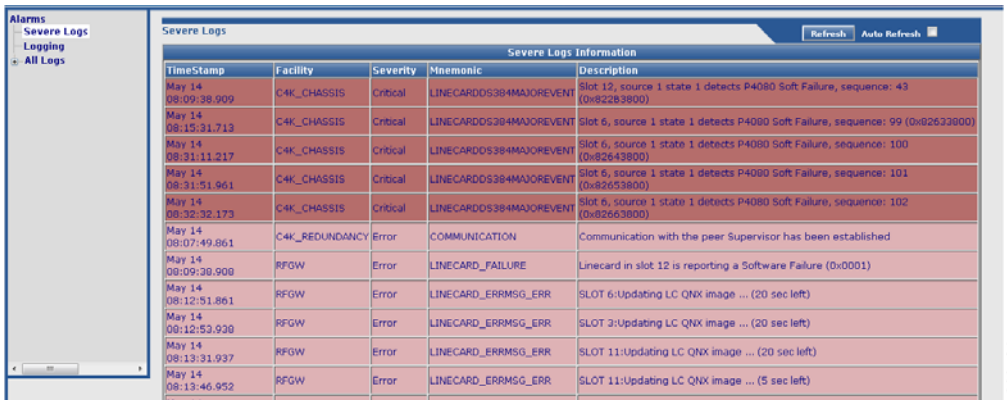


Table 23 Severe Logs Page Field Description

Field	Description
Severe Logs	
TimeStamp	Timestamp for the log.
Facility	Module for which the log was generated.
Severity	Severity of the log.
Mnemonic	Label for the class of log.
Description	Log description.

Note:

The logs are displayed in order of severity:

1. emergency(0)
2. alert(1)
3. critical(2)
4. error(3)
5. warning(4)

Logging

Use this page to view logging information and logging details.

Figure 23 Logging Page

Table 24 Logging Page Field Description

Field	Description
Logging Information	
Syslog Logging	Information about syslog message logging.
Console Logging	Information about console message logging.
Monitor Logging	Information about monitor message logging.
Buffer Logging	Information about buffer message logging.
Exception Logging	Information about exception message logging.
Count & Timestamp Logging Messages	Information about count and timestamp message logging.
Persistent logging	Information about persistent message logging.
Trap Logging	Information about trap message logging.
Log Buffer Size	Log buffer size.
Show Logging Details Displays the **show logging** command output.	

All Logs

Use this page to view all the logs in the system.

Figure 24 All Logs Page

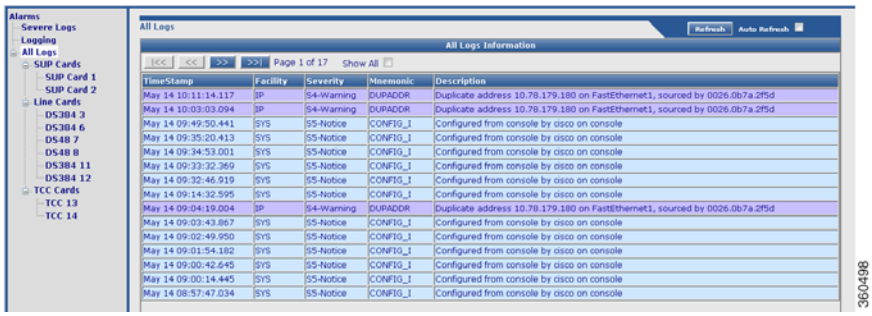


Table 25 All Logs Page Field Description

Field	Description
TimeStamp	Timestamp for the log.
Facility	Module for which the alarm was generated.
Severity	Severity of the alarm.
Mnemonic	Label for the class of alarm.
Description	Alarm description.

Use the tree-based navigation to view the following:

- SUP Cards—Use this page to view supevisor card specific logs.
- Line Cards—Use this page to view line card specific logs.
- TCC Cards—Use this page to view TCC card specific logs.

Configuration Pages

The Cisco RFGW-10 GUI application includes the following configuration pages:

- Redundancy, page 34
- QAM, page 39
- DEPI, page 53
- Video, page 61
- System, page 96

Redundancy

Use the tree-based navigation on the Redundancy page to do this:

- Redundancy—View chassis redundancy information, edit redundancy mode, and change the redundancy main-CPU auto sync configuration.
- Supervisor cards—View supervisor card redundancy information.
- Line Cards—Create and manage line card redundancy groups and view line card redundancy information.
- TCC Cards—View TCC card redundancy information.
- Switchover—Manage hardware component switchover and reload.

Redundancy

Use this page to view chassis redundancy information, edit redundancy mode, and change the redundancy main-CPU auto sync configuration.

Figure 25 Redundancy Page

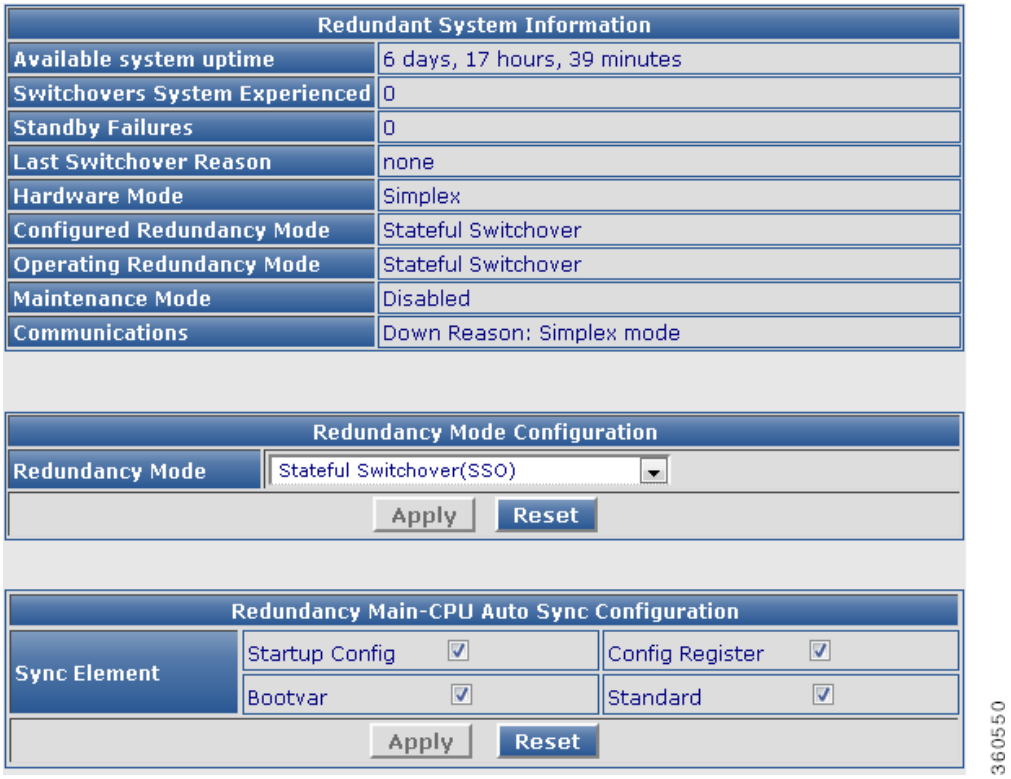


Table 26 Redundancy Page Field Description

Field	Description
Redundant System Information	
Available system uptime	Time duration of how long the system has been alive.
Switchovers System Experienced	Total number of switchovers on the system.
Standby Failures	Total number of standby Supervisor failures.
Last Switchover Reason	Reason why the last switchover occured.
Hardware Mode	Mode in which the system is operating.
Configured Redundancy Mode	Redundancy mode configured on the system.
Operating Redundancy Mode	Current redundancy mode of the system.
Maintenance Mode	Maintenance mode.
Communications	Communication mode.
Redundancy Mode Configuration	
Redundancy Mode	Redundancy mode of the chassis. Use the drop-down list to choose a mode for the chassis.
Click **Apply** to accept changes and **Reset** to abort.	
Redundancy Main-CPU Auto Sync Configuration	
Sync Element	Check the checkbox against the desired element to auto synchronize with the Main-CPU configuration. Click **Apply** to accept changes and **Reset** to abort.

Supervisor cards

Use this page to view Supervisor card redundancy information.

Figure 26 Supervisor Cards Page

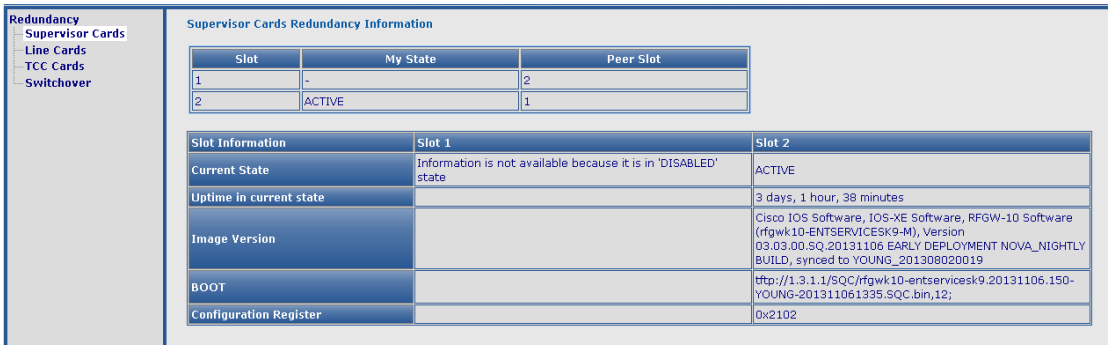


Table 27 Supervisor Cards Page Field Description

Field	Description
Supervisor Cards Redundancy Information	
Slot	Slot number where the Supervisor card resides in the chassis.
My State	Current state of the Supervisor card.
Peer Slot	Slot number of the peer Supervisor card.
Slot Information (Slot 1/Slot 2)	Following slot information are listed for the Supervisor cards in slot 1 and slot 2: • Current State—Current state of the Supervisor card. • Uptime in current state—Time duration of how long the card has been up in its current state. • Image Version—Software image version information. • BOOT—Boot path. • Configuration Register—Assigned configuration register value of the Supervisor card.

Line Cards

Use this page to manage redundancy groups and view line card redundancy information.

Figure 27 Line Cards Page

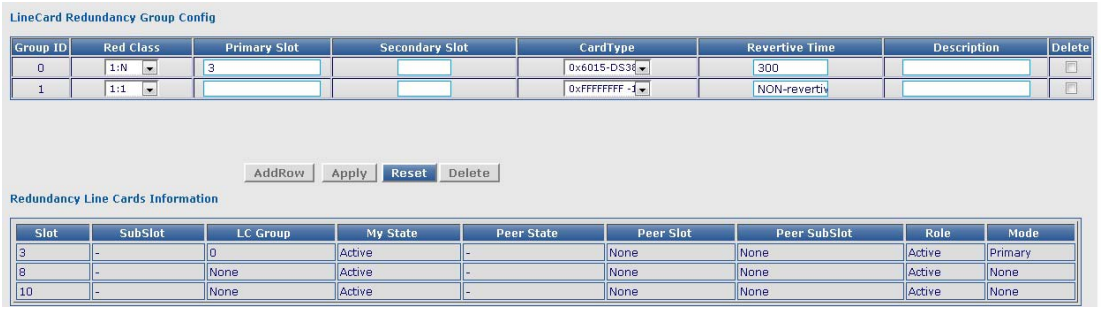


Table 28 Line Cards Page Field Description

Field	Description
LineCard Redundancy Group Config	
Group ID	Line card group identifier. Valid value is 0 or 1.

Table 28 Line Cards Page Field Description (continued)

Field	Description
Red Class	Use the drop-down list to assign a class to the group. Valid value is 1:N or 1:1.
Primary Slot	Primary members of the line card redundancy group. Enter line card slot number seperated by a comma to add or remove from the group. The valid values are 3 to 10.
Secondary Slot	Secondary members of the line card redundancy group. The valid value is 11 or 12.
CardType	Use the drop-down list to reserve a card type for the redundancy group.
Revertive Time	Enable revertive switchover and enter the timeout interval (in seconds) for the revert to occur. The valid range is from 10 to 86400 or NON-revertive.
Description	Enter the line card group description.
Delete	Check the checkbox and click **Delete** to delete a line card group entry.
Click **AddRow** to add a new entry, **Apply** to accept changes, or **Reset** to abort.	
Redundancy Line Cards Information	
Slot	Slot number where the line card resides in the chassis.
SubSlot	Subslot number of the line card.
LC Group	Line card group number.
My State	Current state of the line card.
Peer State	Current state of the peer line card.
Peer Slot	Slot number where the peer line card resides in the chassis.
Peer SubSlot	Subslot number where the peer line card resides in the chassis.
Role	Active or standby.
Mode	Redundancy mode of the line card.

TCC Cards

Use this page to view TCC card redundancy information.

Figure 28 TCC Cards Page

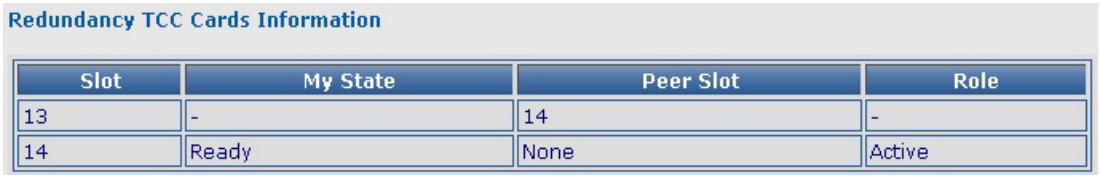


Table 29 TCC Cards Page Field Description

Field	Description
Redundancy TCC Cards Information	
Slot	Slot number where the TCC card resides in the chassis.
My State	Current state of the TCC card.
Peer Slot	Slot number of the peer TCC card.
Role	Active or standby.

Switchover

Use this page to manage switchover of the different hardware components.

Figure 29 Switchover Page

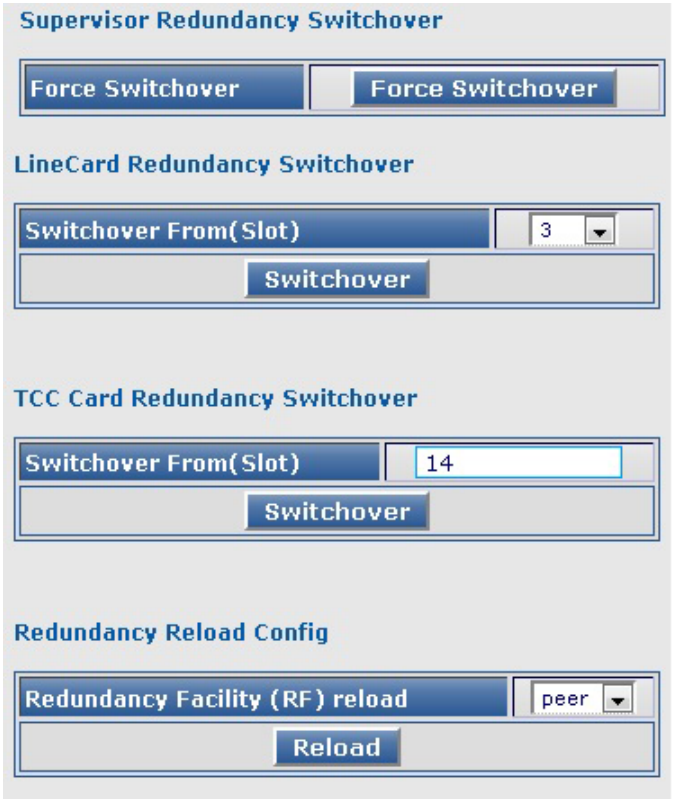


Table 30 Switchover Page Field Description

Field	Description
Supervisor Redundancy Switchover	
Force Switchover	Click **Force Switchover** to forcefully switch over the Supervisor cards in the chassis.
LineCard Redundancy Switchover	
Switchover From(Slot)	Use the drop-down list to choose a line card (slot number) and click **Switchover** to make it switch over with its standby card.
TCC Card Redundancy Switchover	
Switchover From(Slot)	Click **Switchover** to make it switch over with the standby TCC card.
Redundancy Reload Config	
Redundancy Facility (RF) reload	Use the drop-down list to choose a reload type and click **Reload** to reset the cards. Use **peer** to reload only the standby card or **shelf** to reload both the active and standby cards.

QAM

Use the tree-based navigation on the QAM page to do this:

- QAM—View QAM line card details.
- RF Profile—Create RF profiles.
- Frequency Profile—Create frequency profiles.
- Logical QAM Group—View logical QAM group details.
- Cable Mode—View assigned QAM cable mode details for the selected line card.
- DS384 slot—Configure RF port and QAM channel downstream parameters for a line card.
- QAM Replication—Create and manage QRGs.

QAM

Use this page to view the QAM line card details.

Figure 30 QAM Page

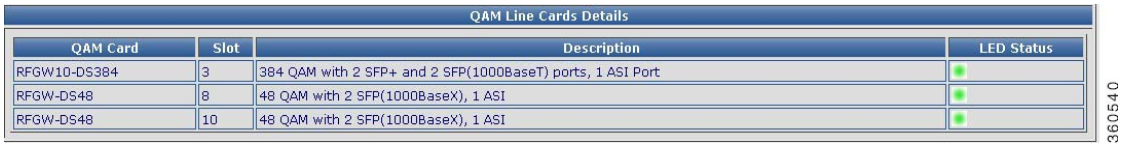


Table 31 QAM Page Field Description

Field	Description
QAM Line Cards Details	
QAM Card	Lists the QAM line cards installed in the chassis.
Slot	Slot number where the line card resides in the chassis.
Description	Describes the line card composition.
LED Status	Indicates the current state of the line card.

RF Profile

Use this page to view, edit, or delete existing RF profiles or create new RF profiles.

Figure 31 RF Profile Page

Table 32 RF Profile Creation Page Field Description

Field	Description
RF Profile Creation	
Profile Id	Chassis level RF profile ID with name. **Note** Enter only the RF profile name while creating a new RF profile. The ID is auto generated.
Modulation	Use the drop-down list to choose a QAM modulation format for the RF profile.
Annex	Use the drop-down list to choose an MPEG framing format (annex) for the RF profile. The following MPEG framing format (annex) options are listed: • Annex A—6MHZ • Annex A—8MHZ • Annex B and • Annex C

Table 32 RF Profile Creation Page Field Description (continued)

Field	Description
Int Depth1	Use the drop-down list to choose the first interleaver depth value for the RF profile.
Int Depth2	Use the drop-down list to choose the second interleaver depth value for the RF profile.
Symbol Rate	Enter the symbol rate for the RF profile. The valid range is from 3500000 to 7000000 symbols per second.
Delete	Check the checkbox to delete an RF profile. Or click **Select All** to check the Delete checkbox for all RF profile entries except the default RF profile, which was generated by the system.
Click **Delete** to delete the checked RF profile entries.	
Click **AddRow** to add a new RF profile entry, **Apply** to accept changes or **Reset** to abort.	

Frequency Profile

Use this page to view, edit, or delete existing frequency profiles or create new frequency profiles.

Figure 32 Frequency Profile Page

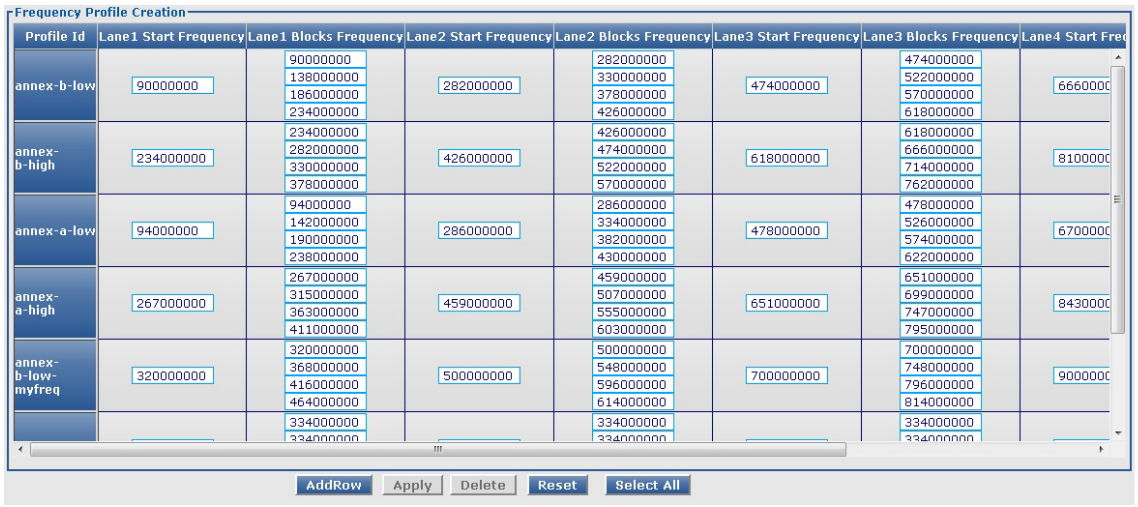


Table 33 Frequency Profile Creation Page Field Description

Field	Description
Frequency Profile Creation	
Profile Id	Chassis level frequency profile name.
Lane1 Start Frequency	Enter lane 1 start frequency value. The valid range is from 48000000 to 995000000.

Table 33 Frequency Profile Creation Page Field Description (continued)

Field	Description
Lane1 Blocks Frequency	Enter lane 1 block start frequency. The valid range is from 48000000 to 995000000.
Lane2 Start Frequency	Enter lane 2 start frequency value. The valid range is from 48000000 to 995000000.
Lane2 Blocks Frequency	Enter lane 2 block start frequency. The valid range is from 48000000 to 995000000.
Lane3 Start Frequency	Enter lane 3 start frequency value. The valid range is from 48000000 to 995000000.
Lane3 Blocks Frequency	Enter lane 3 block start frequency. The valid range is from 48000000 to 995000000.
Lane4 Start Frequency	Enter lane 4 start frequency value. The valid range is from 48000000 to 995000000.
Lane4 Blocks Frequency	Enter lane 4 block start frequency. The valid range is from 48000000 to 995000000.
Delete	Check the checkbox to delete an RF profile. Or click **Select All** to check the Delete checkbox for all frequency profile entries except the default frequency profile, which was generated by the system.
Click **Delete** to delete the checked frequency profile entries.	
Click **AddRow** to add a new frequency profile entry, **Apply** to accept changes or **Reset** to abort.	

Logical QAM Group

Use this page to view logical QAM group details.

Figure 33 Logical QAM Group Page

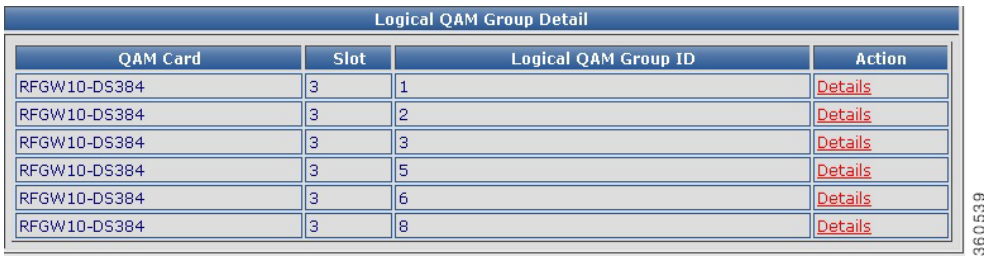


Table 34 Logical QAM Group Page Field Description

Field	Description
Logical QAM Group Details	
QAM Card	Lists the QAM line cards installed in the chassis.

Table 34 Logical QAM Group Page Field Description (continued)

Field	Description
Slot	Slot number where the line card resides in the chassis.
Logical QAM Group ID	Lists the logical QAM group identifier for the line card.
Action	Click *Details* to view detailed logical QAM group information for the Logical QAM Group ID.
Logical QAM Group-Slot: *slot*, Logical QAM Group ID: *slot*	
RF Profile ID	The RF profile ID for the selected group ID.
First Port	First port location of the group ID.
Associated Qam Carrier ids	QAM carrier IDs associated with the first port of the group ID.
Second Port	Second port location of the group ID.
Associated Qam Carrier ids	QAM carrier IDs associated with the second port of the group ID.

Cable Mode

Use this page to view the count of assigned and unassigned cable mode details for the selected line card.

Figure 34 Cable Mode Page

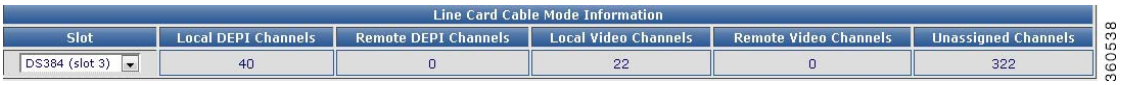


Table 35 Cable Mode Page Field Description

Field	Description
Line Card Cable Mode Information	
Slot	Use the drop-down list to choose a line card to view its cable mode information.
Local DEPI Channels	Total number of local DEPI channels configured on the line card.
Remote DEPI Channels	Total number of remote DEPI channels configured on the line card.
Local Video Channels	Total number of local video channels configured on the line card.
Remote Video Channels	Total number of remote video channels configured on the line card.
Unassigned Channels	Total number of unassigned channels available on the line card.

DS384 *slot*

Use this page to view or edit the existing RF port and QAM channel downstream parameters for the selected Cisco DS-384 line card.

Figure 35 RF Ports Configuration - DS384 slot Pane

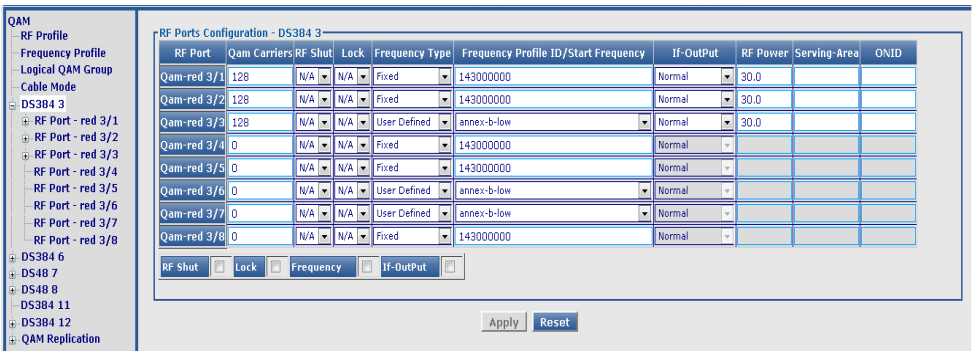


Figure 36 QAM Channel Configuration - DS384 slot Pane

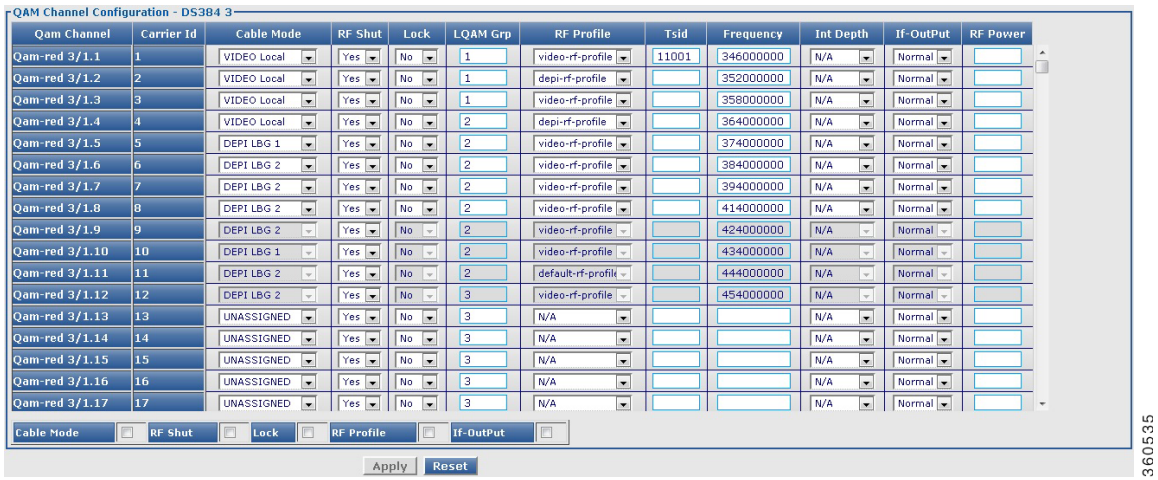


Table 36 DS384 Slot Page Field Description

Field	Description
RF Ports Configuration - DS384 *slot*	
RF Port	QAM interface information.
Qam Carriers	Enter the maximum number of QAM carrriers configurable on a port. The valid range is from 1 to 128. The acceptable values are 1/2 or multiples of 4.
RF Shut	Use the drop-down list to enable or disable the integrated upconverter on the line card. **Note** This field is always displayed as N/A.

Table 36 DS384 Slot Page Field Description (continued)

Field	Description
Lock	Use the drop-down list to lock or unlock the QAM interface configuration. **Note** This field is always displayed as N/A.
Frequency Type	Use the drop-down list to set the frequency type for the RF port.
Frequency Profile ID/Start Frequency	When the *Frequency Type* is selected as **User Defined**, use the drop-down list to set the frequency profile to be used on the QAM interface. When the *Frequency Type* is selected as **Fixed,** enter the start frequency for lane 1 on this port. The valid range for downstream frequency is from 45000000 to 995000000.
If-OutPut	Use the drop-down list to activate the downstream port. **Note** This field is always displayed as Normal.
RF Power	Enter the default RF power value.
Serving-Area	Serving Area ID used with the QAM channels configured on the RF port.
ONID	Original network ID used with the QAM channels configured on the RF port.
Note Either Server Area or ONID may be configured across the ports on the chassis.	
Click **Apply** to accept changes and **Reset** to abort. **Note** Changes applied on an RF port are applied on the channels too.	
QAM Channel Configuration - DS384 *slot*	
Qam Channel	QAM interface information.
Carrier Id	Carrier ID of the QAM channel.
Cable Mode	Use the drop-down list to choose a cable mode for the QAM channel. **Note** You can configure the DEPI and video cable modes.
RF Shut	Use the drop-down list to enable or disable the integrated upconverter on the line card.
Lock	Use the drop-down list to lock or unlock QAM interface configuration.
LQAM Grp	Enter the logical QAM group value. The valid range is from 1 to 48 per line card.
RF Profile	Use the drop-down list to choose the RF profile to be used on the QAM channel.
Tsid	Enter the downstream transport stream identifier. The valid range is from 1 to 65535.

Table 36 DS384 Slot Page Field Description (continued)

Field	Description
Frequency	Enter the downstream carrier center frequency. The valid range is from 45000000 to 999000000.
Int Depth	Use the drop-down list to choose the interleaver depth value for the QAM channel.
If-OutPut	Use the drop-down list to activate the downstream port.
RF Power	Enter the RF output power level in dBmV. The valid range is from 30 to 60. The format is XY.Z and the default value for Z is 0.

Click **Apply** to accept changes and **Reset** to abort.

Note You can repeat these configurations at the RF port and QAM channel level using the tree-based navigation at the line card level.

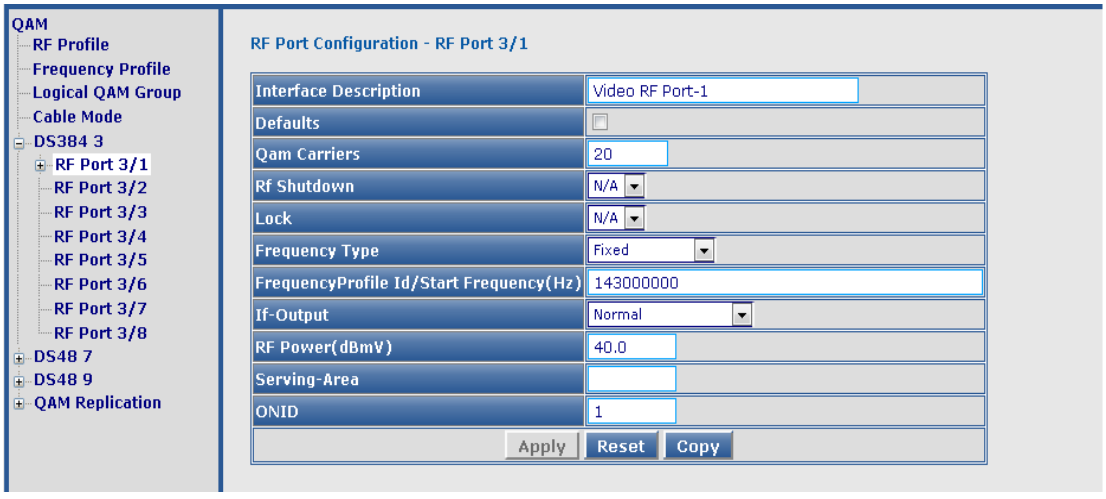
Note You can configure the interface description name, Spectrum-Inversion and default configuration at the RF port and QAM channel level using the tree-based navigation at the line card level.

RF Port Configuration - Copy

Under the QAM tab, click DS384 *slot* > RF Port line card, click on the RF Port.

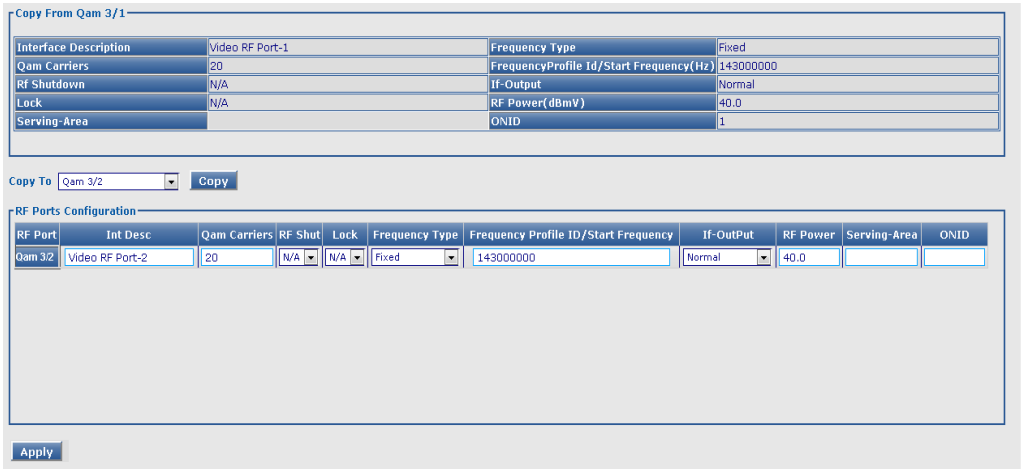
Use the following screens in sequence to copy the configuration of source RF Port *slot/port* to destination RF Port *slot/port*.

Figure 37 RF Port slot/port Copy pane



Click **Copy** to copy the required configuration.

Table 37 RF Port slot/port Copy-to Field pane



Select the destination *slot/port* for copying, in the **Copy To** drop-down list. The drop-down list displays the slots 3/2 through 3/8, other than the source *slot/port* and ALL RF.

Click **Copy** to paste the required configuration to destination RF Port *slot*.

Click **Apply** to save the copied configurations.

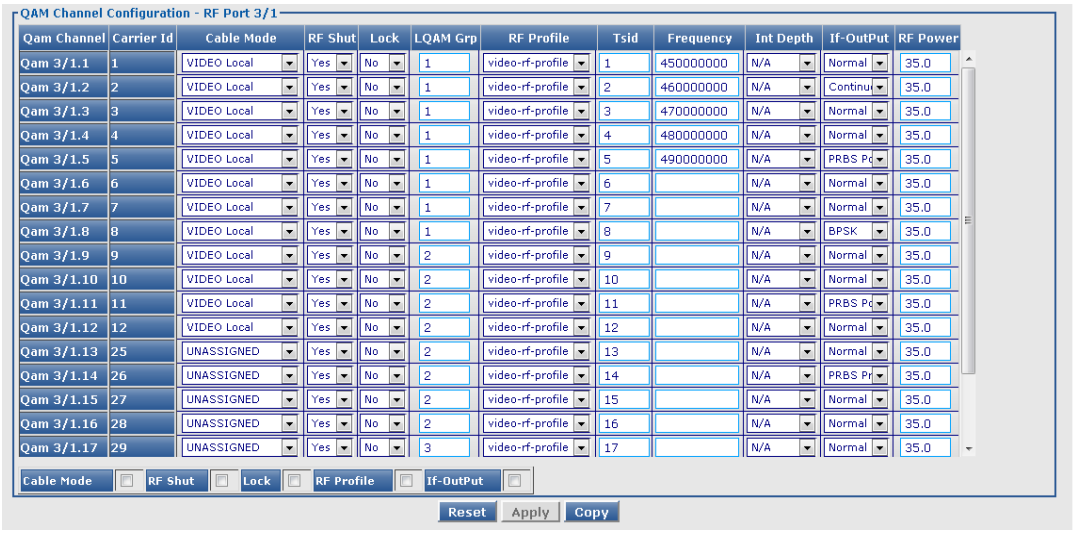
Note The **Copy** function does not copy the Serving Area and ONID configurations.

QAM Channel Configuration - Copy

Under the QAM tab, click DS384 *slot* > RF Port (source).

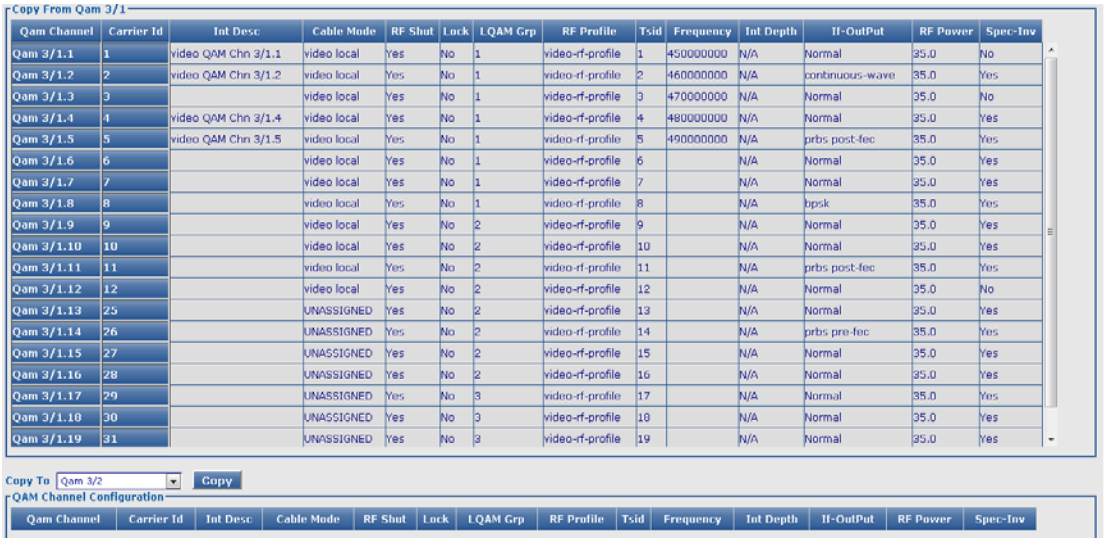
Use the following screens in sequence to copy the configuration of source QAM Channel to destination QAM Channel.

Figure 38 Source QAM Channel Configuration pane - Copy



Click **Copy** to copy the configurations from this source QAM Channel Configuration pane.

Figure 39 Destination QAM Channel Configuration Copy to pane

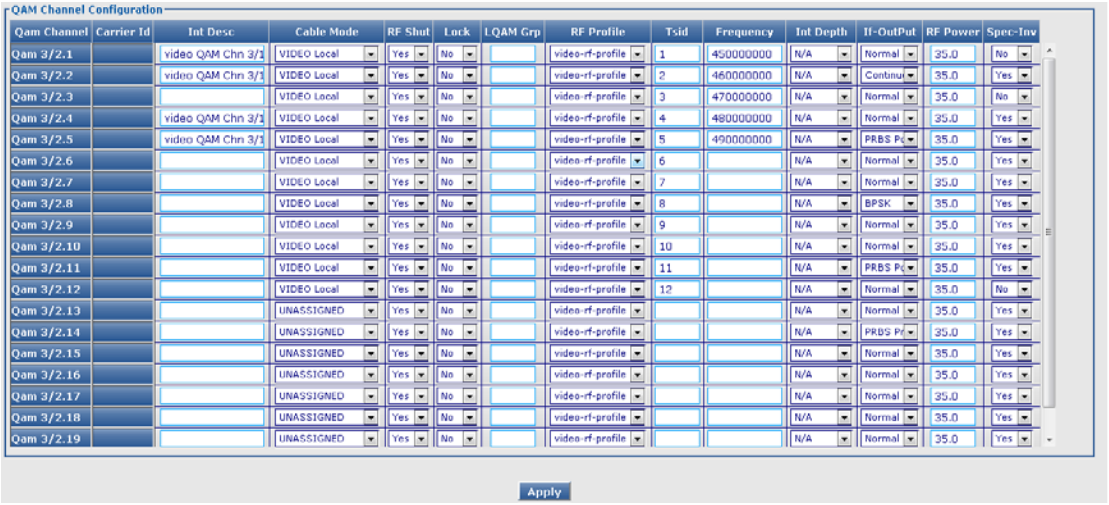


Select the destination QAM Channel *slot* from the **Copy To** drop-down list. The drop-down list displays the QAM slots other than the source *slot/port.*

Click **Copy** to paste the required configuration to destination RF Port *slot.*

The destination QAM Channel Configuration pane opens. The configurations are copied.

Figure 40 Destination QAM Channel Configuration - Copied



On the destination QAM Channel Configuration pane, click **Apply** to save the copied configuration.

Note If **Apply** on destination *slot/port* is not clicked, the copied configuration is not saved to the destination *slot/port*.

Note The **Copy** function does not copy the LQAM Group and TSID (except TSID for video remote and video local) configurations.

DS48 *slot*

Use this page to view or edit the existing RF port and QAM channel downstream parameters for the selected Cisco DS-48 line card.

Figure 41 RF Ports Configuration - DS48 slot Pane

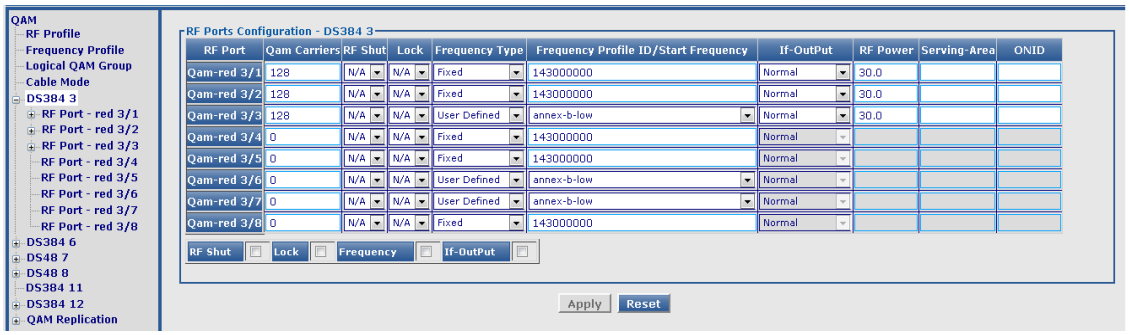


Figure 42 QAM Channel Configuration - DS48 slot Pane

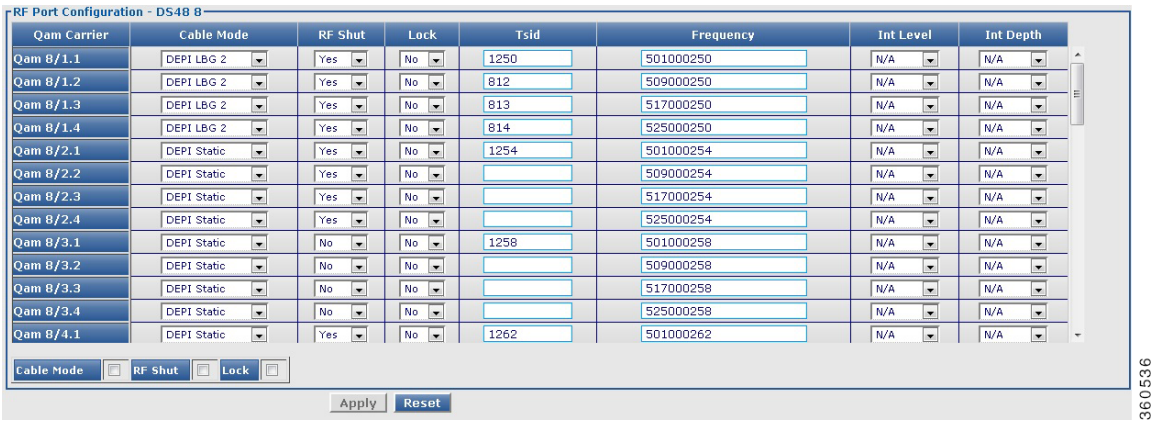


Table 38 DS48 slot Page Field Description

Field	Description
RF Ports Configuration - DS48 *slot*	
RF Port	QAM interface information.
RF Shut	Use the drop-down list to enable or disable the integrated upconverter on the line card.
Stacking	Use the drop-down list to set the frequency stacking.

Table 38 DS48 slot Page Field Description (continued)

Field	Description
Annex Type	Use the drop-down list to set the MPEG framing format.
Frequency	Enter the first QAM downstream center frequency. The valid range for downstream frequency is from 85000000 to 999000000.
If-OutPut	Use the drop-down list to activate the downstream port.
Modulation	Use the drop-down list to set the QAM modulation format.
RF Power	Enter the RF output power level in dBmV. The valid range is from 30 to 60. The format is XY.Z and the default value for Z is 0.
Symbol Rate	Enter the symbol rate. The valid range is from 3500000 to 7000000.
Click **Apply** to accept changes and **Reset** to abort. **Note** Changes applied on an RF port are applied on the channels too.	
QAM Channel Configuration - DS48 *slot*	
Qam Carrier	QAM interface information.
Cable Mode	Use the drop-down list to choose a DEPI mode for the QAM channel. **Note** Video features are not supported on the Cisco DS-48 line card.
RF Shut	Use the drop-down list to enable or disable the integrated upconverter on the line card.
Lock	Use the drop-down list to lock or unlock QAM interface configuration.
Tsid	Enter the downstream transport stream identifier. The valid range is from 1 to 65535.
Frequency	Enter the downstream carrier center frequency. The valid range is from 85000000 to 999000000.
Int Level	Use the drop-down list to choose the interleaver level value for the QAM channel.
Int Depth	Use the drop-down list to choose the interleaver depth value for the QAM channel.
Click **Apply** to accept changes and **Reset** to abort. **Note** You can repeat these configurations at the RF port and QAM channel level using the tree-based navigation at the line card level. **Note** You can configure the interface description name and default configuration at the RF port and QAM channel level using the tree-based navigation at the line card level.	

QAM Replication

Use this page to view configured QRG information for selected line card or all line cards in the chassis.

Figure 43 QAM Replication Page

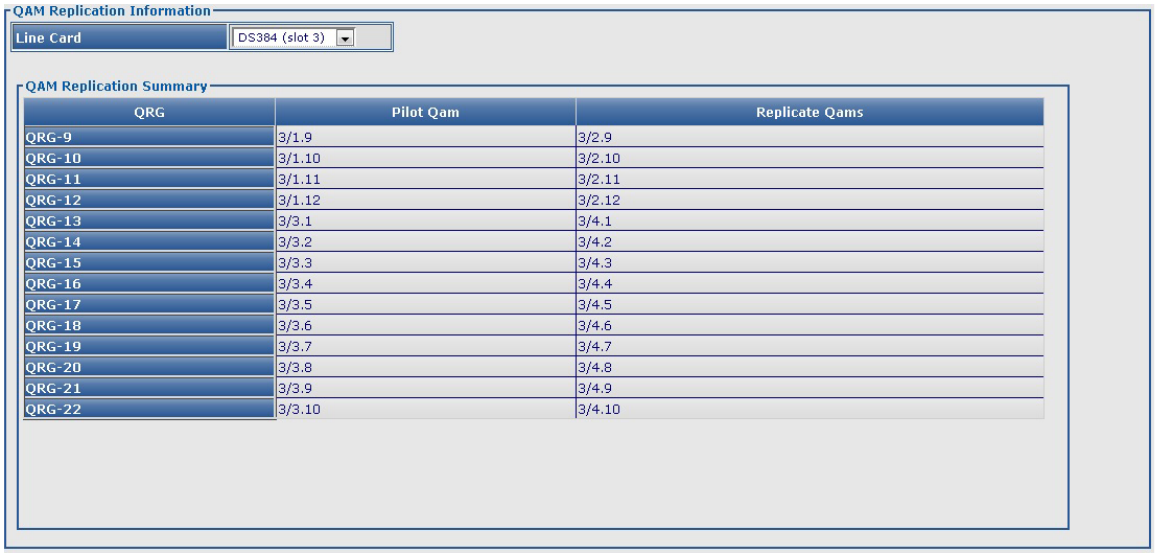


Table 39 QAM Replication Page Field Description

Field	Description
QAM Replication Information	
Line Card	Use the drop-down list to choose a line card or all to view its QAM replication summary information.
QAM Replication Summary	
QRG	QAM replication group (QRG) configured on the line card.
Pilot QAM	Pilot QAM of the QRG.
Replicate QAMs	Replicate QAMs of the pilot QAM in a QRG.

QAM Replication - DS384 *slot*

Use this page to view, or edit existing QAM replication information or add new QAM replication groups.

Figure 44 Qam Replication- DS384 slot pane

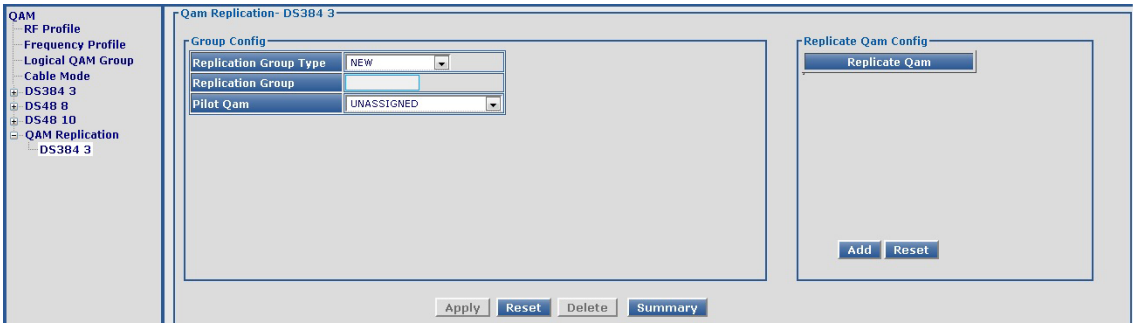


Table 40 DS384 slot Page Field Description

Field	Description
Qam Replication- DS384 *slot*	
Qam Replication Group Summary	
QRG	QAM replication group (QRG) configured on the line card.
Pilot QAM	Pilot QAM of the QRG.
Replicate QAMs	Replicate QAMs of the pilot QAM in a QRG.
Click **Add QRG** to view **Group Config** pane to add, edit or delete a QRG.	
Group Config	
Replication Group Type	Use the drop-down list to choose a replication group type. • NEW—To create a new group and assign a group number automatically. • Exist—To list existing QRGs in the Replication Group drop-down list and edit or delete its information. • USER DEFINED—To create a new group and manually assign a group number to it.
Replication Group	Enter the QAM group name.
Pilot Qam	Use the drop-down list to assign a QAM interface as the pilot QAM for the QRG.
Replicate Qam Config	
Replicate Qam	Click **Add** and use the drop-down list to assign replicate QAMs for the pilot QAM in the QRG.

Table 40 DS384 slot Page Field Description (continued)

Field	Description
Click **Apply** to accept changes, **Reset** to abort, **Delete** to delete a QRG entry or **Summary** to view the **QAM Replication Group Summary** pane.	
Note Bulk QRG removal is supported only through GUI. It takes about 3 seconds to complete the action with this option. While using this option the user should not simultaneously access the console to enter any commands. If the console is accessed simultaneously, the QRG removal in the standby supervisor card may be affected.	

DEPI

Use the tree-based navigation on the DEPI page to do the following:

- DEPI—View DEPI session count information for the chassis and line card.
- DEPI Class—Create new DEPI class and view existing DEPI class information.
- L2TP Class—Create new L2TP class and view existing L2TP class information.
- DEPI Tunnel—Create DEPI tunnels and view existing DEPI tunnel information.
- Session—View chassis and line card DEPI manual and L2TP session information.

DEPI

Use this page to view chassis and line card DEPI session count information.

Figure 45 DEPI Page

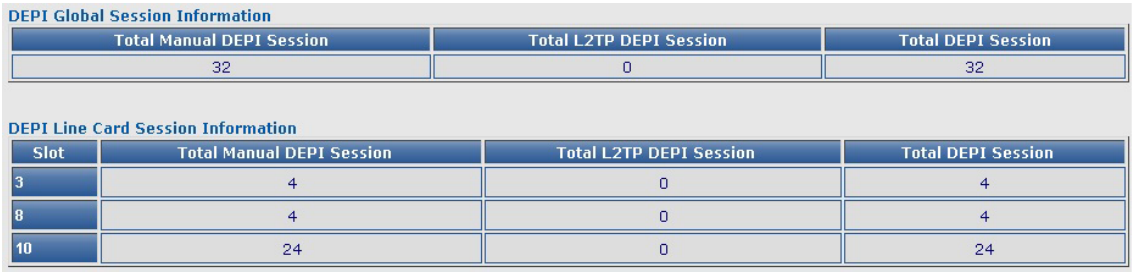


Table 41 DEPI Page Field Description

Field	Description
DEPI Global Session Information	
Total Manual DEPI Session	Total number of manual DEPI sessions on the chassis.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the chassis.
Total DEPI Session	Total number of DEPI sessions on the chassis.
DEPI Line Card Session Information	

Table 41 DEPI Page Field Description (continued)

Field	Description
Slot	Slot where the line card resides.
Total Manual DEPI Session	Total number of manual DEPI sessions on the line card.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the line card.
Total DEPI Session	Total number of DEPI sessions on the line card.

DEPI Class

Use this page to create and configure DEPI classes.

Figure 46 DEPI Class Page

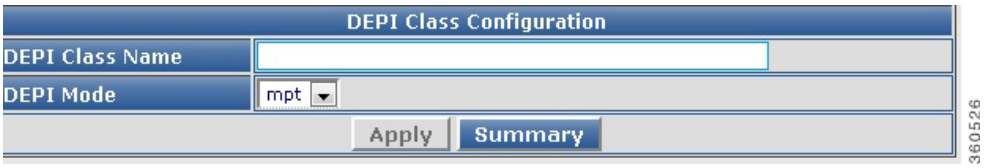


Table 42 DEPI Class Page Field Description

Field	Description
DEPI Class Configuration	
DEPI Class Name	Enter the DEPI class name.
DEPI Mode	Use the drop-down list to configure the DEPI mode.
Click **Apply** to accept changes or **Summary** to view all the DEPI classes configured in the chassis.	
DEPI Class Information	
DEPI Class Name	Lists all the DEPI classes configured in the chassis.
Delete	Check the checkbox to delete a DEPI class. Or click **Select All** to check the Delete checkbox for all DEPI class entries.
Click **Delete** to delete the checked DEPI class entries.	

L2TP Class

Use this page to view or configure DEPI L2TP class information.

Figure 47 L2TP Page

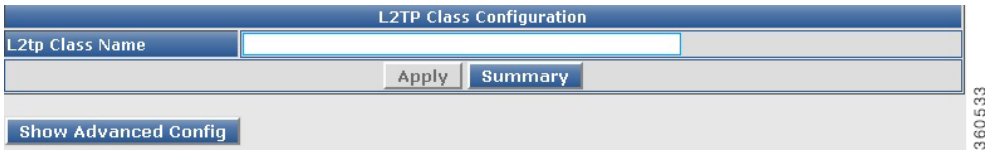


Figure 48 L2TP Advanced Configuration Page

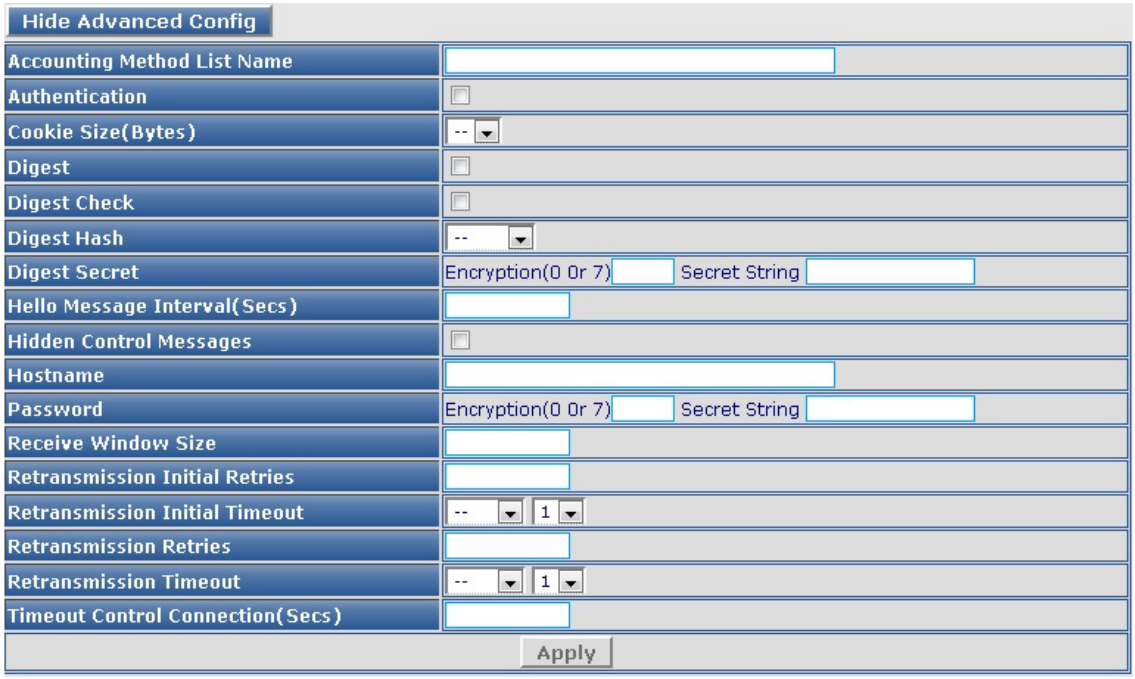


Table 43 DEPI Class Page Field Description

Field	Description
L2TP Class Configuration	
L2TP Class Name	Enter the L2TP class name.
Click **Apply** to accept changes or **Summary** to view all the L2TP classes configured in the chassis.	
L2TP Class Information	
L2TP Class Name	Lists all the L2TP classes configured in the chassis.

Table 43 DEPI Class Page Field Description (continued)

Field	Description
Delete	Check the checkbox to delete a L2TP class. Or click **Select All** to check the Delete checkbox for all L2TP class entries.
Click **Delete** to delete the checked L2TP class entries.	
Click **Show Advanced Config** to configure advanced L2TP class configuration.	
Accounting Method List Name	Method list used for accounting.
Authentication	Check to authenticate the L2TP control connection.
Cookie Size(Bytes)	Local cookie option. Use the drop-down list to set the cookie size.
Digest	Check the checkbox to send digest authentication messages for the L2TP control connection.
Digest Check	Check the checkbox to enable message digest validation.
Digest Hash	Use the drop-down list to choose the message digest hash function.
Digest Secret	Enter the message digest shared secret encryption and string.
Hello Message Interval(Secs)	Enter the HELLO message interval.
Hidden Control Messages	Check the checkbox to hide AVPs in outgoing control messages.
Hostname	Enter the local hostname for control connection authentication.
Password	Enter the password for control connection authentication, AVP hiding.
Receive Window Size	Enter the receive window size for the control connection.
Retransmission Initial Retries	Enter the control message retransmission parameters.
Retransmission Initial Timeout	Use the drop-down list to set the minimum or maximum number of retries before tearing down a control connection.
Retransmission Retries	Enter the SCCRQ message retry or timeout settings.
Retransmission Timeout	Use the drop-down list to set the minimum or maximum number of retries before tearing down a control connection.
Timeout Control Connection(Secs)	Enter the control connection timeout parameters.
Click **Apply** to accept changes. Click **Hide Advanced Config** to hide the advanced configuration fields.	

DEPI Tunnel

Use this page to view or configure the DEPI tunnel.

Figure 49 DEPI Tunnel Page

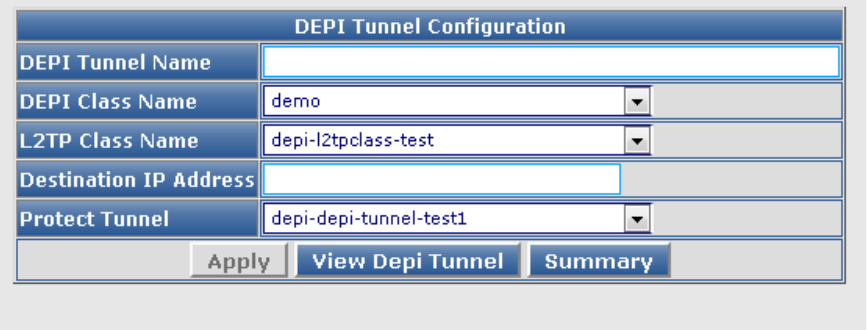


Table 44 DEPI Tunnel Page Field Description

Field	Description
DEPI Tunnel Configuration	
DEPI Tunnel Name	Enter the DEPI tunnel name.
DEPI Class Name	Use the drop-down list to choose a DEPI class for the DEPI tunnel.
L2TP Class Name	Use the drop-down list to choose an L2TP class for the DEPI tunnel.
Destination IP Address	Enter the CMTS IP address.
Protect Tunnel	Use the drop-down list to choose the protect tunnel for the DEPI tunnel.
Click **Apply** to accept changes. Click **Summary** to view all the DEPI tunnels configured in the chassis. Click **View DEPI Tunnel** to view the DEPI tunnel information.	
DEPI Tunnel Information	
DEPI Tunnel Name	Lists all the DEPI tunnels configured in the chassis.
Delete	Check the checkbox to delete a DEPI tunnel. Or click **Select All** to check the Delete checkbox for all DEPI tunnel entries.
Click **Delete** to delete the checked DEPI tunnel entries.	
DEPI Tunnel Information	
Local Tunnel ID	Local tunnel IDs.
Remote Tunnel ID	Remote tunnel IDs.
Remote Name	Remote tunnel name.
State	State of the tunnel.

Table 44 DEPI Tunnel Page Field Description (continued)

Field	Description
Remote Address	Remote tunnel IP address.
Session Count	Session count for the DEPI tunnel.
L2TP Class	L2TP class information for the DEPI tunnel.

Session

Use this page to view chassis and line card DEPI session count information.

Figure 50 Session Page

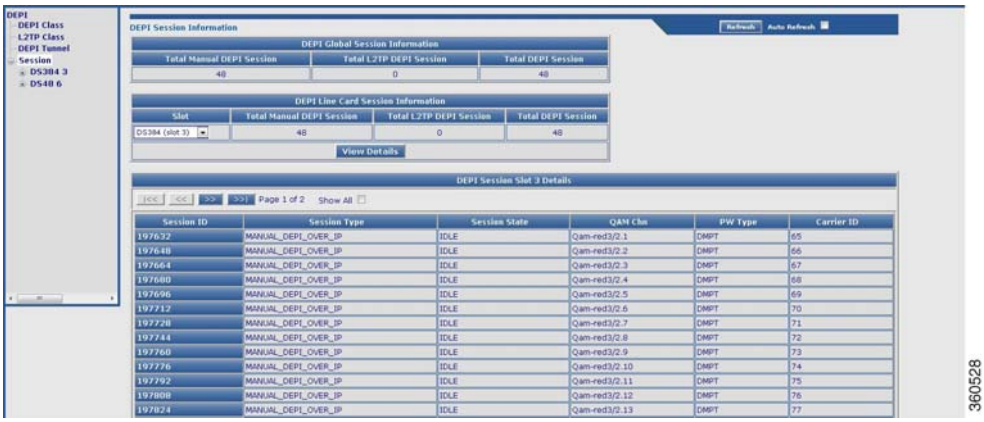


Table 45 Session Page Field Description

Field	Description
DEPI Global Session Information	
Total Manual DEPI Session	Total number of manual DEPI sessions on the chassis.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the chassis.
Total DEPI Session	Total number of DEPI sessions on the chassis.
DEPI Line Card Session Information	
Slot	Slot where the line card resides. Use the drop-down list to choose a line card and click **View Details** to view its DEPI session information.
Total Manual DEPI Session	Total number of manual DEPI sessions on the line card.
Total L2TP DEPI Session	Total number of L2TP DEPI sessions on the line card.
Total DEPI Session	Total number of DEPI sessions on the line card.
DEPI Session Slot *slot* Details	

Table 45 Session Page Field Description (continued)

Field	Description
Session ID	DEPI session ID. Click a session ID to view its DEPI session information.
Session Type	DEPI session type.
Session State	DEPI session current state.
QAM Chn	QAM channel information for the DEPI session.
PW Type	DEPI mode for the DEPI session.
Carrier ID	Carrier ID for the DEPI session.

Line Card *slot*

Use this page to view or configure DEPI sessions on a line card.

Figure 51 Line Card slot Cable Mode Configuration Page

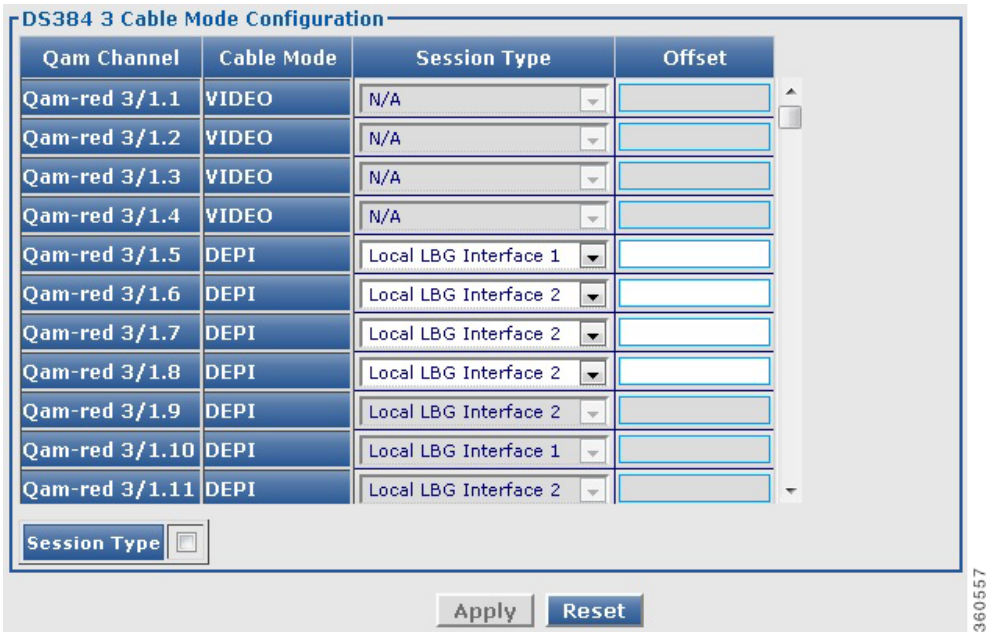


Figure 52 Line Card slot DEPI Session Configuration Pane

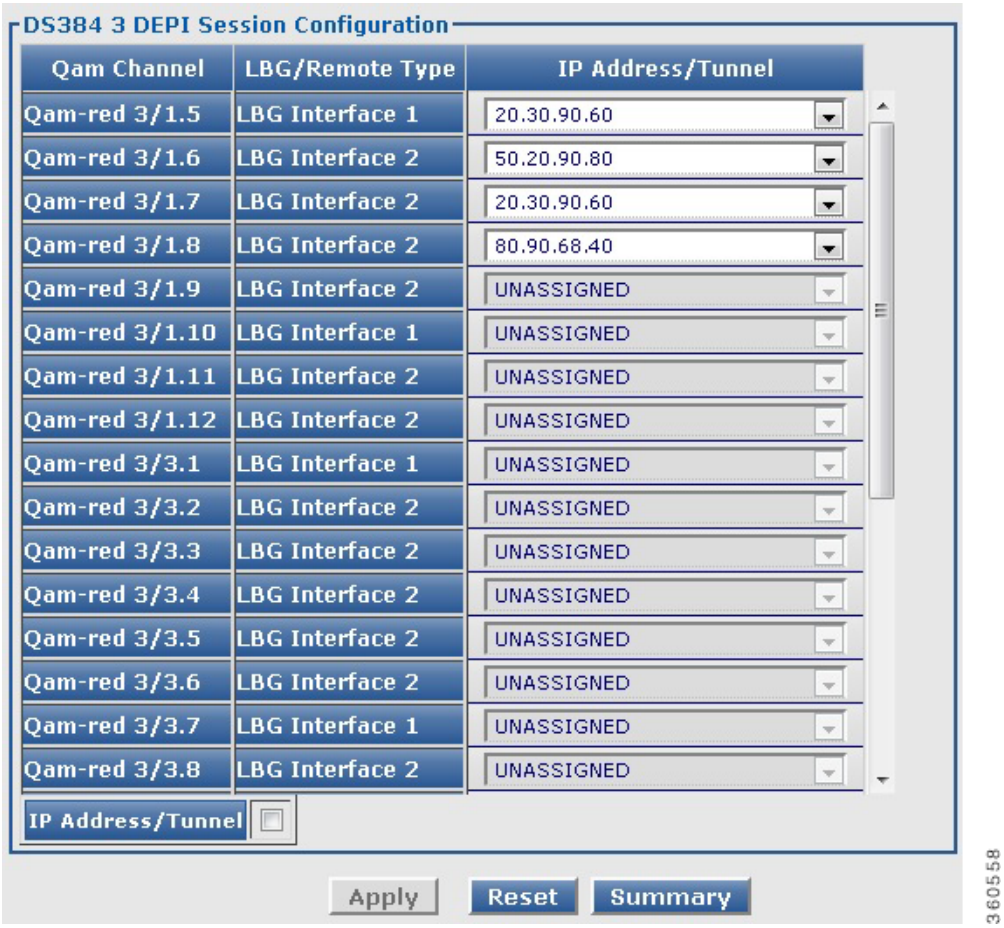


Figure 53 DEPI Session Slot slot Information Pane

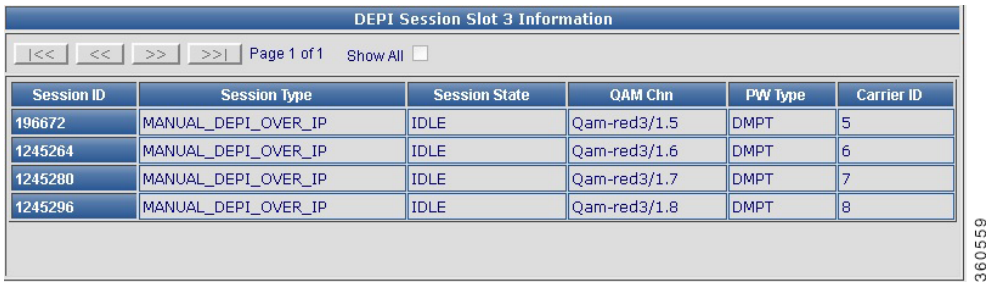


Table 46 Session Page Field Description

Field	Description
Line Card *slot* Cable Mode Configuration	
Qam Channel	QAM channel information.

Table 46 Session Page Field Description (continued)

Field	Description
Cable Mode	Configured cable mode information (DEPI/Video/Unassigned).
Session Type	Use the drop-down list to choose a DEPI session parameter for manual or L2TP DEPI sessions.
Offset	Enter the DOCSIS timing offset for the QAM channel.
Click **Apply** to accept changes or **Reset** to abort.	
Line Card *slot* DEPI Session Configuration	
Qam Channel	QAM channels with mode set as DEPI.
LBG/Remote Type	DEPI cable mode details for the QAM channel.
IP Address/Tunnel	Use the drop-down lis to choose the destination IP address or the DEPI tunnel name for the QAM channel.
Click **Apply** to accept changes or **Reset** to abort. Click **Summary** to view summary information of all DEPI sessions configured on the line card.	
DEPI Session Slot *slot* Information	
Session ID	DEPI session ID. Click a session ID to view its DEPI session information.
Session Type	DEPI session type.
Session State	DEPI session current state.
QAM Chn	QAM channel information for the DEPI session.
PW Type	DEPI mode for the DEPI session.
Carrier ID	Carrier ID for the DEPI session.
Note The same depi session configurations can be done at the RF port and QAM channel level using the tree-based navigation available at the line card level.	

Video

Use the tree-based navigation on the Video page to do the following:

- Video—View video session count information for chassis and line card.
- QAM-Service Group—Create new QAM service groups and update information for existing QAM service groups.
- Video Timeout—Configure video timeout parameters.
- Video Reserved-PID—Configures the video reserve PID range.
- SDT Service—Configures the SDT Service-Desc-IDs and information.
- SDT Profile—Configures the SDT Service Profile IDs and information.
- QAM Partition—Create new QAM partitions and update information for existing QAM partitions.
- QAM Configuration—Configure and manage the video QAM related configuration.

- Routes—View summary information of existing routes, create new routes and update information for existing routes.
- Multicast Uplinks—Configure multicast routing, multicast uplinks and PIM information.
- Multicast Labels—View summary information of existing multicast labels, create new multicast labels and update information for existing multicast labels.
- Local Session—View summary information of existing local sessions, create new local sessions and update information for existing local sessions.
- Filtering—View and update summary information of Program, PID Filtering value for existing local sessions.

Video

Use this page to view the chassis and line card video session count information.

Figure 54 Video Page

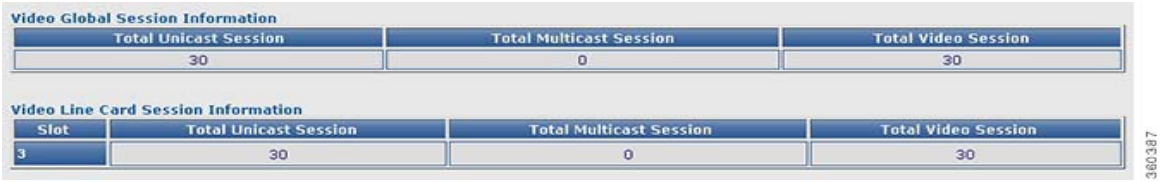


Table 47 Video Page Field Description

Field	Description
Video Global Session Information	
Total Unicast Session	Total number of unicast sessions on the chassis.
Total Multicast Session	Total number of multicast sessions on the chassis.
Total Video Session	Total number of video sessions on the chassis.
Video Line Card Session Information	
Slot	Slot where the line card resides.
Total Unicast Session	Total number of unicast sessions on the line card.
Total Multicast Session	Total number of multicast sessions on the line card.
Total Video Session	Total number of video sessions on the line card.

QAM-Service Group

Use this page to create new QAM service group and for updating information for existing QAM groups that belong to a particular service group.

Figure 55 QAM-Service Group Pane

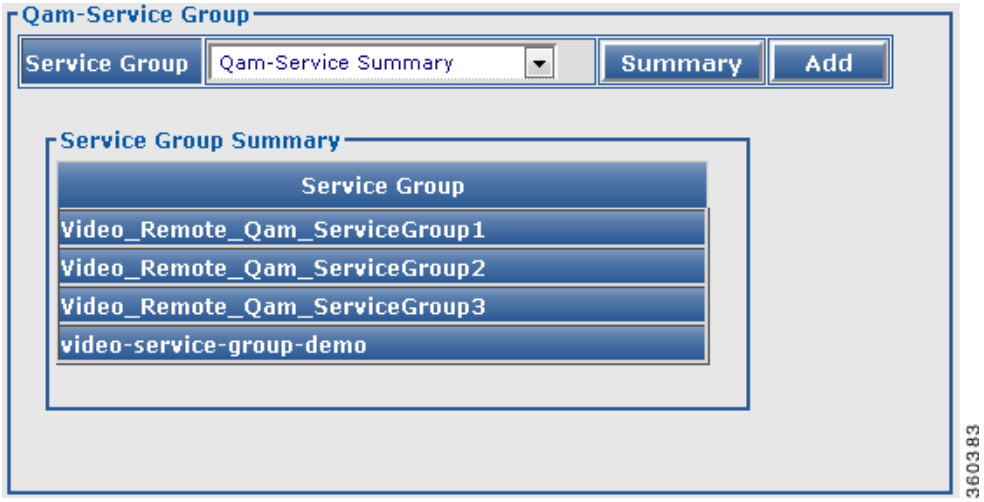


Figure 56 QAM-Service Group Config Pane

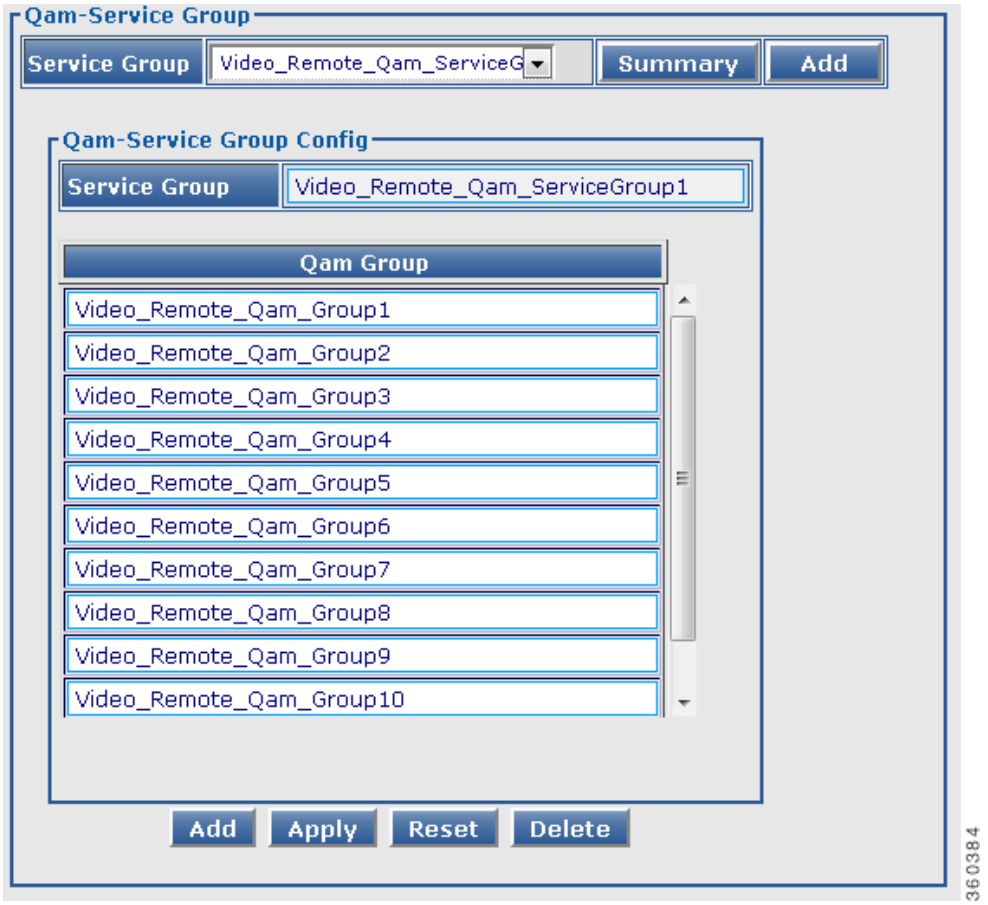


Table 48 QAM-Service Group Page Field Description

Field	Description
Qam-Service Group	
Service Group	Lists the QAM service groups configured on the chassis and QAM service group summary. Use the drop-down list to: • Choose **Qam-Service Summary** to view the **Service Group Summary** pane. **Note** Or click the **Summary** button to view the **Service Group Summary** pane. or • Choose a QAM service group to view, edit, add or delete its QAM group.
Service Group Summary	
Service Group	Lists all QAM service groups. Click a group name to view, edit, add or delete QAM groups to it. **Note** You can configure a maximum of 50 QAM service groups and QAM groups.
Click **Add** button in the **Qam-Service Group** pane to create a new QAM service group and add QAM groups to it in the **Qam-Service Group Config** pane.	
Qam-Service Group Config	
Service Group	Enter the QAM service group name.
Qam Group	Enter the QAM group information and click **Add** button to add it to the QAM service group.
Click **Apply** button to accept changes, **Reset** button to abort, or **Delete** button to delete an entry.	

Video Timeout

Use this page to configure video timeout parameters.

Figure 57 Video Timeout Configuration Page

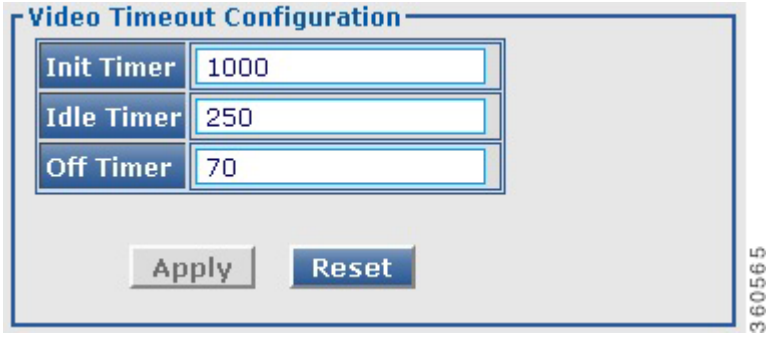


Table 49 Video Timeout Page Field Description

Field	Description
Init Timer	Timeout threshold value for init sessions. The valid range is from 100 to 60000 (in msec).
Idle Timer	Timeout threshold value for idle sessions. The valid range is from 100 to 5000 (in msec).
Off Timer	Timeout threshold value for off sessions. The valid range is from 1 to 4294967295 (in seconds).
Click **Apply** button to accept changes or click **Reset** button to abort.	

Video Reserved-PID

Use this page to create and manage the video reserved PID ranges.

Figure 58 Video Reserved-PID page

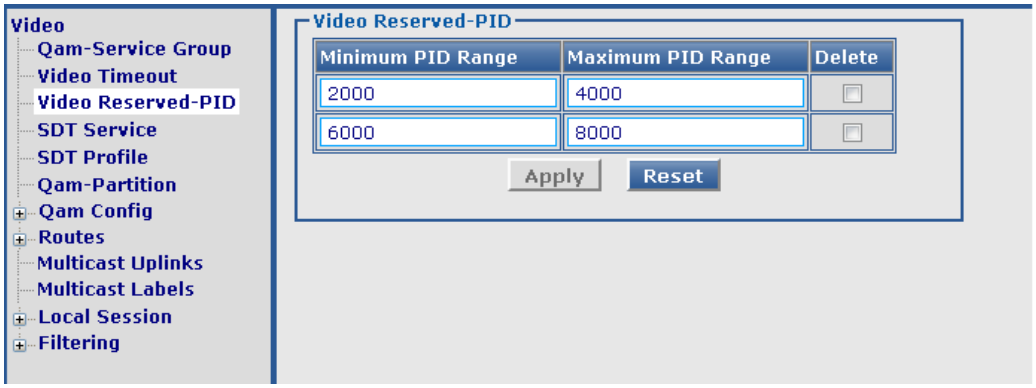


Table 50 Video Reserved-PID Page Field Description

Field	Description
Minimum PID Range	Enter Minimum PID Range value, 256-8175
Maximum PID Range	Enter Maximum PID Range value, 256-8175

Note You can create two groups of PID range.

Check the **Delete** checkbox to delete the PID range group.

Click **Apply** button to accept changes or click **Reset** button to abort.

SDT Service

Use this page to create new SDT Services and update information for existing SDT Services belonging to a SDT Services ID.

Figure 59 SDT Service page

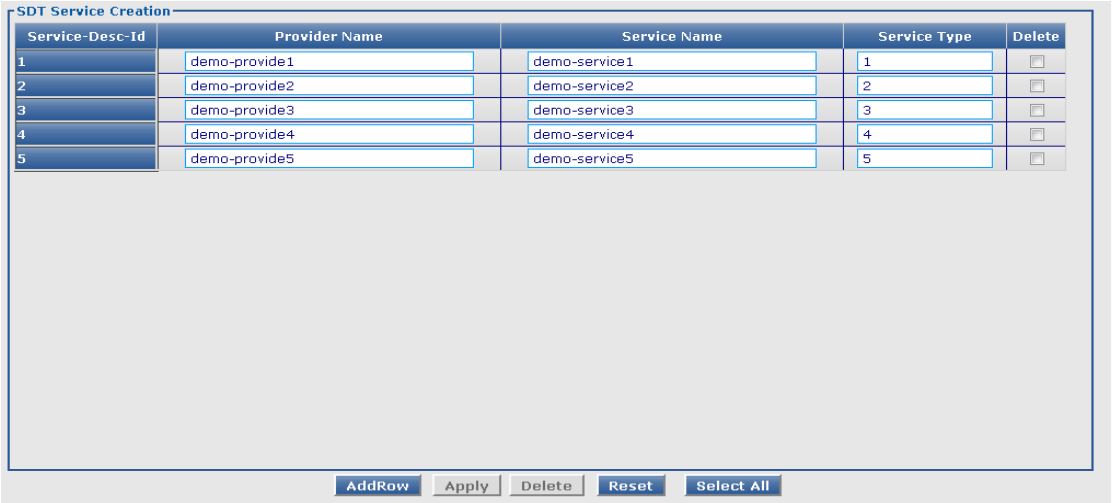


Table 51 SDT Service Field Descriptions

Field	Description
Service-Desc-Id	Enter SDT service descriptor Id, 1- 65535
Provider Name	Enter SDT service Provider Name
Service Type	Enter SDT Service type, 0-255
Delete	Select Delete checkbox to delete the SDT services.

Note To add a new SDT Service entry or delete existing entries:

To add new SDT Service entry— Click **AddRow** to add a new SDT Service entry.

To delete existing SDT Service entry— Click **Delete** to delete the checked SDT Service entries.

Click **Apply** button to accept changes or click **Reset** button to abort.

SDT Profile

Use this page to Add a new SDT Profile and update information for existing SDT Profiles. The SDT Profile pane is used to view the SDT Profile Summary pane or to open a specific SDT Profile configuration in the SDT Profile Config pane.

To open an SDT Profile in SDT Profile Summary pane, do one of the following:

- Use the drop-down list in the SDT Profile field to select the SDT Profile ID you want to edit.
- Click **Summary** to go to the SDT Profile Summary pane and click the SDT Profile ID you want to edit.

Figure 60 SDT Profile Summary page

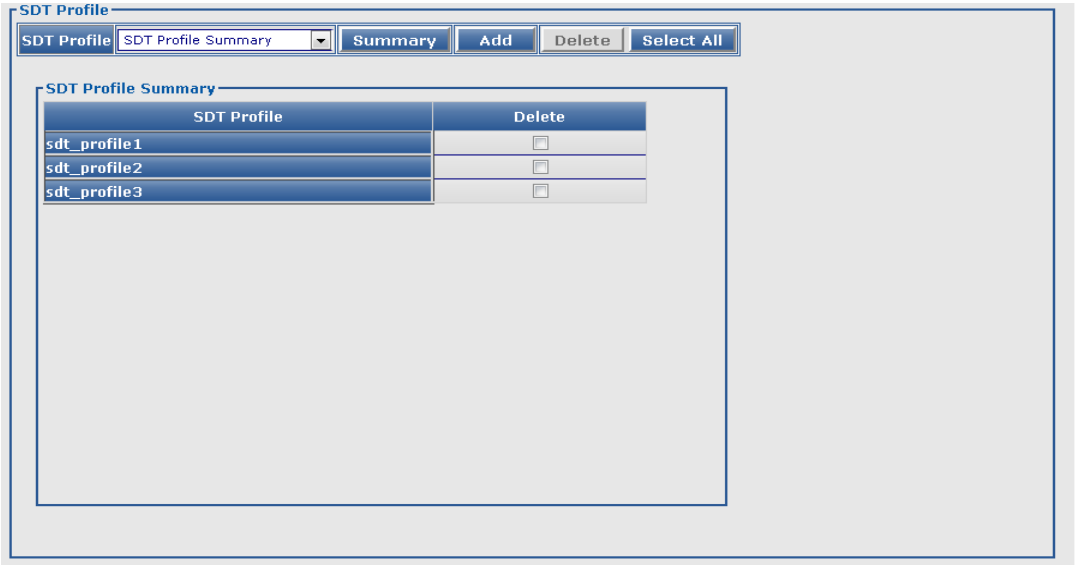


Figure 61 SDT Profile Config page

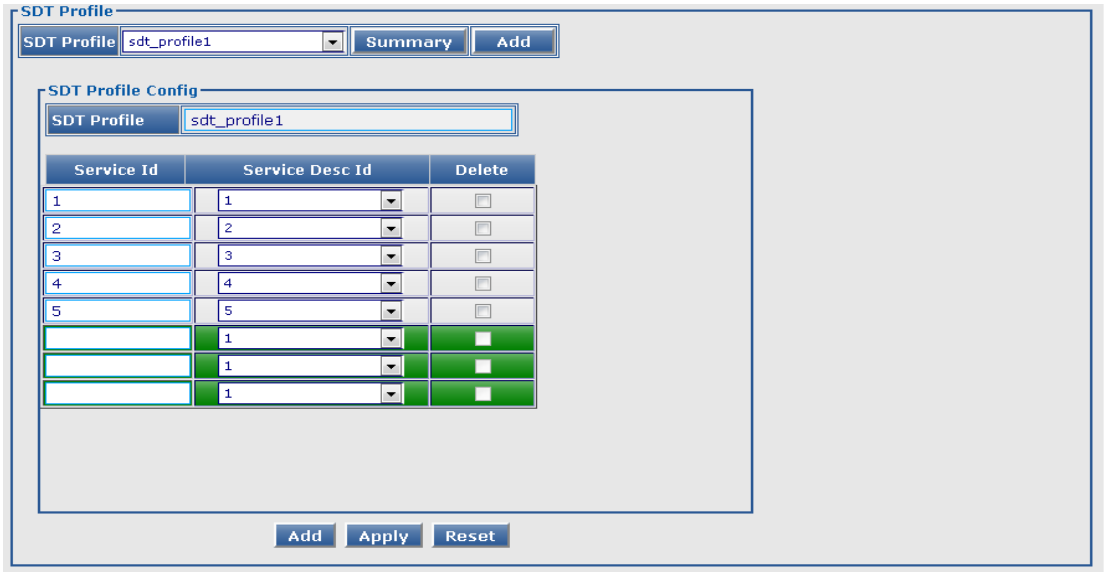


Table 52 SDT Profile Config pane Field Descriptions

Field	Description
SDT Profile	Use this drop-down list to select SDT profile Summary option to view the SDT Profile Summary pane. Alternatively, select a SDT Profile ID from the drop-down list to view or edit its configuration in the SDT Profile Config pane.
Click **Summary** to view the SDT Profile Summary pane. Click **Add** to add an SDT Profile.	
SDT Profile Summary	
SDT Profile	Lists the SDT Profile IDs configured. Click on a SDT Profile ID to open the SDT Profile Config pane
Delete	Check this check box to delete an SDT Profile ID configuration.
Click **Select All** to select all the listed SDT Profile IDs. Click **Delete** to delete the selected SDT Profile IDs.	
SDT Profile Config	
Service ID	Enter the Service ID value, range: 1- 65535
Service Desc ID	Lists the Service Desc ID configured on the chassis
Delete	Select **Delete** option to delete an entry.
Note When the **Delete** option is selected, the selected row is highlighted in red color. Click A**pply** to delete selected rows Click **Apply** to accept changes Click **Add** to add Service ID, Service Desc ID for a new SDT Profile Click **Reset** to abort.	

QAM Partition

Use this page to create new user-defined QAM partitions and for updating information for existing QAM partitions that belong to a particular partition.

Figure 62 QAM-Partition Summary Pane

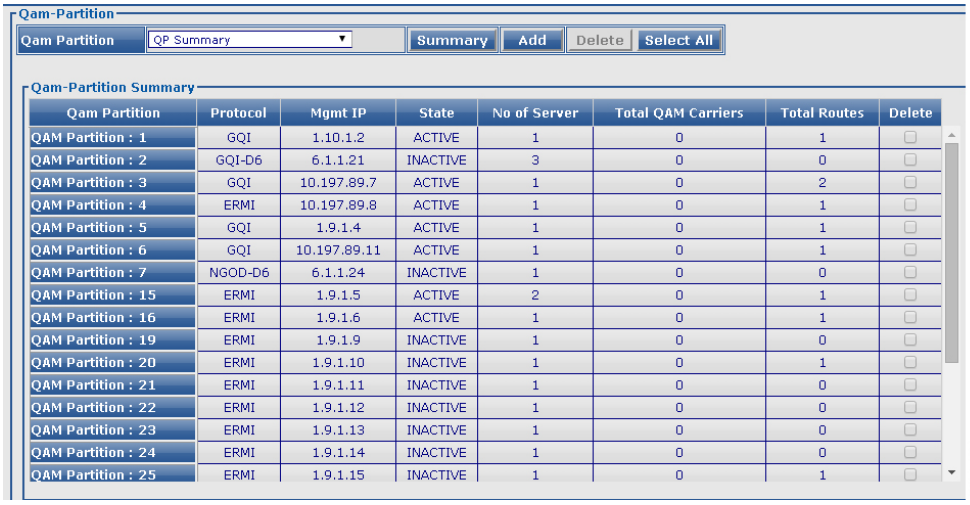


Figure 63 QAM-Partition Config for ERMI protocol Pane

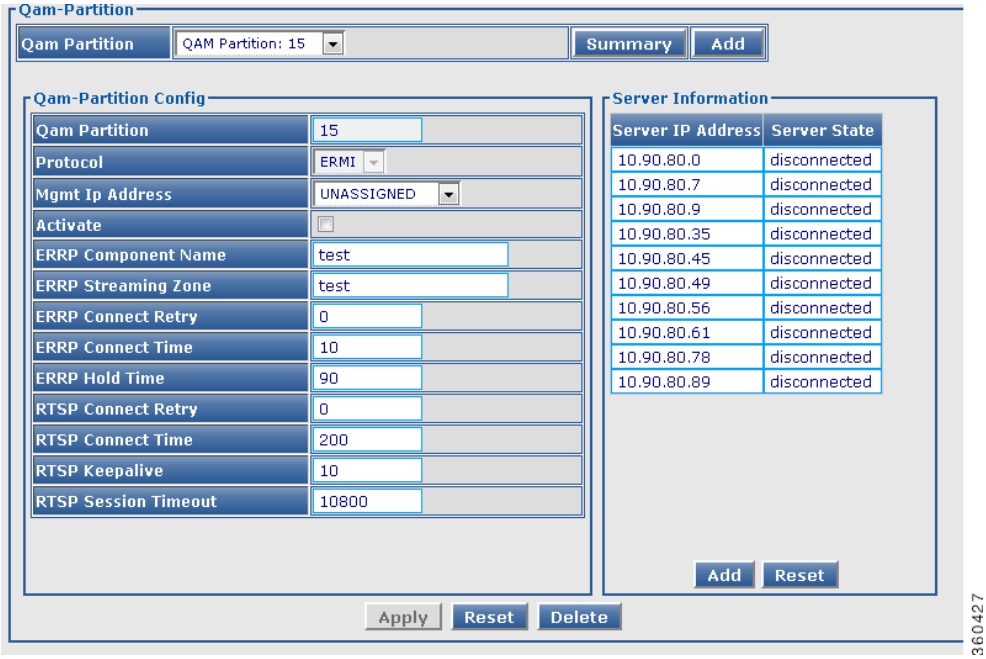


Figure 64 QAM-Partition Config for GQI protocol Pane

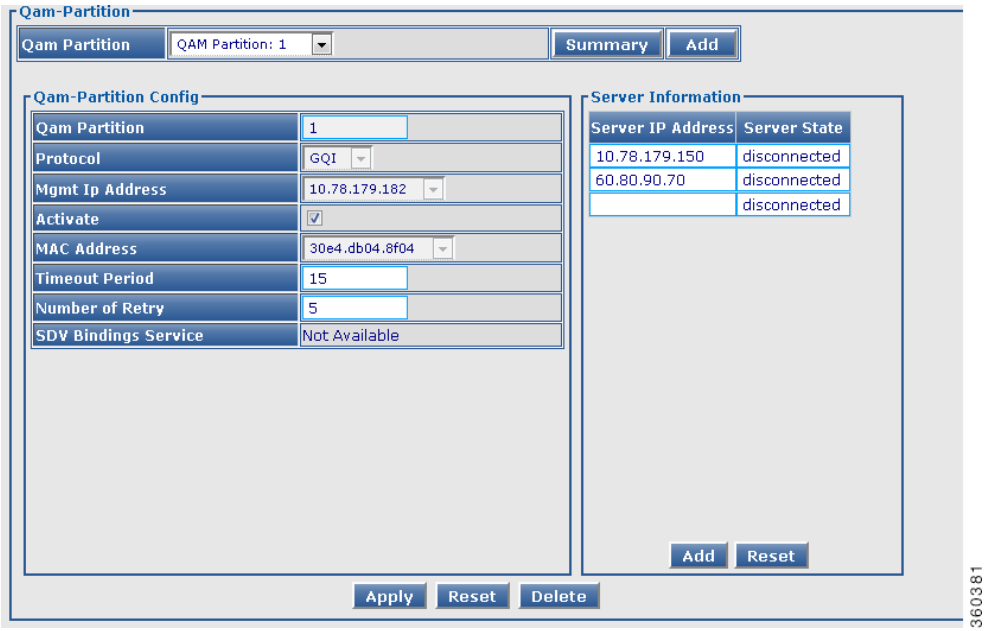


Figure 65 QAM-Partition Config for GQI-D6 protocol Pane

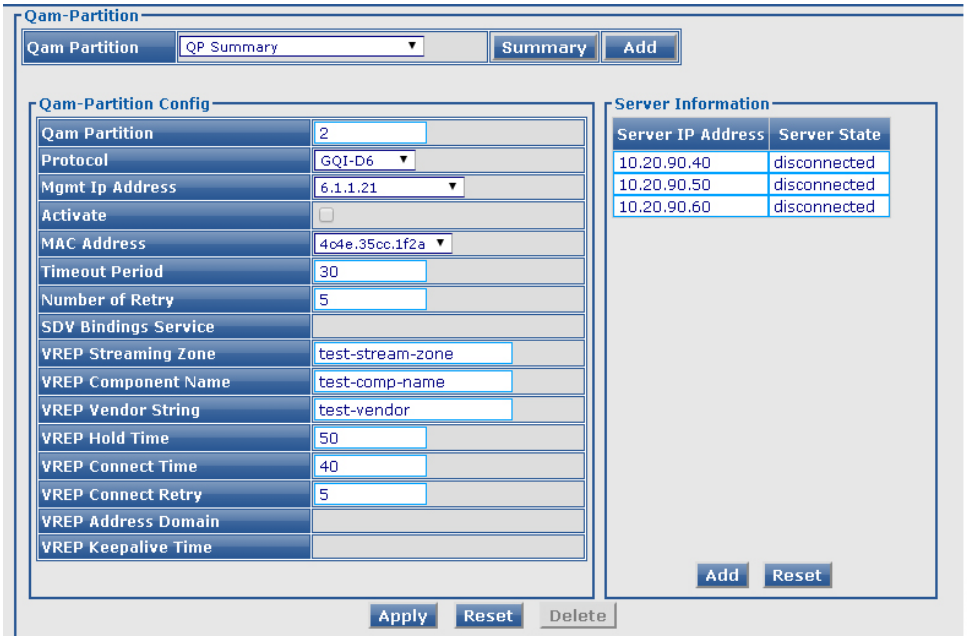


Figure 66 QAM-Partition Config for NGOD-D6 protocol Pane

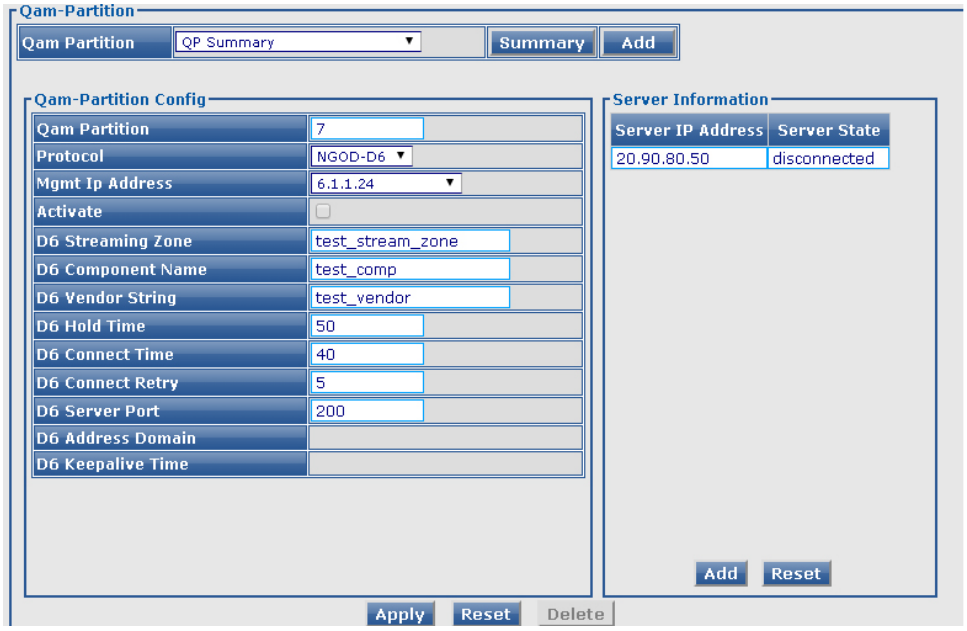


Table 53 QAM Partition Page Field Description

Field	Description
Qam Partition	
Qam Partition	Lists the QAM partitions configured on the chassis and QP summary. Use the drop-down list to: • Choose **QP Summary** to view the **Qam-Partition Summary** pane. **Note** Or click the **Summary** button to view the **Qam-Partition Summary** pane. or • Choose a QAM partition to view, edit or delete information.
Qam Partition Summary	
Qam Partition	Lists all QAM partitions configured in the system. Click a QAM partition to view and edit its information in the **Qam-Partition Config** pane.
Protocol	Protocol used for communicating with the video server (GQI /ERMI/GQI-D6 / NGOD-D6).
Mgmt IP	Management IP address for the QAM partition.
State	Current state of the QAM partition.
No of Server	Number of servers.
Total QAM Carriers	Total number of QAM carriers in the QAM partition.
Total Routes	Total number of routes used by the QAM partition.
Qam-Partition Config In the **Add** mode, you can edit all the fields, but in the edit mode, you can edit only some fields.	
Qam Partition	View or add a QAM partition. You can create 50 user-defined QAM partitions. These are used for remote video sessions.
Protocol	View or use the drop-down list to choose the protocol to be used for communicating with the video server (GQI /ERMI/GQI-D6 / NGOD-D6).
Mgmt Ip Address	View or use the drop-down list to choose the management IP address for the QAM partition.
Activate	Check or uncheck the checkbox to activate or deactivate the QAM partition. **Note** You cannot edit a QAM partition in active state.

Table 53 QAM Partition Page Field Description (continued)

Field	Description
The following fields are listed when the protocol used for communicating with the video server is set as GQI/GQI-D6.	
MAC Address	View or use the drop-down list to choose the Cisco RFGW-10 MAC address.
Timeout Period	Enter the time interval (in seconds) between the keepalive retry attempts. The valid range is from 1 to 45.
Number of Retry	Enter the keepalive retry time interval. A maximum of three retry attempts are allowed. The valid retry range is from 0 to 10. The default keepalive is 5 seconds.
SDV Bindings service	Specify the SDV binding service.
The following fields are listed when the protocol used for communicating with the video server is set as *ERMI*.	
RTSP connect-retry	Enter the RTSP connection retry time interval. The valid range is from 1 to 10.
RTSP connect-time	Enter the RTSP connection time in seconds. The valid range is from 10 to 200.
RTSP keepalive	Enter the keepalive time interval for the RTSP connection. The valid range is from 1 to 300.
RTSP session-timeout	Enter the RTSP session timeout interval for the connection. The valid range is from 10800 to 36000.
ERRP component-name	Enter the ERMI component name for the QAM partition.
ERRP connect-retry	Enter the connection retry time interval in seconds. The valid range is from 1 to 10.
ERRP connect-time	Enter the connection time in seconds. The valid range is from 10 to 100.
ERRP hold-time	Enter the hold time in seconds. The valid range is from 3 to 240 seocnds.
ERRP streaming-zone	Enter the ERMI streaming zone for the QAM partition.
The following fields are listed when the protocol used for communicating with the video server is set as GQI-D6.	
VREP Streaming Zone	Enter the VREP Streaming Zone name for the QAM partition.
VREP Component Name	Enter the VREP Component name for the QAM partition.
VREP Vendor String	Enter the VREP Vendor String name for the QAM partition.

Table 53 QAM Partition Page Field Description (continued)

Field	Description
VREP Hold Time	Enter the VREP hold time in seconds. The valid range is from 3 to 240 seocnds
VREP Connect Time	Enter the VREP connection time in seconds. The valid range is from 10 to 100.
VREP Connect Retry	Enter the VREP connection retry time interval in seconds. The valid range is from 1 to 10.
VREP Address Domain	Displays the current VREP Address Domain
VREP Keepalive Time	Displays the current VREP Keepalive Time
The following fields are listed when the protocol used for communicating with the video server is set as NGOD-D6.	
D6 Streaming Zone	Enter the D6 Streaming Zone name for the QAM partition.
D6 Component Name	Enter the D6 Component name for the QAM partition.
D6 Vendor String	Enter the D6 Vendor String name for the QAM partition.
D6 Hold Time	Enter the D6 hold time in seconds. The valid range is from 3 to 240 seocnds
D6 Connect Time	Enter the D6 connection time in seconds. The valid range is from 10 to 100.
D6 Connect Retry	Enter the D6 connection retry time interval in seconds. The valid range is from 1 to 10.
D6 Server Port	Enter the D6 server port. The valid range is from 1 to 65535.
D6 Address Domain	Displays the current D6 Address Domain.
D6 Keepalive Time	Displays the current D6 Keepalive Time
Server Information	
Server IP Address	View or add the IP address of an external server. You can add a maximum of three servers when the protocol is GQI/GQI-D6 and a maximum of 10 servers when the protocol is ERMI and one server can be added for NGOD-d6.
Server State	Displays the current state of the server.
Click **Apply** button to accept changes, **Reset** button to abort, **Delete** button to delete an entry, or **Add** button to add information.	

QAM Configuration

Use this page to view the Video QAM related configuration for a a specific line card and RF port option.

From the Line Card drop-down list, select the line card for which you want to configure the QAM Channels.

From the RF Port drop-down list, select the specific RF port or select ALL.

Click **Details** to view the Video QAM channel information for selected line card and RF port.

Figure 67 DS384 Video QAM Config Summary pane

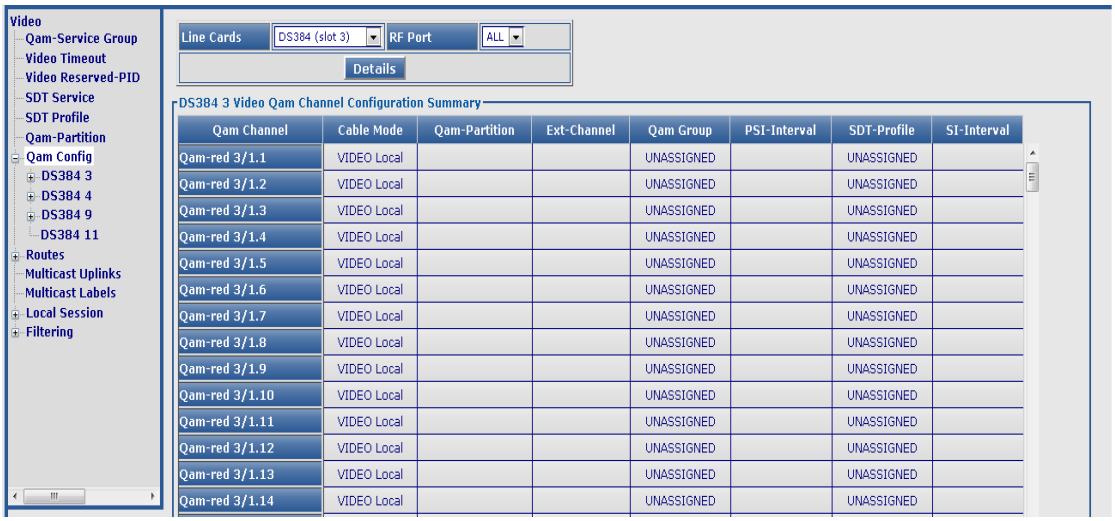


Table 54 DS384 Video QAM Config Summary pane Field Desriptions

Field	Description
Qam Channel	Lists the QAM channels available on the line card.
Cable Mode	Displays the configured QAM channel cable video mode.
Qam-Partition	Displays the configured QAM partition IDs.
Ext-Channel	Displays the configured Ext-Channel value.
Qam Group	Displays the configured QAM Group value.
PSI-Interval	Configured PSI-Interval value.
SDT-Profile	Displays the configured SDT-Profile Id.
SI-Interval	Displays the configured SI-Interval value.

DS384 Line Card

Use this page to manage and assign QAM partitions to a QAM channel.

Figure 68 DS384 slot Video Qam Channel Configuration Pane

Table 55 DS384 Line Card Video QAM Channel Configuration Page Field Description

Field	Description
Qam Channel	Lists the QAM channels available on the line card.
Cable Mode	QAM channel cable video mode. Use the drop-down list to select a cable video mode for the QAM channel. Cable video modes include: • Video Clear—Configures video session remotely. • Video Encrypt—Enables encryption for remote video session on the QAM. • Video Local—Configures video session locally. • Video Local Encrypt—Configures video local encrypted session.
Qam-Partition	Lists the QAM partition IDs configured on the line card. The valid range is from 1 to 50. Use the drop-down list to assign a QAM partition to the QAM channel. You must configure the QAM channel to include it in video clear or video encrypt cable mode, and you must create the partition before assigning it to the channel.
Ext-Channel	Enter the output port number used in ERM to represent a QAM channel and for GQI protocol QAM partition. The valid range is from 1-65535.

Table 55 DS384 Line Card Video QAM Channel Configuration Page Field Description

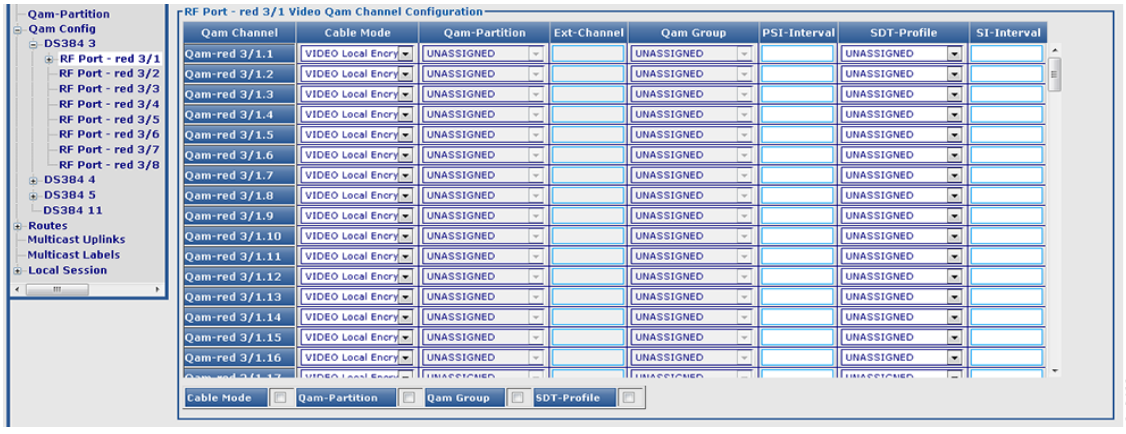
Field	Description
Qam Group	Lists the QAM groups configured on the line card. Use the drop-down list to assign a QAM group to the QAM channel. You must configure the QAM channel to include it in video clear or video encrypt cable mode, and you must create the partition before assigning it to the channel.
PSI-Interval	Enter the Program Specific Information (PSI) interval. The valid range is from 40 to 1000 ms. The default value is 100 ms.
SDT-Profile	Lists all SDT profiles configured on the line card. Use the drop-down list to assign an SDT-Profile to the QAM channel.
SI-Interval	Enter the SI-Interval value. The valid range is from 25 to 1000 ms.
Click **Apply** button to accept changes or **Reset** button to abort.	
Note You can repeat these configurations and the Serving-Area and ONID at RF port level using the tree-based navigation at the line card level.	

Video QAM Configuration - Copy

Under the Video tab, click QAM Config > DS384 x > RF Port. The RF Port selected is the source RF Port.

Use the following screens in sequence to copy the configuration of source Video QAM RF Port *slot/port* to destination Video QAM RF Port *slot/port*.

Figure 69 Video QAM Channel Config - RF Port Copy



Click **Copy** to copy the configurations from this source Video QAM Channel Configuration pane.

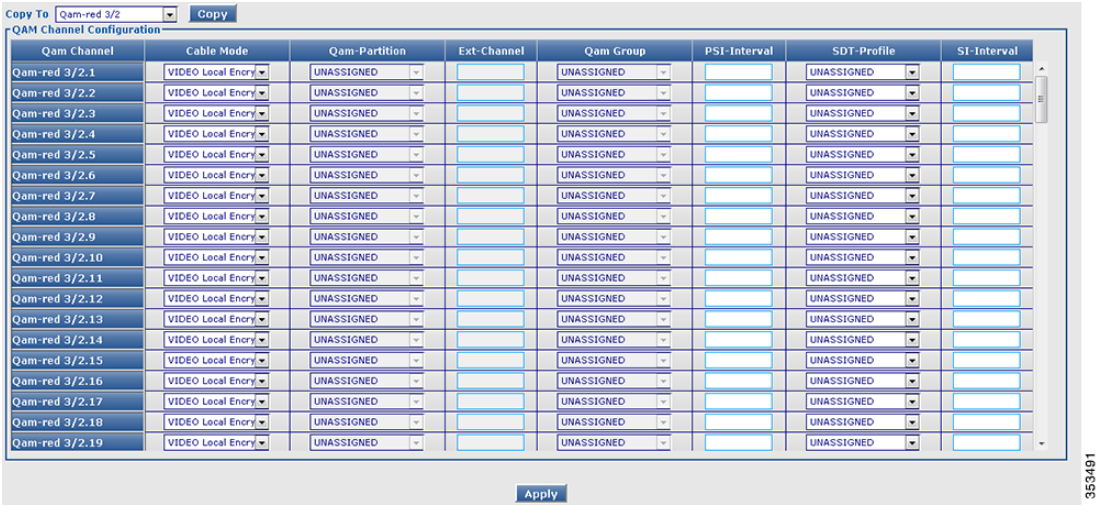
Figure 70 Copy From QAM RF Port pane

Select the destination Video QAM Channel *slot* from the **Copy To** drop-down list. The drop-down list displays the QAM slots other than the source *slot/port* and ALL RF.

Click **Copy** to paste the required configuration to destination Video QAM RF Port *slot.*

The destination Video QAM Channel Configuration pane opens. The configurations are copied.

Figure 71 Copy to QAM Channel Configuration pane



On the destination QAM Channel Configuration pane, click **Apply** to save the copied configuration.

Note If **Apply** on destination *slot/port* is not clicked, the copied configuration is not saved to the destination *slot/port*.

Routes

Use this page to view configured route details for specific line card and load balancing groups.

Figure 72 Video Route Summary pane

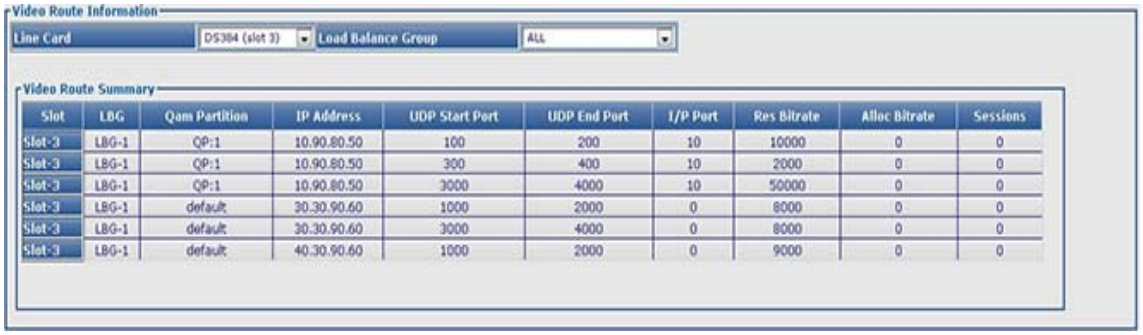


Table 56 Video Route Information Page Field Description

Field	Description
Video Route Information	
Line Card	Use the drop-down list to select a line card to view its video route information or **All** to view a summary of all routes configured on the line card.
Load Balance Group	Use the drop-down list to select a load balance group available on the selected line card to view its route information or **All** to view a summary of all load balancing group route information.

Table 57 Video Route Summary Page Field Description

Field	Description
Video Route Summary	
Slot	Slot number of the line card.
LBG	Load balancing group identifier.
Qam Partition	QAM partition number.
IP Address	Destination IP address.
UDP Start Port	Starting UDP port number.
UDP End Port	Ending UDP port number.
I/P Port	GQI ingress port number.
Res Bitrate	Reserved bitrate (in Kbps).
Alloc Bitrate	Allocated bitrate (in Kbps).
Sessions	Number of sessions.

DS384 Line Card

Use this page to view or configure a Cisco DS-384 line card video route information.

Figure 73 Video Route Slot slot Summary Pane

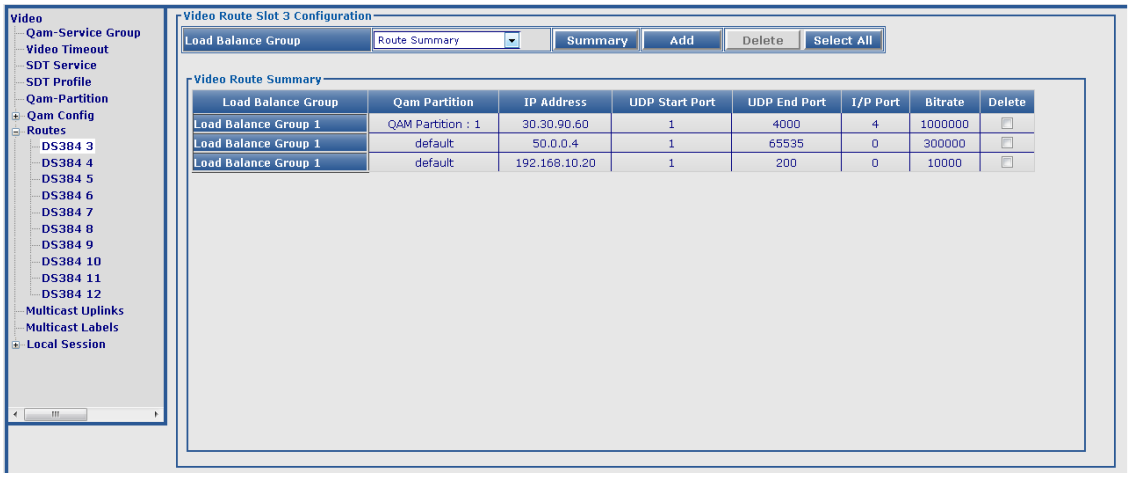


Figure 74 Video Route Config Pane

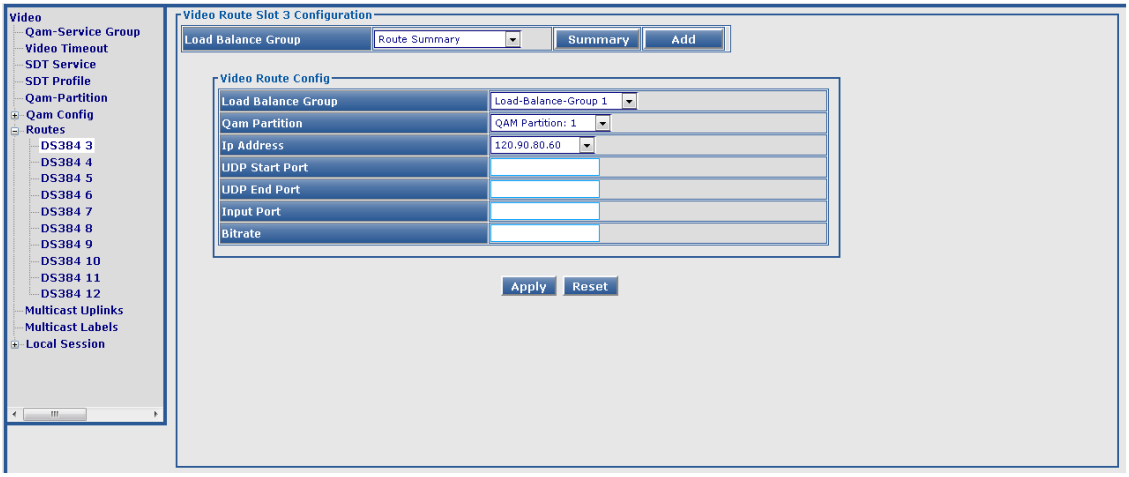


Table 58 Video Route Slot slot Configuration Page Field Description

Field	Description
Video Route Slot *slot* Configuration	
Load Balance Group	Lists the load balance groups on the line card and **Route Summary**. Use the drop-down list to: • Choose **Route Summary** to view complete route summary information. **Note** Or click the **Summary** button to view complete route summary information. or • Choose a load balance group to view its information.
Video Route Summary	
Load Balance Group	Load balancing groups. Click a group to edit its information in the **Video Route Config** pane.
Qam Partition	QAM partition number.
IP Address	Destination IP address.
UDP Start Port	Starting UDP port number.
UDP End Port	Ending UDP port number.
I/P Port	GQI ingress port number.
Bitrate	Reserved bitrate (in Kbps).
Delete	Check the checkbox against an entry and click **Delete** button to delete its information.
Video Route Config In the **Add** mode, you can edit all fields, but in the **Edit** mode, you can edit only some fields. **Note** In **Edit** mode, the route being edited is first deleted and then created as new with the latest information.	
Load Balance Group	Choose a load balancing group identifier. The valid value is 1 or 2.
Qam Partition	Choose a QAM partition identifier. The valid range is from 1 to 50. Default partition IDs are used for local video sessions.
Ip Address	Destination IP address of the video route.
UDP Start Port	Enter the starting or low UDP port number. The valid range is from 1 to 65535.
UDP End Port	Enter the ending or high UDP port number. The valid range is from 1 to 65535.
Input Port	Enter the input port number for the GQI interface. The valid range is from 1 to 100.

Table 58 Video Route Slot slot Configuration Page Field Description (continued)

Field	Description
Bitrate	Enter the reserved bandwidth to be used for the partition in Kbps. The valid range is 1 to 9100000.
Click **Apply** button to accept changes or **Reset** button to abort.	

Multicast Uplinks

Use this page to do the following:

- Multicast Routing and PIM—Enable or disable multicast routing and PIM SSM.

Note You must enable multicast routing on the Cisco RFGW-10 before setting the GigabitEthernet or TenGigabitEthernet port for multicast routing. The interfaces that receive the multicast traffic must also be set in multicast mode.

- Multicast Uplink—Configure multicast routing such as uplink interface, backup interface and bandwidth.

Figure 75 Multicast Uplinks Pane

Table 59 Multicast Uplinks Page Field Description

Field	Description
Multicast Routing and PIM	
Multicast IP Routing	Select or deselect multicast IP routing.
Pim SSM	Select or deselect PIM SSM.
Multicast Uplinks	
Uplink Interface	GigabitEthernet or TenGigabitEthernet uplink interface number.
Status	Status of the uplink interface.
Alloc Streams	Allocated number of streams for the uplink interface.

Table 59 Multicast Uplinks Page Field Description (continued)

Field	Description
Max Bandwidth	Maximum bandwidth for the uplink interface (in Kbps). The valid range is from 1 to 1000000.
Bandwidth	Bandwidth of the uplink interface (in Kbps). The valid range is from 1 to 1000000.
Backup Interface	Use the drop-down list to choose the backup interface for the uplink interface.
Backup Activated	Backup activation status for the uplink interface.
Delete	Check the checkbox against an entry and click **Delete** button to delete its information.
Click **AddRow** button to add an entry, **Select All** button to select all entries listed in this page, **Apply** button to accept changes or **Reset** button to abort.	

Multicast Labels

Use this page to create new multicast labels for video sessions. You can create both ASM and SSM multicast labels. This page has two panes for label creation; **Multicast Label Creator** and **Labels**.

Use **Multicast Label Creator** pane to create multiple label entries with the same information at a time.

Use the **Add New** button in the **Labels** pane to create one label at a time.

Figure 76 Multicast Label Creator Pane

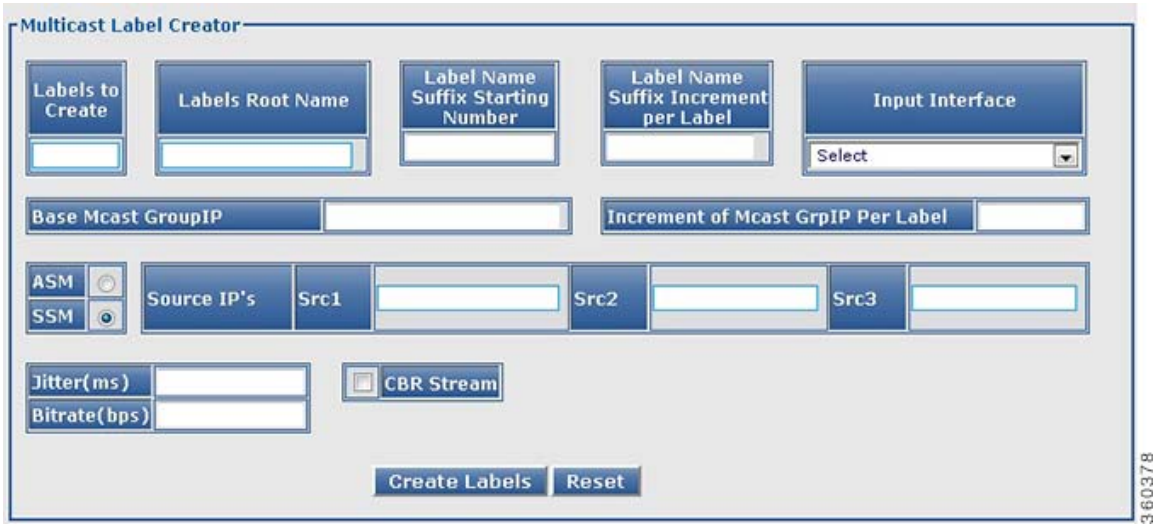


Figure 77 Labels Pane

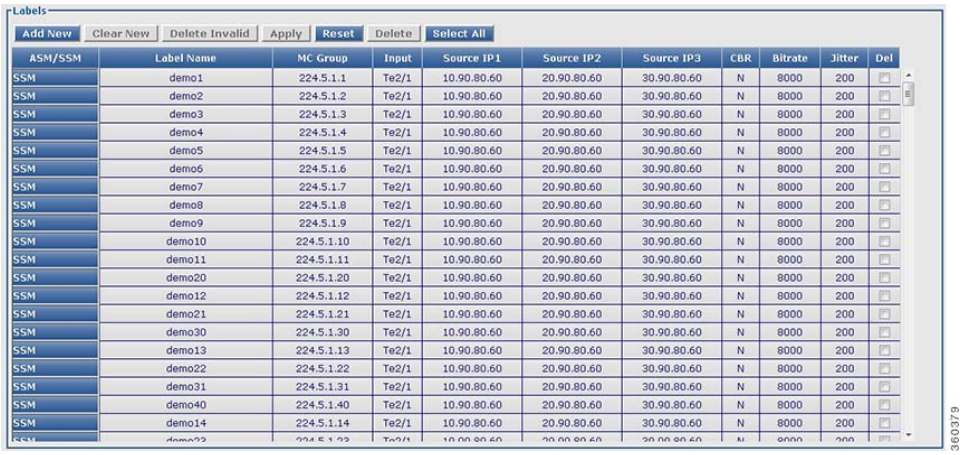


Table 60 Multicast Labels Page Field Description

Field	Description
Multicast Label Creator	
Labels to Create	Enter the number of labels to be created. **Note** A maximum of 500 labels is recommended in an attempt for higher performance.
Labels Root Name	Enter the multicast label name. For example, video_multicast.
Label Name Suffix Starting Number	Enter a numerical value to be suffixed to the multicast label name. For example, video_multicast1.
Label Name Suffix Increment per Label	Enter a numerical value to be used for incrementing the label name suffix starting number (per label).
Input Interface	Use the drop-down list to choose the input interface.
Base Mcast GroupIP	Enter the IP address for the multicast group.
Increment of Mcast GrpIP Per Label	Enter the increment value for the multicast group IP address per label.
ASM	Select to configure the Any Source Multicast (ASM) session definition.
SSM	Select to configure the Source Specific Multicast (SSM) session definition.

Table 60 Multicast Labels Page Field Description (continued)

Field	Description
Source IP's	Enter the multicast source IP address pairs (**Src1**, **Src2**, **Src3**). An SSM session is identified by the source or group IP address pairs. Specify a maximum of three multicast address pairs in an SSM multicast session.
Jitter(ms)	Enter the jitter buffer size in ms. The valid range is from 10 to 200.
Bitrate(bps)	Enter the bitrate of the session in bps. The valid range is from 1 to 52000000.
CBR Stream	Select or deselect constant bitrate streaming.
Click **Create Labels** button to create labels or **Reset** button to abort.	
Labels	
Click **Add New** button to add a new label, **Clear New** button to clear the newly added label, **Delete Invalid** button to delete all invalid labels, **Apply** button to accept changes, **Reset** button to abort, **Delete** button to delete the selected label entry, and **Select All** button to select all label entries listed in this page. Click a label to edit its information. In edit mode, the label being edited is first deleted and then created as new with the latest information.	
ASM/SSM	Use the drop-down list to choose either ASM or SSM.
Label Name	Enter the label name.
MC Group	Enter the multicast group IP address.
Input	Use the drop-down list to choose the input interface for the label.
Source IP1, Source IP2, Source IP3	Enter the source IP address for the label.
CBR	Use the drop-down list to set or unset constant bitrate session.
Bitrate	Enter the bitrate value for the label.
Jitter	Enter the jitter value for the label.
Delete	Check the checkbox against an entry and click **Delete** button to delete its information.

Note Invalid entries are highlighted in red color.

Note On clicking **Apply**, if there are invalid entries, an alert message is displayed for deleting all invalid entries.

Local Session

Use this page to view chassis and line card video local session count information.

Figure 78 Video Session Slot slot Details Pane

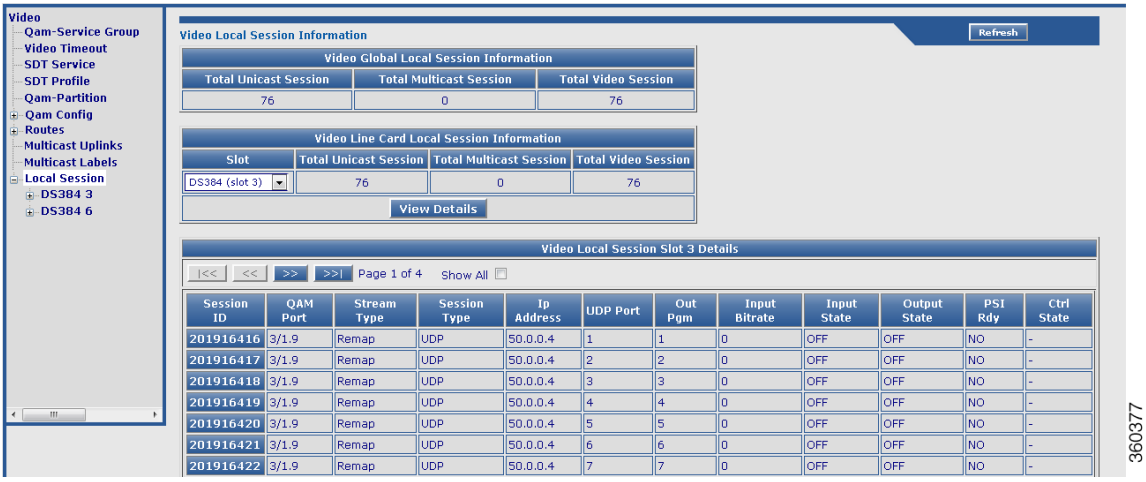


Table 61 Local Session Page Field Description

Field	Description
Video Global Session Information	
Total Unicast Session	Total number of unicast video sessions on the chassis.
Total Multicast Session	Total number of multicast video sessions on the chassis.
Total Video Session	Total number of video sessions on the chassis.
Video Line Card Session Information	
Slot	Use the drop-down list to choose a slot and click **View Details** button to view its video session details.
Total Unicast Session	Total number of unicast video sessions on the selected line card.
Total Multicast Session	Total number of multicast video sessions on the selected line card.
Total Video Session	Total number of video sessions on the selected line card.
Video Session Slot All Details	
Session ID	Click a session ID to view its detailed video session information.
QAM Port	QAM port information.
Stream Type	Video session stream type.
Session Type	Video session type.

Table 61 Local Session Page Field Description (continued)

Field	Description
Ip Address	Video session IP address.
UDP Port	UDP port number.
Out Pgm	Single ProgramTransport Stream (SPTS) or Multiple ProgramTransport Stream (MPTS) program number.
Input Bitrate	Actual bitrate measured on the input.
Input State	State on the input.
Output State	State on the output.
PSI Rdy	PSI ready state.
Ctrl State	Controller state.
Encryption Type	Session encryption type.

DS384 Line Card

Use this page to create or edit unicast or multicast local video sessions on a specific Cisco DS-384 line card.

Figure 79 Session Creator Pane

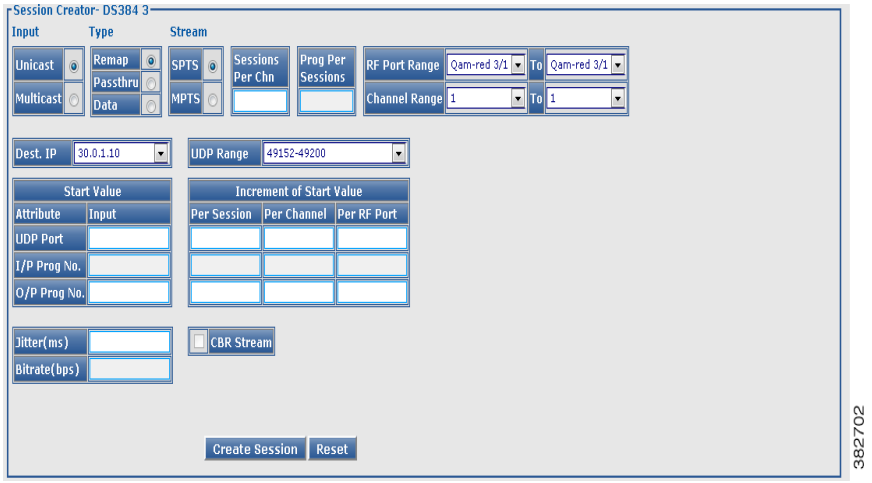
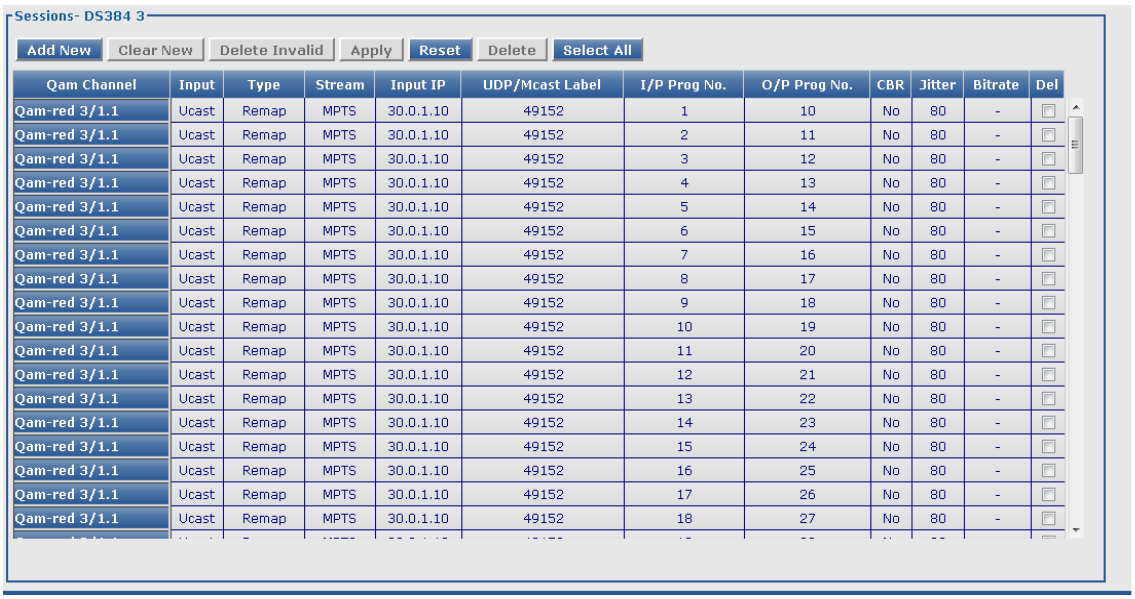
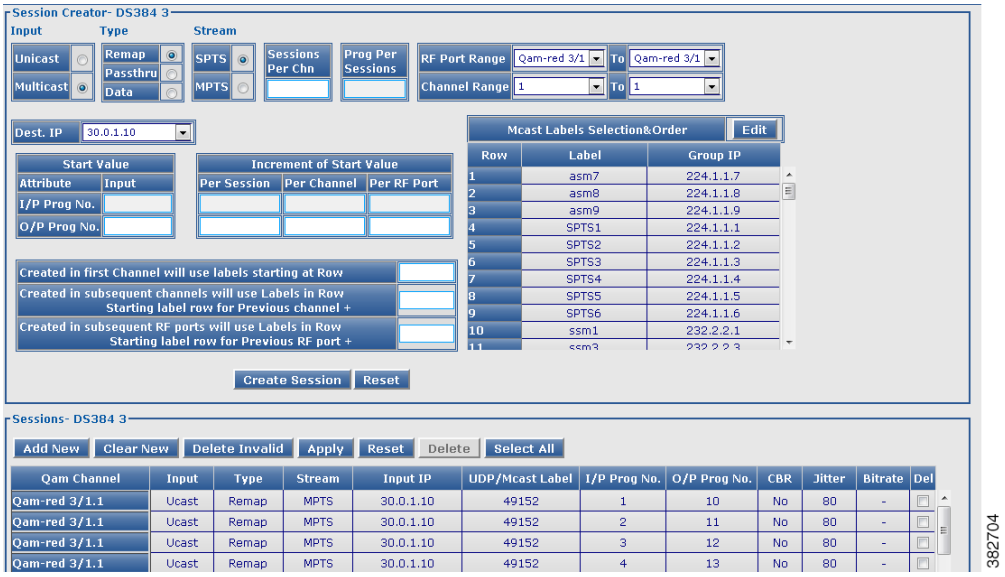


Figure 80 Sessions Pane



Qam Channel	Input	Type	Stream	Input IP	UDP/Mcast Label	I/P Prog No.	O/P Prog No.	CBR	Jitter	Bitrate	Del
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	1	10	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	2	11	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	3	12	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	4	13	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	5	14	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	6	15	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	7	16	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	8	17	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	9	18	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	10	19	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	11	20	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	12	21	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	13	22	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	14	23	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	15	24	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	16	25	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	17	26	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	18	27	No	80	-	

Figure 81 Mcast Labels Selection&Order Pane



Row	Label	Group IP
1	asm7	224.1.1.7
2	asm8	224.1.1.8
3	asm9	224.1.1.9
4	SPTS1	224.1.1.1
5	SPTS2	224.1.1.2
6	SPTS3	224.1.1.3
7	SPTS4	224.1.1.4
8	SPTS5	224.1.1.5
9	SPTS6	224.1.1.6
10	ssm1	232.2.2.1

Qam Channel	Input	Type	Stream	Input IP	UDP/Mcast Label	I/P Prog No.	O/P Prog No.	CBR	Jitter	Bitrate	Del
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	1	10	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	2	11	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	3	12	No	80	-	
Qam-red 3/1.1	Ucast	Remap	MPTS	30.0.1.10	49152	4	13	No	80	-	

Figure 82 Multicast Label Selection Window

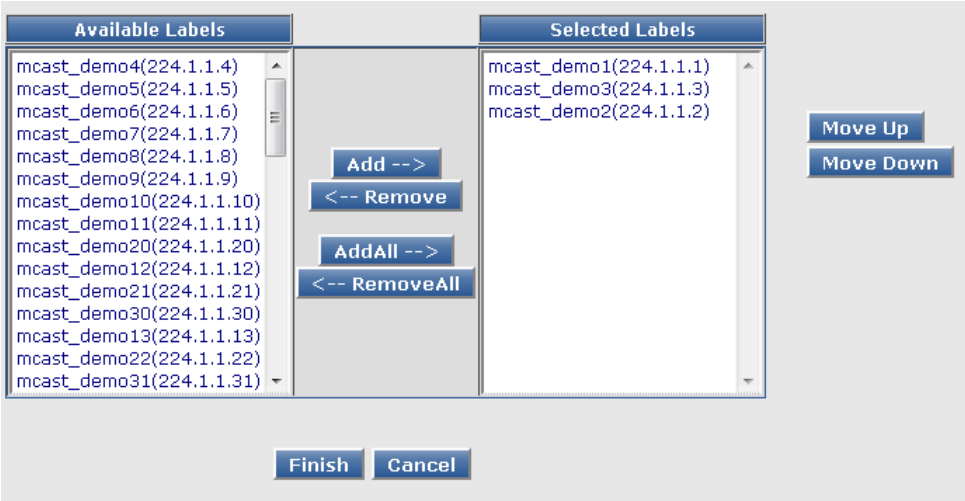


Table 62 DS384 Line Card Local Session Page Field Description

Field	Description
Session Creator - DS384 *slot*	
Input	Choose either **Multicast** or **Unicast** for session inputs. If the input is **Multicast**, click **Edit** button available next to **Mcast Labels Selection&Order** to view, order or select existing multicast labels. In the **Mcast Labels Selection&Order** edit window, click **Add** or **AddAll** to add the available labels, **Remove** or **RemoveAll** to remove selected labels, **Move UP** or **Move Down** to order the selected labels, **Finish** to apply the changes or **Cancel** to abort. Go to Fields displayed after choosing multicast labels row in this table to see a description for the fields displayed.
Type	Choose: • **Remap**—To add a remap session to the QAM interface. • **Passthru**—To add a pass-through session to the QAM interface. or • **Data**—To add a data-piping session to the QAM interface.

Table 62 DS384 Line Card Local Session Page Field Description (continued)

Field	Description
Stream	Choose: • **SPTS**—To add an SPTS program flow type to the QAM interface. • **MPTS**—To add an MPTS program flow type to the QAM interface.
Sessions Per Chn	Enter the number of sessions to be created per channel. **Note** A maximum of 500 sessions in total is recommended for the selected RF port QAM channel range in an attempt for higher performance.
Prog Per Sessions	Enter the number of program to be created per session. **Note** A maximum of 64 programs per Remap session is recommended.
RF Port Range	Use the drop-down list to choose the RF port range for the session.
Channel Range	Use the drop-down list to choose the channel range listed for the selected RF port. **Note** The **To** or end channel range value selected in this drop-down list cannot exceed the minimum number of channel configured for the selected RF port range.
Dest. IP	Use the drop-down list to choose the destination IP address of the video route.
UDP Range	Use the drop-down list to choose the start and end UDP range value for the selected destination IP address.

Table 62 DS384 Line Card Local Session Page Field Description (continued)

Field	Description
Start Value	Enter the UDP port start value. The value should be within the selected UDP range. **Note** UDP port start value is not applicable for multicast sessions. Enter the starting value of output program number. The valid range is from 1 to 65535. **Note** The output program number is applicable only for remap sessions. It is not used for passthru and data session types in both unicast and multicast sessions. Enter the starting value of input program number. The valid range is from 1 to 65535. **Note** The input program number is applicable only for MPTS remap sessions. It is not used for passthru and data session types in both unicast and multicast sessions.

Table 62 DS384 Line Card Local Session Page Field Description (continued)

Field	Description
Increment of Start Value	Enter the incremental value for the UDP and program number. For UDP Port: • Per Session—Enter the incremental value to be added to the start value of the UDP Port for every session. • Per Channel—Enter the incremental value to be added to the start value of the UDP Port for every channel. • Per RF Port—Enter the incremental value to be added to the start value of the UDP Port for every RF Port. For I/P Program Number: • Per Session—Enter the incremental value to be added to the start value of the I/P Prog No. for every session. • Per Channel—Enter the incremental value to be added to the start value of the I/P Prog No. for every channel. • Per RF Port—Enter the incremental value to be added to the start value of the I/P Prog No. for every RF Port. For O/P Program Number: • Per Session—Enter the incremental value to be added to the start value of the O/p Prog No. for every session. • Per Channel—Enter the incremental value to be added to the start value of the O/p Prog No. for every channel. • Per RF Port—Enter the incremental value to be added to the start value of the O/p Prog No. for every RF Port.
Jitter(ms)	Enter the jitter value in milliseconds. The valid range is from 10 to 200. **Note** This is not applicable for unicast data sessions and all multicast sessions.
Bitrate(bps)	Enter the bitrate value in bits per second. The valid range is from 1 to 51607843. **Note** This is applicable only to unicast data sessions.
CBR Stream	Select or deselect constant bitrate session streaming for a Passthru session.

Table 62 DS384 Line Card Local Session Page Field Description (continued)

Field	Description
Fields displayed after choosing multicast labels	
Row	Sequential row numbering.
Label	Selected labels.
Group IP	Multicast group IP address.
Created in first Channel will use labels starting at Row	The first session in the first channel in the starting RF port mentioned in the **RF Port Range** field uses the label information available in the row number mentioned in this field. The next subsequent session in the same channel adds 1 to the previous session row number and applies the label information of the resulting row number. Increment by 1 is by default.
Created in subsequent channels will use Labels in Row Starting label row for Previous channel +	The subsequent channels on the same RF port as the first channel, add the row number specified in this field to the row number mentioned in the **Created in first Channel will use labels starting at Row** field and apply the label information of the resulting row number.
Created in subsequent RF ports will use Labels in Row Starting label row for Previous RF port +	The first session in the first channel in the subsequent RF ports, add the row number specified in the **Created in first Channel will use labels starting at Row** field to the number specified in this field and apply the label information of the resulting row number.
Click **Create Session** button to create a session with the values populated in the above fields or click **Reset** button to abort.	
Sessions - DS384 *slot*	
Click **Add New** button to add a new session, **Clear New** button to clear the newly added session, **Delete Invalid** button to delete all invalid sessions, **Apply** button to accept changes, **Reset** button to abort, **Delete** button to delete the selected session entry, and **Select All** button to select all sessions entries listed in this page. Click a session to edit its information. In edit mode, the session being edited is first deleted and then created as new with the latest information.	
Qam Channel	Lists the QAM channels available on the line card.
Input	Use the drop-down list to choose the session input type.
Type	Use the drop-down list to choose the session stream type.
Stream	Use the drop-down list to choose the program flow type for the QAM interface
Input IP	Use the drop-down list to choose the input IP address.

Table 62 DS384 Line Card Local Session Page Field Description (continued)

Field	Description
UDP/Mcast Label	Enter or edit the UDP or multicast session label value.
I/P Prog No.	Enter or edit the I/P program number. The valid range is from 1 to 65535.
O/P Prog No.	Enter or edit the starting program number.
Bitrate	Enter or edit the bitrate value.
CBR	Use the drop-down list to set the constant bitrate streaming setting to yes or no.
Jitter	Enter or edit the jitter value.
Del	Select a session entry and click the **Delete** button to delete the entry.

Note Invalid entries are highlighted in red color.

Note On clicking **Apply**, if there are invalid entries, an alert message is displayed for deleting all invalid entries.

Note You can repeat these configurations at the RF port and QAM channel level using the tree-based navigation at the line card level.

Filtering

Use this page to view chassis and line card video local sessions for Program, PID Filtering Information.

Enter or edit the O/P program number. The valid range of program numbers is from 1 to 65535.

Note A PID should be filtered before scrambling a session, filtering of PID on the scrambled session can lead to unwarranted results.

Figure 83

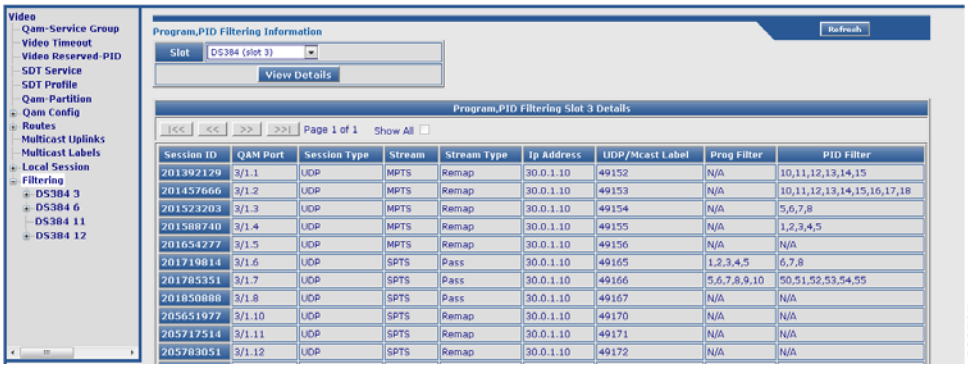


Table 63 Program,PID Filtering Information pane Field Description

Field	Description
Session ID	Click a *session ID* to view its detailed video session information.
QAM Port	QAM port information.
Session Type	Video session type.
Stream	Video program flow type information. Either MPTS or SPTS.
Stream Type	Video session stream type.
Ip Address	Video session IP address.
UDP/Mcast Label	UDP port number/Multicast label name.
Prog Filter	Program filter identifier information.
PID Filter	Product identifier filter information.

DS384 Line Card

Use this page to create or edit unicast or multicast local video sessions for Program, PID Filtering Information on a specific Cisco DS-384 line card.

Figure 84 Program,PID Filtering DS384 slot Details pane

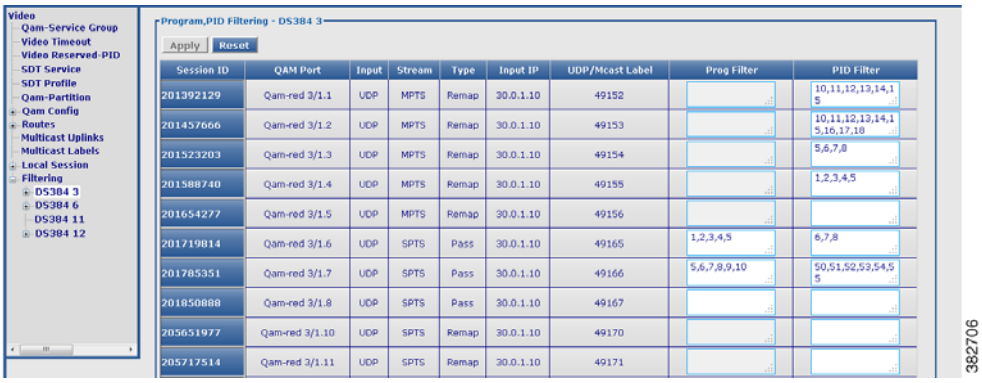


Table 64 Program,PID Filtering DS384 slot Details pane Field Description

Field	Description
Session ID	Click a session ID to view its detailed video session information.
QAM Port	QAM port information.
Input	Video session type.
Type	Video program flow type information.
Input IP	Video session IP address.
UDP/Mcast Label	UDP port number/Multicast label name.
Prog Filter	Configure Program Filtering ID information. The valid program range is from 1 to 65535. Enter the filter values separated by comma or hyphen. The filter values may be numeric or hexadecimal with 0x prefix. **Note** Max Program IDs allowed per session is 64.
PID Filter	Configure the PID Filtering ID information. The valid program range is from 1-8190. Enter the filter values separated by comma or hyphen. The filter values may be numeric or hexadecimal with 0x prefix. **Note** Max PIDs allowed per session is 32.
Click **Apply** button to accept changes or **Reset** button to abort. **Note** You can repeat these configurations at the RF port and QAM channel level using the tree-based navigation at the line card level.	

System

Use the tree-based navigation on the System page to do the following:

- System—View chassis information and edit the device name.

- SNMP—Configure SNMP community strings.
- TCC—Configure clear counter and free run of TCC cards.
- License—Configure encryption-scrambler and view the license details for the line card.
- Scrambler—View and configure the Scrambler feature related configurations like Scrambler General Settings, EIS, ECMG, SCG Details and IP Route&ARP configuration.
- Interface—Configure interface IP address.
- Alarm/Logs—Configure alarm or logs related settings.
- Boot Management—Configure system boot and reload parameters.
- Config Management—Manage running or startup configuration.
- Kdumper & BASS-Interrupt—Configure TACACS+ configuration.
- Common Config—Execute configuration commands.

System

Use this page to view the chassis information and edit the device name.

Figure 85 System Page

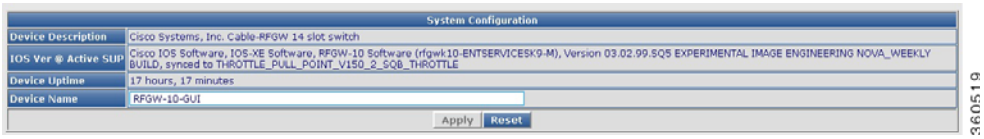


Table 65 System Page Field Description

Field	Description
System Configuration	
Device Description	Device information.
IOS Ver @ Active SUP	Cisco IOS-XE version running on the active Supervisor card.
Device Uptime	Time duration of how long the device has been alive.
Device Name	Name of the device. Edit this field to change the name.
Click **Apply** to accept changes or **Reset** to abort.	

SNMP

Use this page to configure SNMP community strings.

Table 66 SNMP Page Field Description

Field	Description
SNMP Community String Configuration	
Read Community String	Enter the read community string.
Write Community String	Enter the write community string.
Click **Apply** to accept changes.	

TCC

Use this page to configure clear counter and free run of TCC cards.

Table 67 TCC Page Field Description

Field	Description
TCC Configuration	
Clear Counter	Check the checkbox of the desired TCC card to clear its counter information.
Cable Clock Free Run	Check the checkbox of the desired TCC card to enable cable clock free run or uncheck to disable.
Click **Apply** to accept changes or **Reset** to abort.	

License

Use this page to configure encryption-scrambler and view the license details for the line card.

Figure 86 License Page

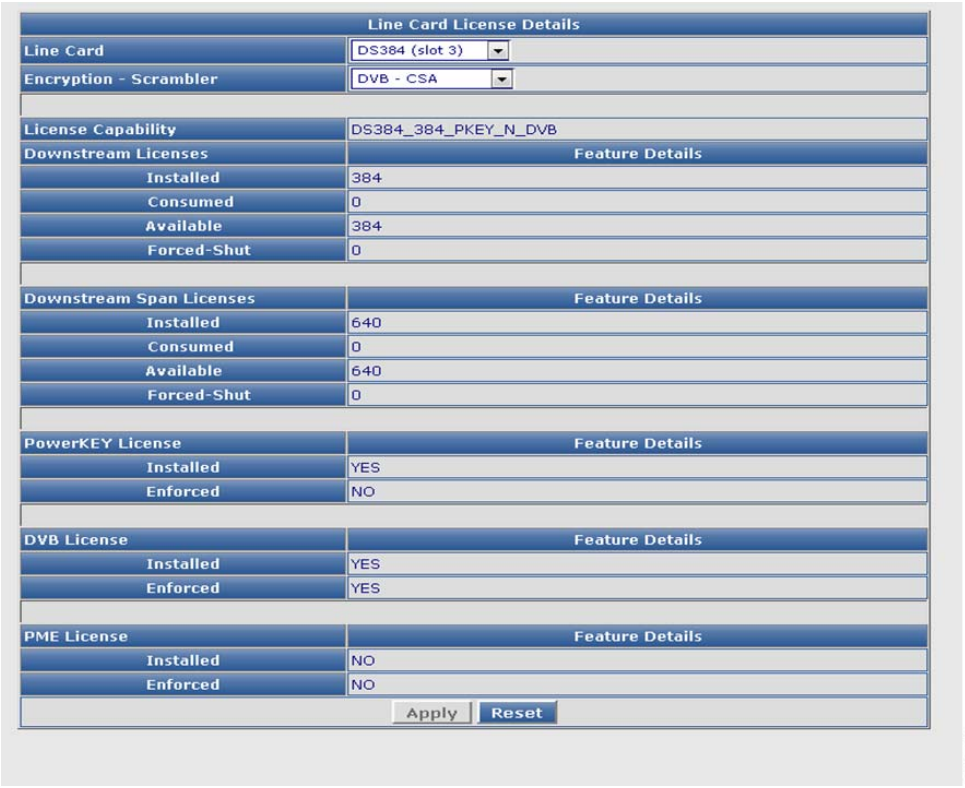


Table 68 License Page Field Description

Field	Description
Line Card License Details	
Line Card	Use the drop-down list to select a line card.
Encryption - Scrambler	Use the drop-down list to select an encryption option for the line card. The list is as follows: • Clear - None • PowerKey - CSA • PowerKey - DES • DVB - CSA • DualCrypt - CSA • PME - DES
License Capability	License available on the line card.
Downstream Licenses	Downstream license details.

Table 68 License Page Field Description (continued)

Field	Description
Downstream Span Licenses	Downstream RF spanning license details.
PowerKEY License	Power KEY license details.
DVB License	DVB license details.
PME License	PME license details.
Installed	Number of licensed downstreams available on the line card.
Consumed	Number of downstream licenses consumed or used on the line card.
Available	Number of downstream licenses available or unused on the line card.
Forced-Shut	Number of downstreams in the shut state.
Enforced	Status of whether or not the Power Key license is enforced.
Chn with PKEY ON	Number of channels with the Power Key license provisioned on it. Effective with Cisco IOS-XE Release 3.4.1SQ, this field is removed.
Click **Apply** to accept changes or **Reset** to abort.	

Scrambler

View and configure the Scrambler features related configurations such as:

- Scrambler General Settings
- EIS Configuration
- ECMG Summary
- ECMG for DS384 Line Card
- ECMG Connection Configuration
- ECMG Descriptor Rules Configuration
- ECMG Overrule Configuration
- SCG Details
- IP Route and ARP

Scrambler General Settings

Use this page to configure the general settings of the Scrambler.

Figure 87 Scrambler General Settings page

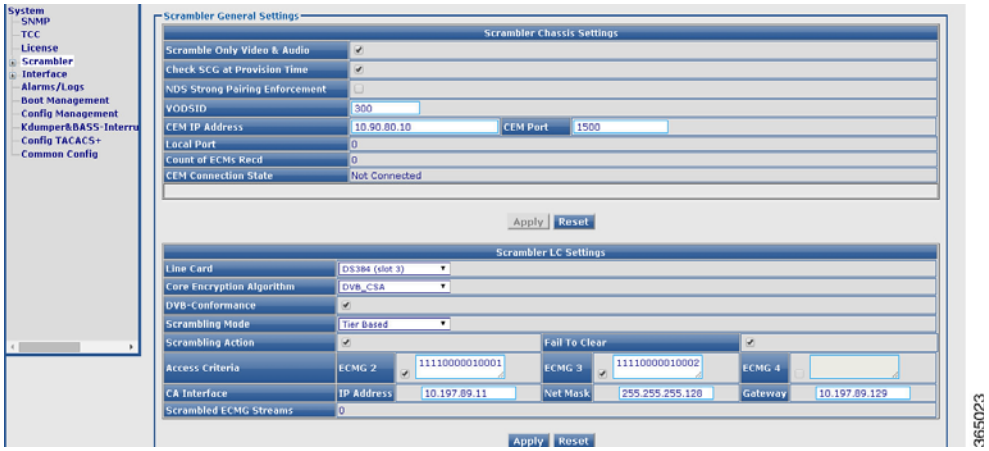


Table 69 Scrambler General Settings page Field Descriptions

Field	Description
Scrambler Chassis Settings	
Scramble Only Video & Audio	Check this checkbox to scramble video and audio signals.
Check SCG at Provision Time	Check this checkbox to enable checking SCG at the provisioned time.
NDS Strong Pairing Enforcement	Check this checkbox to enforce NDS
VODSID	Configure VODSID of CEM. The valide range is from 2 to 2147483647.
CEM IP Address	Enter the IP address of the CEM server.
CEM Port	Enter the TCP port number of the CEM server. The valid range is from 1024 to 65534.
Local Port	Local port number.
Count of ECMs Recd	Total number of ECMs.
CEM Connection State	Connection status of the CEM server.
Scrambler LC Settings	
Line Card	Use the drop-down list to select a line card.

Table 69 Scrambler General Settings page Field Descriptions

Field	Description
Core Encryption Algorithm	Use the drop-down list to select the core encryption algorithm. The algorithms are as follows: • PowerKey - DES • PowerKey - CSA • DVB - CSA • DualCrypt - CSA • PME - DES
DVB-Conformance	Check this checkbox to enable DVB-Conformance.
Scrambling Mode	Use this drop-down list to select the scrambling mode.
Scrambling Action	Check this checkbox to enable scrambling action.
Fail To Clear	Check this checkbox to enable clear on scrambling failure.
Access Criteria	This check box is checked automatically when the ECMG settings for the line card are configured.
CA Interface	Provide the CA interface details: IP Address, Network Mask and Gateway.
IP Address	Provide the IP Address of the CA Interface.
Net Mask	Provide the network mask of the CA interface.
Gateway	Provide the Gateway details of the CA interface,
Scrambled ECMG Streams	Displays the total number of scrambled streams
Click **Apply** to accept changes or **Reset** to abort.	

EIS Configuration

Use this page to configure the Event Information Scheduler (EIS) settings.

Figure 88 EIS Configuration page

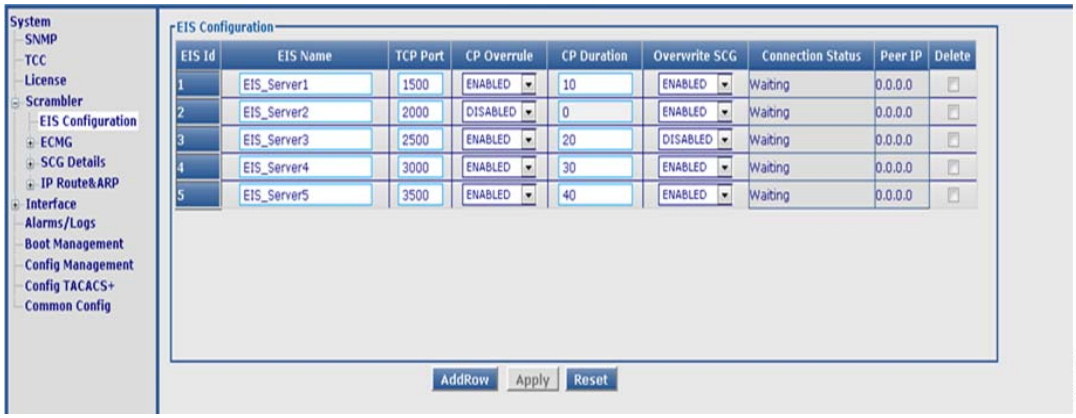


Table 70 EIS Configuration page Field Descriptions

Field	Descriptions
EIS ID	Specifies the EIS Connection ID. The valid range is 1 - 10.
EIS Name	Enter the EIS Name associated with the EIS connection ID, without any spaces.
TCP Port	Configure the listening TCP port number for each EIS connection ID. Valid range is 1 - 65535.
CP Overrule	Use this drop-down list to enable or disable the CP Overrule feature.
CP Duration	Enter the Crypto period duration in seconds when CP overrule is enabled. Duration range is 1 - 3600 seconds.
Overwrite SCG	Use this drop-down list to enable or disable the Scrambling Control Group (SCG) overwrite feature.
Connection Status	Displays the status of the EIS connection.
Peer IP	Displays the Peer IP of the EIS connection.
Delete	Use this check box to delete a EIS connection configuration.
Click **AddRow** to add an EIS connection and its details. Click **Apply** to accept changes or **Reset** to abort.	

ECMG Summary

Use this pane to view the summarized information for ECMG information for selected line card or all the line cards.

Figure 89 ECMG Summary pane

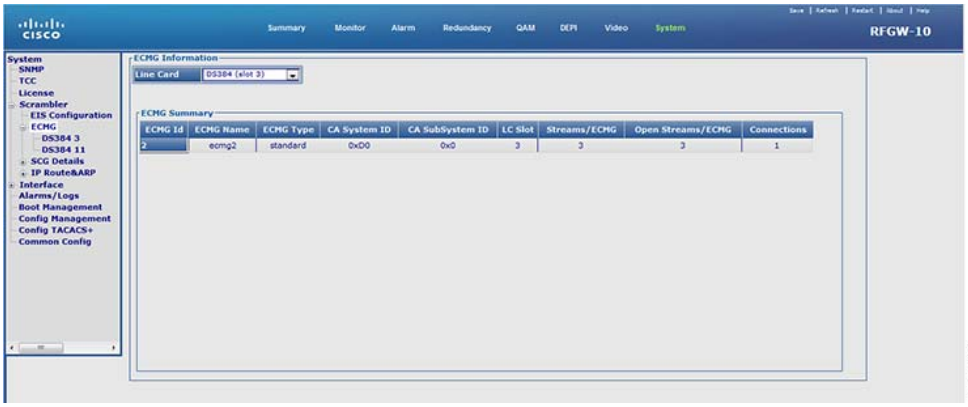


Table 71 ECMG Summary pane Field Descriptions

Field	Description
ECMG Id	Displays the ECMG ID
ECMG Name	Displays the ECMG server name.
ECMG Type	Displays the ECMG type.
CA System ID	Displays the hexadecimal CA System ID
CA Sub System ID	Displays the hexadecimal CA Sub System ID
LC Slot	Displays the line card slot numbers.
Streams/ECMG	Displays the number of ECMG streams.
Open Streams/ECMG	Displays the number of open ECMG streams
Connections	Displays the number of connections.
Note Click on the ECMG ID for detailed information on that ECMG ID.	

ECMG for DS384 Line Card

Use this pane for configuring and managing the existing ECMG for Cisco RFGW-10 DS-384 line card

Figure 90 ECMG Summary for DS384 Line Card pane

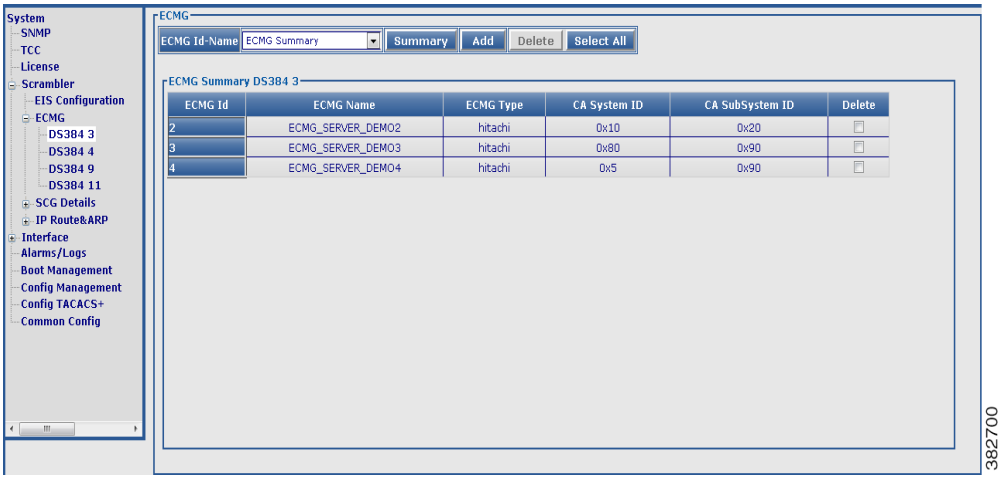


Table 72 ECMG Summary for DS384 Line Card pane Field Descriptions

Field	Description
ECMG	
ECMG Id-Name	Use this drop-down list to select the ECMG Id-name. Select **Summary** to see ECMG summary information.
Click the **Summary** button to see the information for the selected ECMG Id-Name. Click **Add** to add a new ECMG Id-Name.	
ECMG Summary DS384	
ECMG Id	Displays the ECMG ID
ECMG Name	Displays the ECMG server name.
ECMG Type	Displays the ECMG type.
CA System ID	Displays the hexadecimal CA System ID
CA Sub System ID	Displays the hexadecimal CA Sub System ID
Delete	Check this check box to delete a ECMG connection.
Note Click on the ECMG ID for detailed information on that ECMG ID.	

Figure 91 ECMG Information for DS384 Line Card

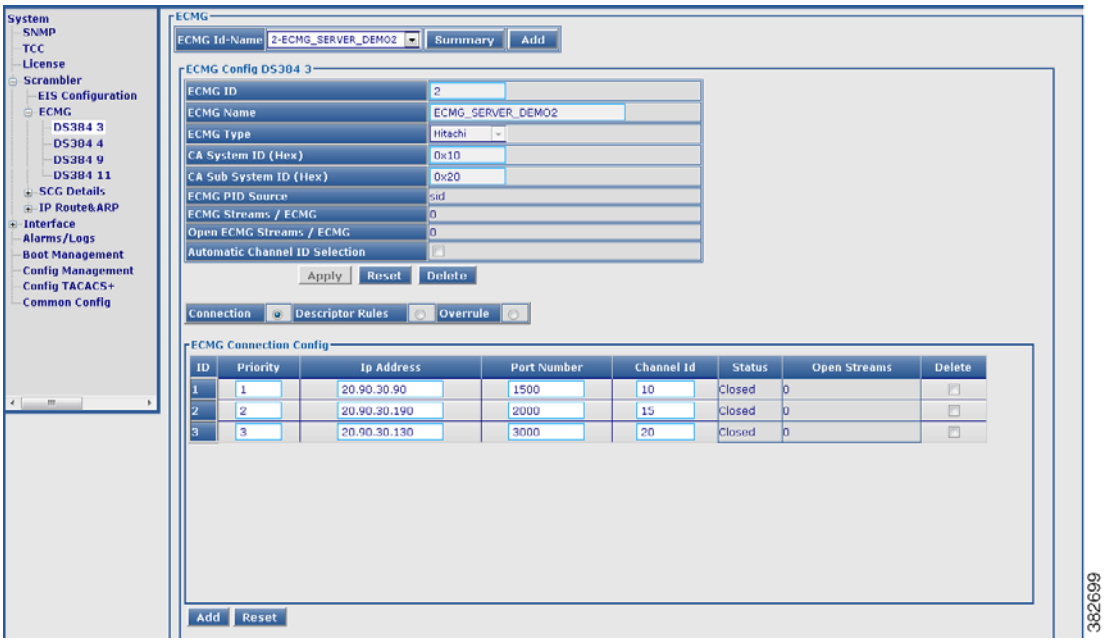


Table 73 ECMG Information for DS384 Line Card Field Descriptions

Field	Description
ECMG	
ECMG Id-Name	Use this drop-down list to select the ECMG Id-name.
Click the **Summary** button to see the information for the selected ECMG Id-Name. Click **Add** to add a new ECMG Id-Name.	
ECMG Config DS384	
ECMG ID	Enter the ECMG ID. The valid range is 2-4.
ECMG Name	Enter the ECMG server name.
ECMG Type	Use the drop-down list to select the ECMG type.
CA System ID (Hex)	Enter the hexadecimal CA System ID
CA Sub System ID (Hex)	Enter the hexadecimal CA Sub System ID
ECMG PID Source	Displays the ECMG PID Source.
ECMG Streams / ECMG	Displays the number of ECMG streams.
Open ECMG Streams / ECMG	Displays the number of open ECMG streams

Table 73 ECMG Information for DS384 Line Card Field Descriptions

Field	Description
Automatic Channel ID Selection	Check this check box to enable Automatic Channel ID Selection. **Note** If you have enable Automatic Channel ID, then you cannot enter the channel ID for any ECMG Connections under the selected ECMG ID.
Click **Delete** to delete the selected ECMG ID from the line card. Click **Apply** to accept changes or **Reset** to abort.	

ECMG Connection Configuration

Use this pane to configure the ECMG Connection settings for the selected line card and ECMG ID.

Figure 92 ECMG Connection Configuration pane

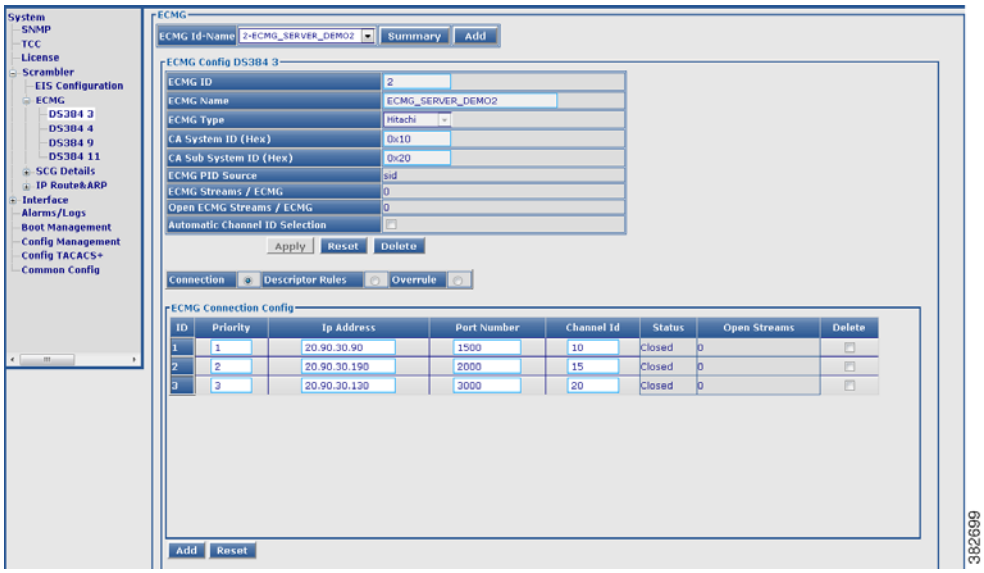


Table 74 ECMG Connection Configurations page Field Descriptions

Field	Description
ECMG Connection Configuration	
ID	Enter the ECMG Connection ID. The valid range of IDs are 1-10. You can configure up to 10 connections for the selected ECMG ID.
Priority	Enter the priority of the ECMG connection. the valid range is 1-1000.
IP Address	Enter the IP Address of the ECMG connection.

Table 74 ECMG Connection Configurations page Field Descriptions

Port Number	Enter the Port Number of the ECMG connection. The valid range of port numbers is 100-65535
Channel ID	Enter the Channel ID of the ECMG connection. The valid range is 1-65535.
Status	Displays the Status of the ECMG connection.
Open Streams	Displays the number of Open ECMG Streams for the ECMG connection.
Delete	Check this check box to delete a ECMG connection. The selected ID is highlighted in red color. Click **Apply** to delete the selected ID.
Click **Add** to add a ECMG connection. Click **Reset** to reset the ECMG connection settings.	

ECMG Descriptor Rules Configuration

Use this page to configure ECMG Descriptor Rules to scramble only Video and Audio.

Figure 93 ECMG Descriptor Rules Configuration pane

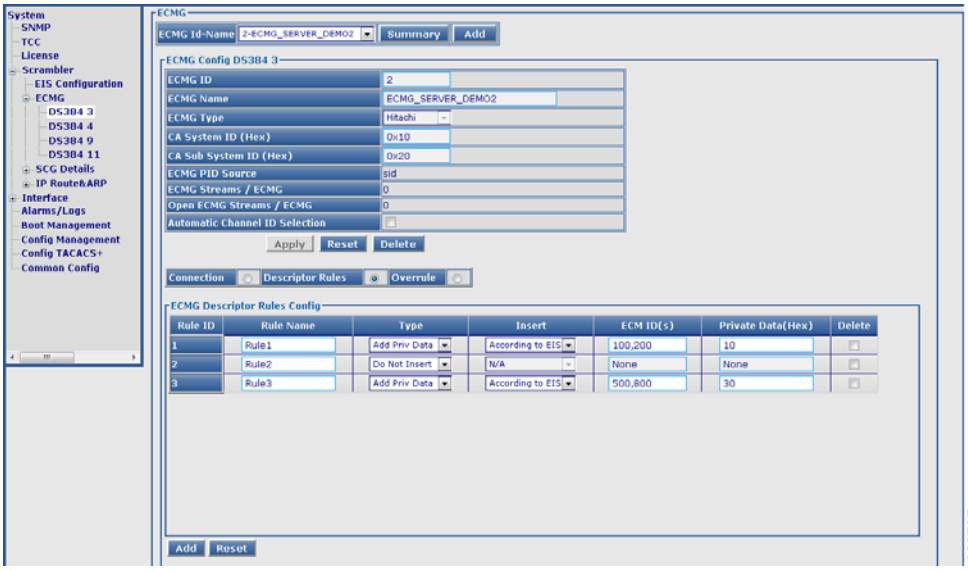


Table 75 ECMG Descriptor Rules Configuration pane Field Descriptions

Field	Descriptions
Rule ID	Enter the Rule ID. the range is 1 - 10 IDs.
Rule Name	Enter the Description Rule Name. For example, Rule1.
Type	Select the type of rule from this drop down list.
Insert	Select the rule for insertion from this drop down list.

Table 75 ECMG Descriptor Rules Configuration pane Field Descriptions

Field	Descriptions
ECM ID(s)	Enter the ECM IDs in decimal in comma separated format. For example, 100,110,200.
Private Data (Hex)	Enter the Private Data of the rule in hexadecimal format without 0x prefix.
Delete	Check this check box to delete the rule.
Click **Add** to add ECMG Descriptor Rules. Click **Reset** to reset ECMG Descriptor Rules.	

ECMG Overrule Configuration

Use this page to configure Overrule settings to overrule the ECMG Descriptor Rules.

Figure 94 ECMG Overrule Configurations pane

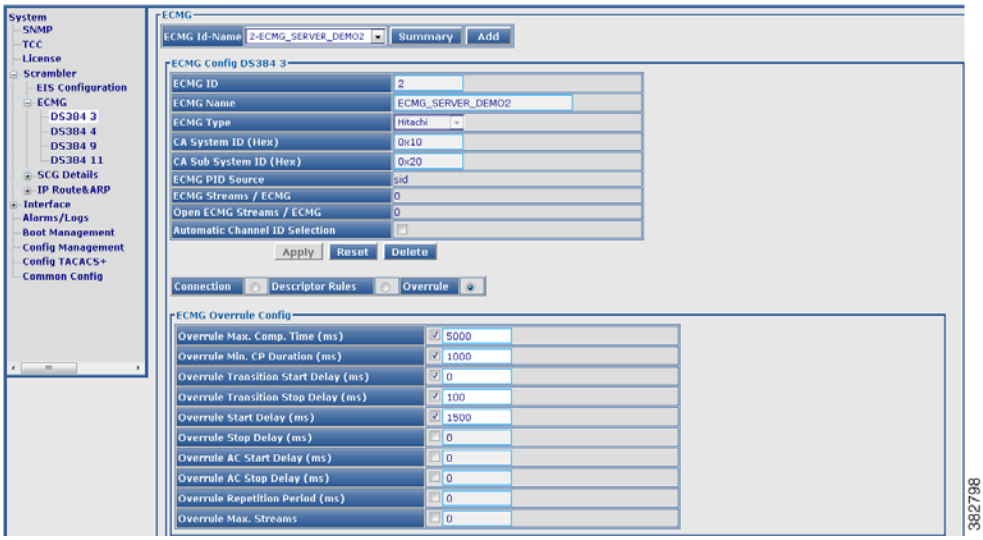


Table 76 ECMG Overrule Configuration pane Field Descriptions

Field	Description
Overrule Max. Comp. Time (ms)	Check this check box to set the worst case time required by ECMG to compute an ECM. The range is 0-60000 milliseconds.
Overrule Transition Start Delay (ms)	Check this check box to set the transition start delay time. The range is -30000-0 milliseconds.
Overrule Transition Stop Delay (ms)	Check this check box to set the transition stop delay time. The range is 1-30000 milliseconds.

Table 76 ECMG Overrule Configuration pane Field Descriptions

Field	Description
Overrule Start Delay (ms)	Check this check box to set the delay time between start of Crypto period and start of ECM broadcast. The range is -30000 - 30000 milliseconds.
Overrule Stop delay (ms)	Check this check box to set the delay time between stop of ECM broadcast and start of Crypto period. The range is -30000 - 30000 milliseconds.
Overrule AC Start Delay (ms)	Check this check box to set the Access Criteria Start delay time between start of the first CP after change in Access Criteria (AC) and start of ECM broadcast. The range is -30000 - 30000 milliseconds.
Overrule AC Start Delay (ms)	Check this check box to set the Access Criteria Stop delay time between end of the last CP before a change in Access Criteria (AC) and end of ECM broadcast. The range is -30000 - 30000 milliseconds.
Overrule Repetition Period (ms)	Check this check box to set the ECM Repetition period, that is the time between etwo ECM packets at the output. The range is 100 - 30000 milliseconds.
Overrule Max. Streams	Check this check box to set the maximum number of simultaneous opened streams supported. The range is 0 - 30000 streams.

SCG Details

Use this page to view Scrambler Control Group (SCG) details.

Figure 95 SCG Details pane

Table 77 SCG Details pane Field Description

Field	Description
Show Options	Use this drop-down list to select the option of a specific line card, all line cards, ONID, TSID, and EIS ID.
Details	Click this button to display the SCG details of the option selected in the Show Options field.
Display (ON ID, TS ID) in Hex	Check this check box to display the ON ID and TS ID in hexadecimal notation.
SCG ID	Displays the ID of the SCG. Click on SCG ID to view the detailed information such as Service IDs, ES PIDs and SCG Group Details like SCG ID, ECM ID, Super CAS ID, AC Change, and Access Criteria.
ON ID	Displays the ON ID of the SCG.
TS ID	Displays the TS ID of the SCG.
SCG Ref. ID	Displays the SCG Reference ID assigned to the SCG.
Activation Time	Displays the time of activation of the SCG.
CP Duration (ms)	Displays the CP duration in milliseconds.
LC Slot	Displays the slot in which the line card is inserted.

Table 77 SCG Details pane Field Description

Field	Description
ETS ID	Displays the ETS ID of the SCG.
Use the tree-based navigation available at the line card level to view SCG information.	

IP Route and ARP

Use this page to view the configured IP Route and ARP information for the selected line card or all line cards.

IP Route and ARP - DS384 Line Card

Use this page to view or configure the IP Route and ARP for the selected line card.

Figure 96 IP Route and ARP Configuration pane

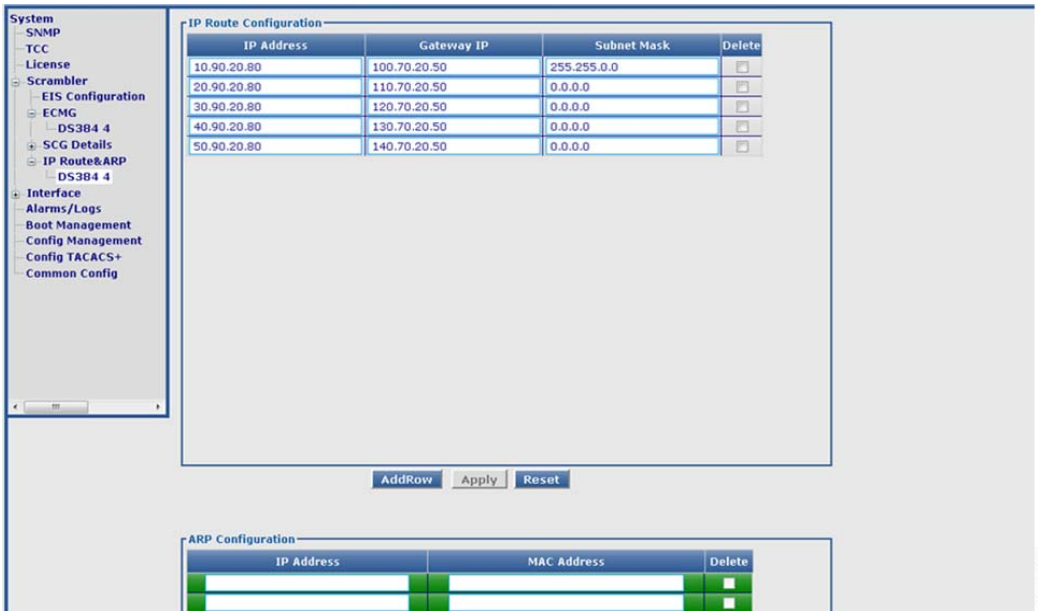


Table 78 IP Route and ARP Configuration pane Field Description

Field	Description
IP Route Configuration	
IP Address	Displays the IP Address of the IP Route.
Gateway IP	Displays the IP address of the Gateway.
Subnet Mask	Displays the Subnet Mask of the IP Address abd Gateway IP
Click **AddRow** to add an IP Address configuration. Click **Reset** to reset an IP Address configuration.	
ARP Configuration	

Table 78 IP Route and ARP Configuration pane Field Description

Field	Description
IP Address	Displays the IP Address.
MAC Address	Displays the MAC Address.
Delete	Check this check box to delete a selected IP address entry.

Interface

Use this page to configure interface IP address and create new VLAN and loopback interfaces.

Figure 97 Interface Page

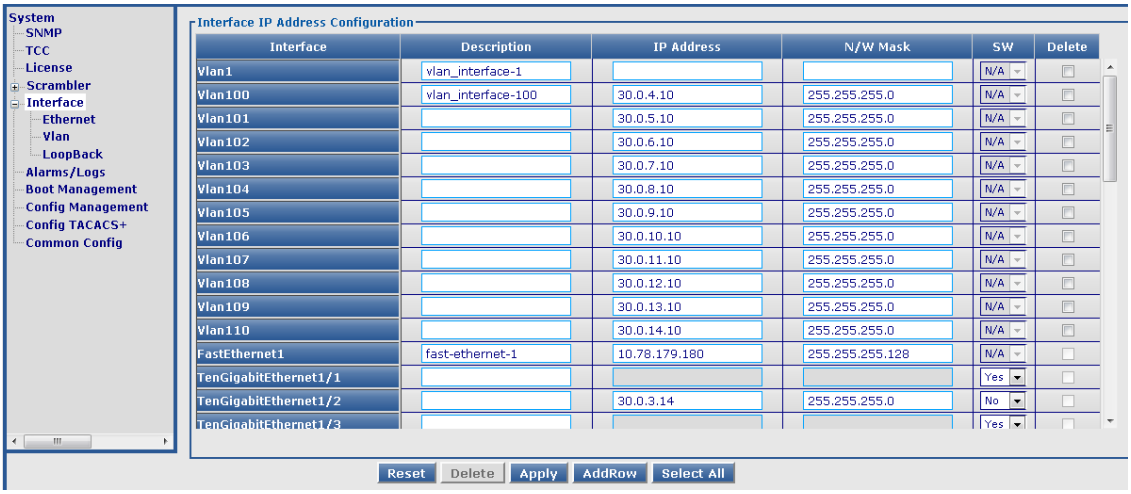


Table 79 Interface Page Field Description

Field	Description
Interface IP Address Configuration	
Interface	Interface type and identifier.
Description	Enter the interface description.
IP Address	Enter the IP address for the interface.
N/M Mask	Enter the mask for the interface IP address.
SW	Use the drop-down list to set the switching mode.
Delete	Check the checkbox against an entry and click **Delete** button to delete its information.
Click **AddRow** to add an entry, **Select All** to select all entries listed in this page, **Apply** to accept changes or **Reset** to abort.	
Note The VLAN or Loopback interface syntax is VLAN+numerical value and Loopback+numerical value.	

Ethernet

Use this page to configure the Ethernet interface secondary IP address.

Figure 98 Ethernet Page

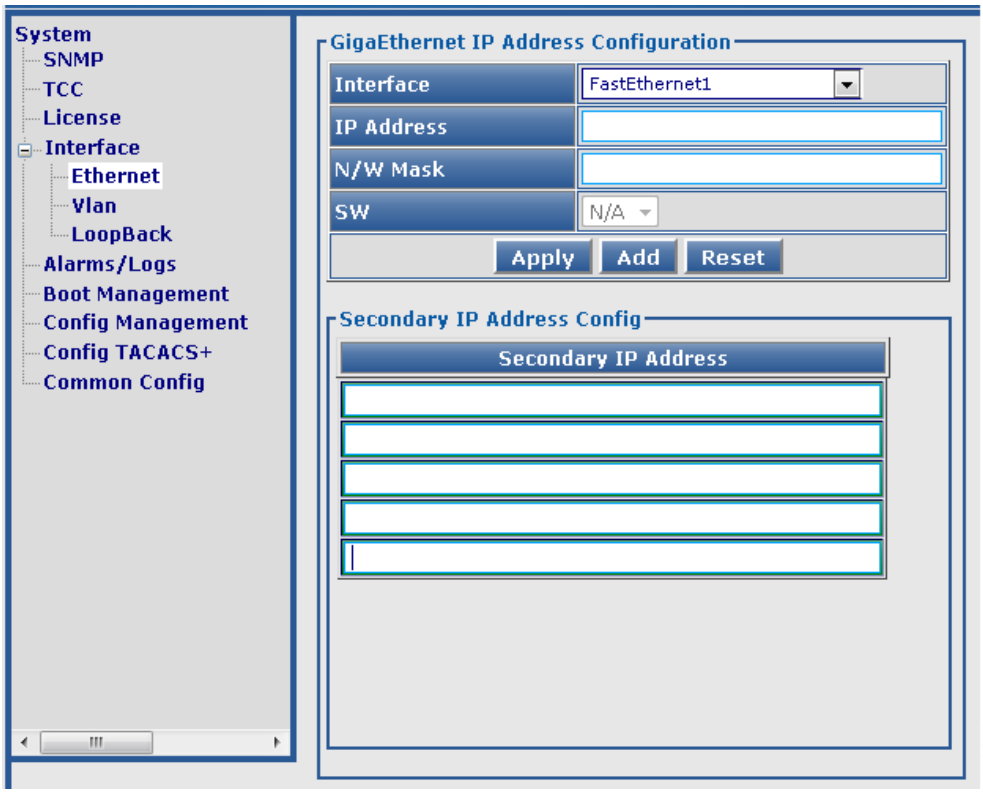


Table 80 Ethernet Page Field Description

Field	Description
Ethernet IP Address Configuration	
Interface	Use the drop-down list to choose an interface.
IP Address	Enter the IP address for the interface.
N/M Mask	Enter the mask for the interface IP address.
SW	Use the drop-down list to set the switching mode.
Click **Apply** to accept changes or **Reset** to abort.	
Click **Add** to add a secondary IP address for the interface in the **Secondary IP Address Config** pane.	

Vlan

Use this page to configure VLAN interface secondary IP address.

Figure 99 Vlan Page

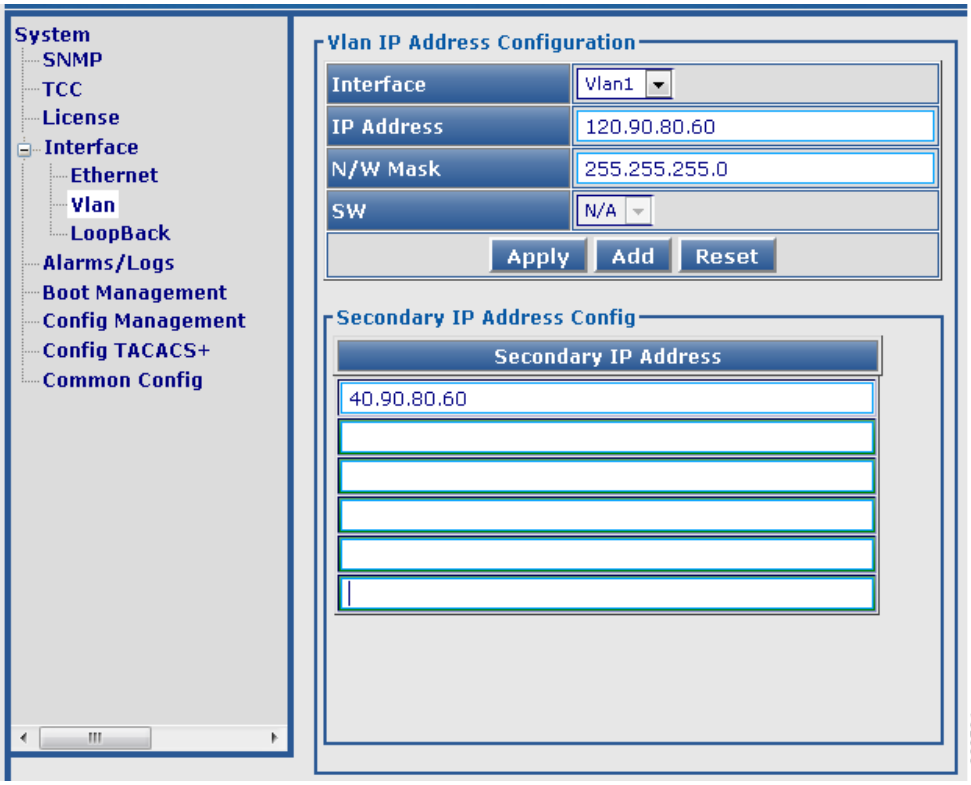


Table 81 Vlan Page Field Description

Field	Description
Vlan IP Address Configuration	
Interface	Use the drop-down list to choose an interface.
IP Address	Enter the IP address for the interface.
N/M Mask	Enter the mask for the interface IP address.
SW	Use the drop-down list to set the switching mode.
Click **Apply** to accept changes or **Reset** to abort. Click **Add** to add a secondary IP address for the interface in the **Secondary IP Address Config** pane.	

LoopBack

Use this page to configure the LoopBack interface secondary IP address.

Table 82 LoopBack Page Field Description

Field	Description
LoopBack IP Address Configuration	
Interface	Use the drop-down list to choose an interface.
IP Address	Enter the IP address for the interface.
N/M Mask	Enter the mask for the interface IP address.
SW	Use the drop-down list to set the switching mode.
Click **Apply** to accept changes or **Reset** to abort.	
Click **Add** to add a secondary IP address for the interface in the **Secondary IP Address Config** pane.	

Alarm/Logs

Use this page to manage alarm or logs related settings.

Figure 100 Alarm/Logs Page

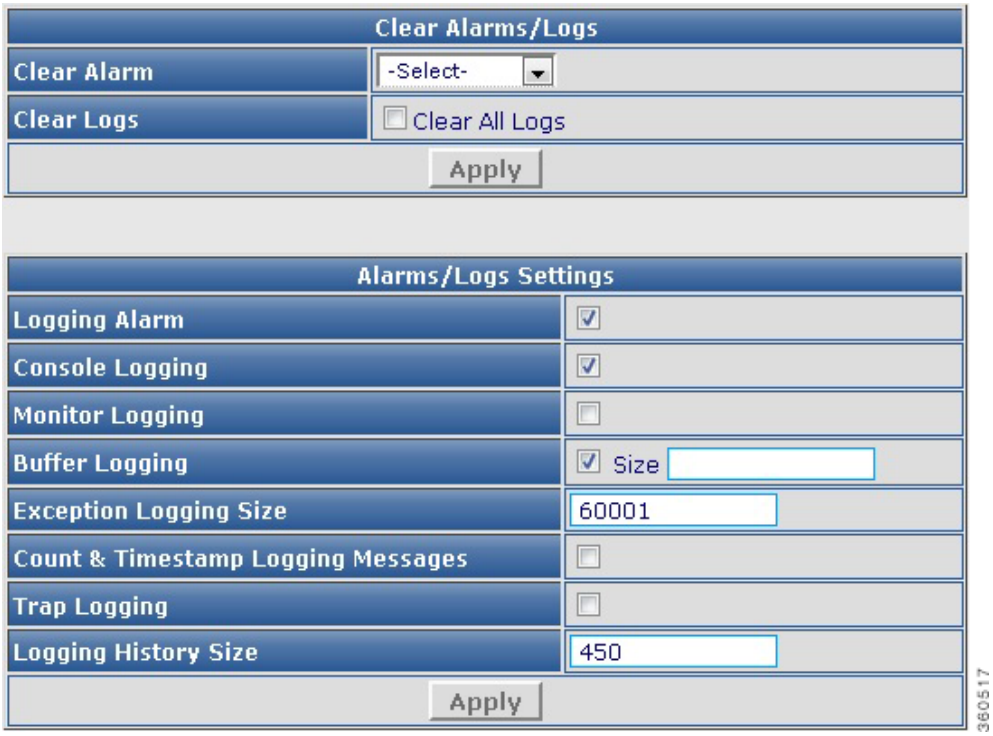


Table 83 Alarms/Logs Page Field Description

Field	Description
Clear Alarms/Logs	
Clear Alarm	Use the drop-down list to select alarms of a severity type to be cleared.
Clear Logs	Check the *Clear All Logs* checkbox to clear all logs in the system.
Click **Apply** to accept changes.	
Alarms/Logs Settings	
Logging Alarm	Check the checkbox to enable logging of alarms.
Console Logging	Check the checkbox to enable console logging.
Monitor Logging	Check the checkbox to enable monitor logging.
Buffer Logging	Check the checkbox to enable buffer logging and enter the maximum size of the buffer. The valid range is from 4096 to 2147483647.
Exception Logging Size	Enter the maximum size for logging exception flush. The valid range is from 4096 to 2147483647.
Count & Timestamp Logging Messages	Check the checkbox to enable logging count and timestamp messages.
Trap Logging	Check the checkbox to enable logging of traps.
Logging History Size	Enter the size of the log for maintaining history. The valid range is from 0 to 500.
Click **Apply** to accept changes.	

Boot Management

Use this page to configure system boot and reload parameters. You can boot the image from bootflash, TFTP server or disk.

Figure 101 Boot Management Page

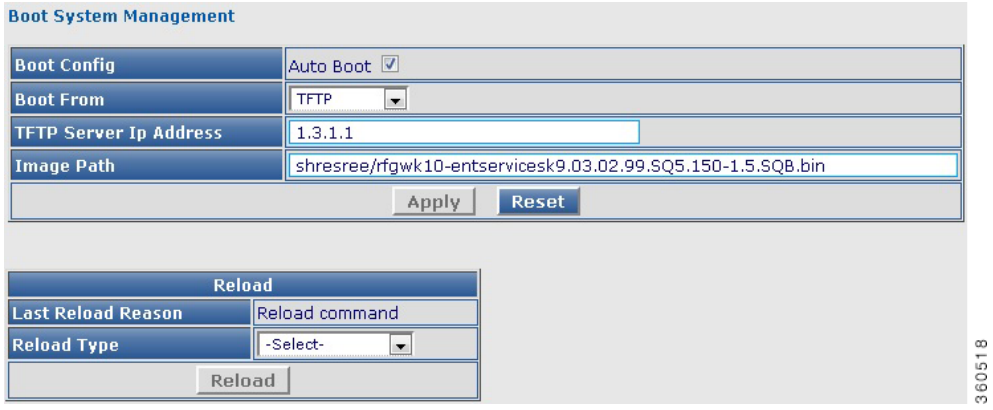


Table 84 Boot Management Page Field Description

Field	Description
Boot System Management	
Boot Config	Check the *Auto Boot* checkbox to enable automatic booting.
Boot From	Use the drop-down list to choose from where the boot file resides.
TFTP Server Ip Address	Enter the TFTP server IP address.
Image Path	Enter the location or path of the boot file.
Click **Apply** to accept changes.	
Reload	
Last Reload Reason	Reason why the last reload occured.
Reload Type	Use the drop-down list to choose the component to be reloaded. • Chassis—To reload both the active and standby Supervisor cards. • Active-Sup—To reload the active Supervisor card. • Stdby-Sup—To reload the standby Supervisor card. • Line card or TCC—To reset the hw-module.
Click **Reload** to reload the component selected in *Reload Type* field.	

Config Management

Use this page to manage chassis configuration.

Figure 102 Config Management Page

Table 85 Config Management Page Field Description

Field	Description
Show Running Configuration	Click **Show Config** to view the current show running configuration. Use the **Show Option** drop-down list to filter the output.
Save Running Configuration	Use the **Save To** drop-down list to choose a location and click **Save Config** to save the running configuration to that location.
Load Configuration	Use the **Load From** drop-down list to choose a location and click **Load Config** to load the configuration from that location to the startup-config.
Reset to Factory Defaults	Click **Reset Config** to reset the configuration to factory defaults.

Kdumper & BASS-Interrupt

Use this page to configure Line Card Kdumper and Service BASS Interrupt status.

Figure 103 Kdumper & Bass-Interrupt Page

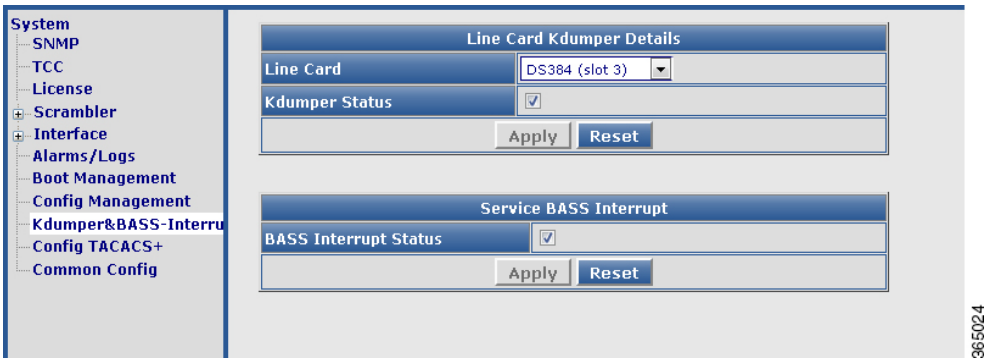


Table 86 Kdumper & Bass-Interrupt Page Field Description

Field	Description
Line Card Kdumper Details	
Line Card	Use the drop-down list to select a line card.
Kdumper Status	Check this checkbox for enabling Kdumper.
Click **Apply** to accept changes and **Reset** to abort.	
Service BASS Interrupt	
BASS Interrupt Status	Check this checkbox for enabling Bass Interrupt.
Click **Apply** to accept changes and **Reset** to abort.	

Config TACACS+

Use this page to configure Terminal Access Controller Access Control System+ (TACACS+) for user dial-up authentication to a Network Access Server (NAS).

Figure 104 TACACS Configuration Page

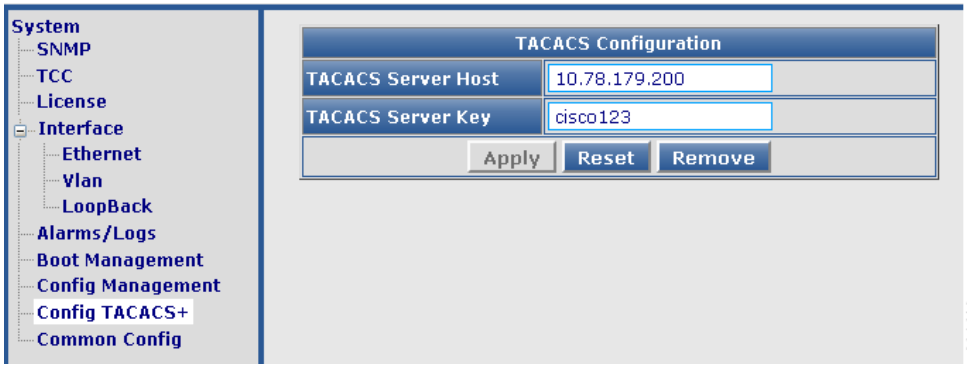


Table 87 Config TACACS+ Page Field Description

Field	Description
TACACS Configuration	
TACACS Server Host	Enter TACACS server IP address.
TACACS Server Key	Enter TACACS server key value.
Click **Apply** to accept changes, **Reset** to abort, **Remove** to delete the TACACS configuration.	

Common Config

Use this page to execute configuration commands.

Table 88 Common Config Page Field Description

Field	Description
Common Configuration	
CLI	Enter a command and click **Apply** to accept changes or **Clear** to clear the command entered.

Read-Only GUI Access

All users who log into the GUI using “guest” as the login name have only read-only access to the RFGW-10. The user can only monitor the RFGW-10 using the GUI and cannot configure RFGW-10 using the GUI as all configuration options and buttons such as add, update, apply, edit and so on are hidden.

The various modules of the Read Only GUI Access page are shown below:

Figure 105 Read-Only Redundancy Module

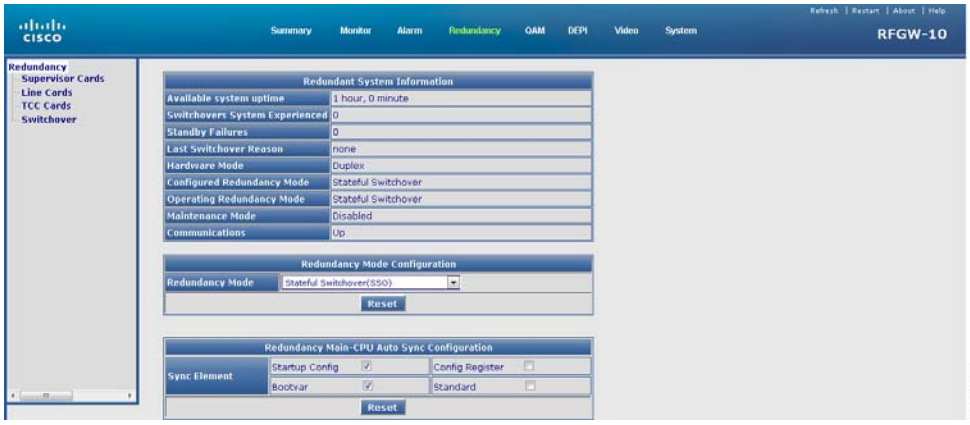


Figure 106 Read-Only QAM Module

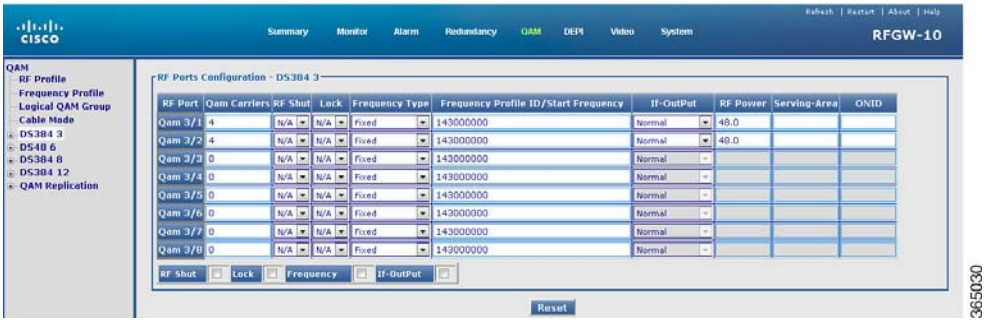


Figure 107 Read-Only DEPI Module

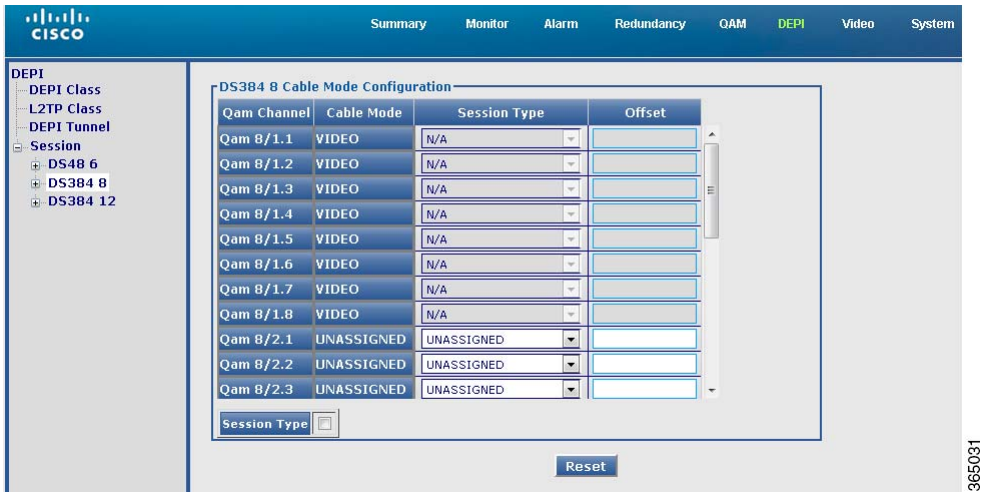


Figure 108 Read-Only Video Module

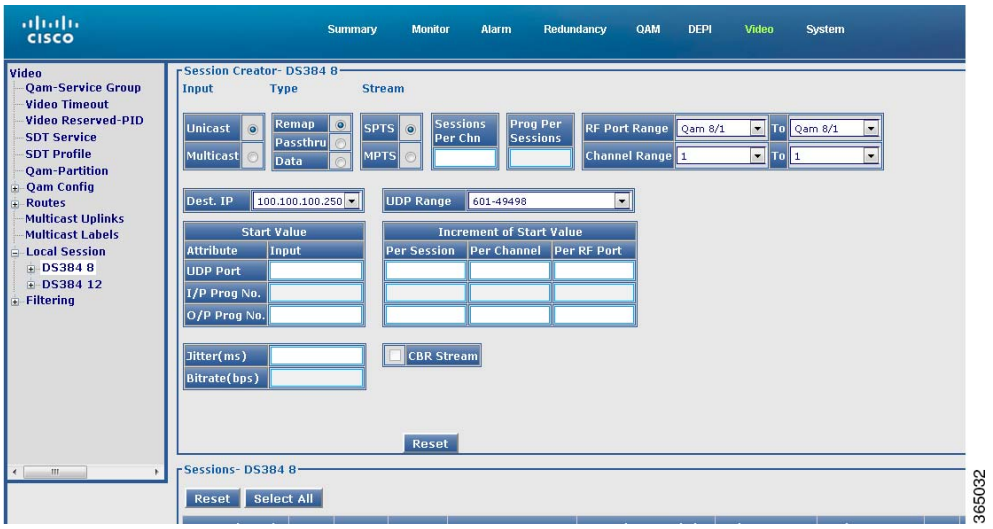
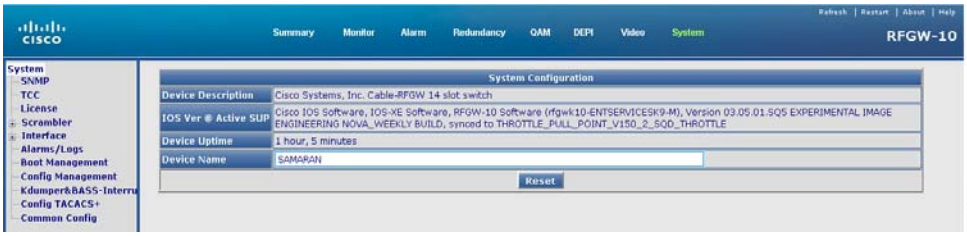


Figure 109 Read-Only System Module



How to Use the Cisco RFGW-10 GUI Tool

This section describes how to monitor and configure the Cisco RFGW-10 UEQAM using the Cisco RFGW-10 GUI tool:

- Configuring the Cisco RFGW-10 Management Port IP Address, page 124
- Enabling the IOS HTTP Server in Cisco RFGW-10 UEQAM, page 125
- Configuring Cisco RFGW-10 UEQAM with a Local Username and Password, page 125
- Connecting the Cisco RFGW-10 Using a Web Browser, page 126

- Using Cisco RFGW-10 GUI Home Page, page 126
- Troubleshooting Tips, page 126

Configuring the Cisco RFGW-10 Management Port IP Address

Complete these steps to configure the Cisco RFGW-10 management port IP address.

Step 1 Connect a network cable to the management port located on the front panel of the Cisco RFGW-10 chassis.

Step 2 Telnet and log in using your credentials.

Step 3 Verify that the system has IP interfaces that are not assigned to an IP address.

Step 4 Assign the Cisco RFGW-10 IP address to an IP interface.

Step 5 Ensure that the selected IP interface is up and active.

Configuring VRF on a FastEthernet

To configure virtual routing and forwarding (VRF) on a FastEthernet interface, use the following commands:

```
Router> enable
Router# configure terminal
Router(config)# interface fastethernet number
Router(config-if)# ip vrf forwarding vrf-name
Router(config-vrf)# ip address mgmt-ip-address ip-address-mask
Router(config-vrf)# speed auto
Router(config-vrf)# duplex auto
Router(config-vrf)# end
```

Following is a sample output of VRF on a FastEthernet interface:

```
Router# show running-config interface fa1
Building configuration...

Current configuration : 126 bytes
!
interface FastEthernet1
ip vrf forwarding Mgmt-vrf
ip address 10.78.179.189 255.255.255.128
speed auto
duplex auto
end
```

Configuring Management IP VRF

To configure default gateway for the management VRF for establishing connection, use the following commands:

```
Router> enable
```

```
Router# configure terminal
Router(config)# ip vrf vrf-name
Router(config-vrf)# ip vrf forwarding vrf-name
Router(config-vrf)# ip route vrf vrf-name destination-prefix destination-prefix-mask
default-gateway
Router(config-vrf)# end
```

Following is a sample output of management VRF on a FastEthernet interface:

```
Router# show running-config interface fa1

ip vrf Mgmt-vrf
ip vrf forwarding Mgmt-vrf
ip route vrf Mgmt-vrf 0.0.0.0 0.0.0.0 10.78.179.129
```

Enabling the IOS HTTP Server in Cisco RFGW-10 UEQAM

To enable the IOS HTTP server in Cisco RFGW-10 UEQAM, use the following commands in global configuration mode:

```
Router(config)# ip http server
Router(config)# ip http authentication local
```

To enable the IOS HTTP server for secure access in Cisco RFGW-10 UEQAM, use the following commands in global configuration mode:

```
Router(config)# no ip http server
Router(config)# ip http secure-server
```

Configuring Cisco RFGW-10 UEQAM with a Local Username and Password

To configure the Cisco RFGW-10 UEQAM with a local username and password, use the following command in global configuration mode:

```
Router(config)# username name [privilege level] password encryption-type password
```

The *level* is a number between 0 and 15 that specifies the privilege level for the user. You can specify up to sixteen privilege levels, using numbers 0 through 15. Level 1 is normal EXEC-mode user privileges and 15 is the enable privileges.

Note The Cisco RFGW-10 GUI allows only privilege level 15 users to log in to the GUI application.

The *encryption-type* is a single-digit number that defines whether the text immediately following is encrypted, and, if so, what type of encryption is used. Currently the defined encryption types are 0 and 7; 0 means that the text which follows immediately is not encrypted, and 7 means that the text is encrypted using a Cisco-defined encryption algorithm.

If the HTTP server is not enabled in the Cisco RFGW-10 UEQAM chassis, the GUI does not display any information because there is no communication with the chassis.

For accessing GUI with read only feature, user name and password must be created with the following cli:

```
Router(config)# username guest privilege 15 secret 0 [password]
```

Connecting the Cisco RFGW-10 Using a Web Browser

You can connect the Cisco RFGW-10 to a web browser. Open a web browser and enter the management port IP address (*http://<rfgw-ip-address>*). The Cisco RFGW-10 *Summary* page is displayed.

Using Cisco RFGW-10 GUI Home Page

You can do the following on the Cisco RFGW-10 GUI home page:

- Visit the different monitoring and configuration pages by clicking the desired page title on the banner. See the Information About Cisco RFGW-10 GUI, page 2 section for more information on these pages.

Figure 110 GUI Banner

- Save the current configuration by clicking **Save** on the banner.
- Reload the current page by clicking **Refresh** on the banner. This resolves page loading issues such as page design, script errors and so on.
- Reload the GUI application by clicking **Restart** on the banner. This populates the current chassis configuration.

Note You need to restart the GUI by clicking **Restart** when the QAM carriers are downgraded or upgraded, a redundancy group configuration is changed, or after a switchover.

- See release information by clicking **About** on the banner.

Troubleshooting Tips

Symptom Unable to connect to the web interface.

Possible Cause The Cisco RFGW-10 IP address is not reachable.

Recommended Action Access the application using a web browser that has IP connectivity to the chassis. The assigned IP address should be reachable from the client system, otherwise check the IP address configuration.

Possible Cause The Cisco RFGW-10 IP address interface is not up.

Recommended Action Make sure that the assigned IP address IP interface is up and active.

Possible Cause Incomplete HTTP server start-up or is not enabled.

Recommended Action Ensure that the Cisco RFGW-10 system boots successfully by verifying the prompt mode in the console. Connect to the web client after verifying this status. To enable the HTTP server on your system, use the **ip http server** or **ip http secure-server** command in global configuration mode. To disable the HTTP server, use the **no** form of this command.

Possible Cause Incorrect URL.

Recommended Action The GUI server and the web interface communicate through HTTP/HTTPS. Ensure that the URL protocol and IP address are correct. The URL is either *http://<rfgw-ip-address>* or *https://<rfgw-ip-address>*. Include the portnumber if it is configured.

Symptom Unable to change the default port 80 occupied by the Cisco RFGW-10 GUI.

Recommended Action Do the following:

1. Specify the port number to be used by the HTTP server using the **ip http port** *portnumber* command in global configuration mode. Return the port number to its default using the **no** form of this command. The valid range is from 1025 to 65535.
2. Change the URL to *http://<rfgw-ip-address>:portnumber*.

Symptom Five small square boxes are displayed at the top of a blank page while trying to connect to the web interface.

Possible Cause The URL used to connect to the web interface is *http://<rfgw-ip-address>* whereas a secure connection is required.

Recommended Action Use *https://<rfgw-ip-address>* URL to connect to the web interface.

Symptom Forgot password for logging into the web interface.

Recommended Action Contact your administrator to generate the credentials.

Symptom The web interface display is distorted.

Possible Cause Browser is not compatible.

Recommended Action See the "Connecting the Cisco RFGW-10 Using a Web Browser" section on page 126.

Possible Cause JavaScript is not enabled.

Recommended Action Enable javascript in your browser.

Symptom Alignment in web interface is not proper.

Possible Cause Browser cache issue.

Recommended Action Close all browser instances, clear the cache and cookies, and then connect to a new instance. If the problem persists, contact the Cisco RFGW-10 GUI support personnel.

Symptom Unable to view the GUI.

Possible Cause Browser is not compatible.

Recommended Action See the "Connecting the Cisco RFGW-10 Using a Web Browser" section on page 126.

Possible Cause The display setting is not compatible.

Recommended Action Set the display resolution to 1024 x 768 or higher.

Symptom Unable to log into the GUI.

Possible Cause The user level is not assigned.

Recommended Action Assign a user level for the credential and then log into the GUI.

Possible Cause The user level assigned is not sufficient or correct.

Recommended Action If you have a valid user ID and password but are still unable to log in even after multiple attempts, ask your administrator to review your user level assignment.

Symptom Unable / Trouble to log into the GUI and no action while clicking on menu tab.

Possible Cause Browser cache issue.

Recommended Action Close all browser instances, clear the cache and cookies, and then connect to a new instance.

Possible Cause User mode.

Recommended Action Enter only proper IP address , do not try to enter any manual URL.

Symptom A slow network response or a script not responding error message is displayed after logging into the system.

Possible Cause Performance issues.

Recommended Action Click **Continue** if you get the script not responding error message asking if you wish to continue or cancel. After sometime, the GUI page is displayed. Such messages indicate a slow network link between your system and the server. Ping the server to check the round trip response time. Consider using a caching HTTP proxy to improve speed and reduce network traffic.

Symptom Common browser error messages.

Possible Cause These are some of the possible causes:

- HTTP status code 401—Indicates that authentication is required, and has failed or not yet been provided.
- HTTP status code 403—Indicates that a request is not authorized. Perhaps the current user does not have the required permissions.
- HTTP status code 404—Indicates that the requested URL cannot be found. Check if the action names are spelled correctly.
- HTTP status code 500—Indicates that a server error occurred while processing the request.

Recommended Action If the problem persists, contact the Cisco RFGW-10 GUI support personnel.

Symptom GUI shows incorrect output.

Recommended Action Verify the output on the chassis console using the appropriate command. If there is a mismatch in the output, contact the Cisco RFGW-10 GUI support personnel.

Symptom Incorrect supervisor card, line card, or QAM channel information is displayed.

Possible Cause The QAM carrier was downgraded or upgraded, a redundancy group configuration was changed, a switch over occurred, or the supervisor card or line card was removed, inserted or shut down.

Recommended Action Reload the GUI by clicking **Restart** on the banner to populate the current chassis configuration.

Additional References

The following sections provide references related to the Cisco RFGW-10 GUI feature.

Related Documents

Document Title	URL
Cisco RF Gateway 10 Command Reference	http://www.cisco.com/en/US/docs/cable/rf_gateway/command/reference/RFGW-10_Book.html
Cisco RF Gateway 10 Software Configuration Guide	http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw_scg.html

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS and Cisco IOS-XE releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Feature Information for Cisco RFGW-10 GUI

Table 89 lists the release history for this feature.

Not all commands may be available in your Cisco IOS or Cisco IOS-XE software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS, Catalyst OS, and Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Note Table 89 lists only the Cisco IOS and Cisco IOS-XE software releases that introduced support for a given feature in a given Cisco IOS or Cisco IOS-XE software release train. Unless noted otherwise, subsequent releases of that Cisco IOS or Cisco IOS-XE software release train also support that feature.

Table 89 Feature Information for Cisco RFGW-10 GUI

Feature Name	Releases	Feature Information
GUI Monitoring	12.2(44)SQ	This feature was introduced in the Cisco IOS Release 12.2(44)SQ to support the Cisco RF Gateway 10.
Cisco RFGW-10 GUI	IOS-XE 3.3.0SQ	This feature was enhanced in Cisco IOS-XE Release 3.3.0SQ to provide both monitoring and configuration capabilities. Also support has been added for Video on Cisco DS-384 line card.
Cisco RFGW-10 GUI	IOS-XE 3.3.1SQ	The GUI was enhanced to include **Refresh** option on some pages and added support for Terminal Access Controller Access Control System+ (TACACS+) configuration.
Cisco RFGW-10 GUI	IOS-XE 3.5.0SQ	Was enhanced to provide PME and Dual_Encrpyt licenses configuration support.