



 $\text{DMS}^{\text{\tiny TM}}$

RELEASE 3.5

User Guide



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This guide may use some special symbols and fonts to call your attention to important information. The following symbols appear throughout this guide:



DANGER: The Danger symbol calls your attention to information that, if ignored, can cause physical harm to vou.



CAUTION: The Caution symbol calls your attention to information that, if ignored, can adversely affect the performance of your Harmonic product, or that can make a procedure needlessly difficult.



LASER DANGER: The Laser symbol and the Danger alert call your attention to information about the lasers in this product that, if ignored, can cause physical harm to you.



NOTE: The Note symbol calls your attention to additional information that you will benefit from heeding. It may be used to call attention to an especially important piece of information you need, or it may provide additional information that applies in only some carefully delineated circumstances.



IMPORTANT: The Important symbol calls your attention to information that should stand out when you are reading product details and procedural information.

TIP: The Tip symbol calls your attention to parenthetical information that is not necessary for performing a given procedure, but which, if followed, might make the procedure or its subsequent steps easier, smoother, or more efficient.

In addition to these symbols, this guide may use the following text conventions:

Convention	Explanation
Typed Command	Indicates the text that you type in at the keyboard prompt.
<ctrl>, <ctrl>+<shift></shift></ctrl></ctrl>	A key or key sequence to press.
Links	The <i>italics in blue</i> text to indicate Cross-references, and hyperlinked cross-references in online documents.
Bold	Indicates a button to click, or a menu item to select.
ScreenOutput	The text that is displayed on a computer screen.
Emphasis	The <i>italics</i> text used for emphasis and document references.

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Table of Contents

Chapter 1: Introduction to DMS	9
Chapter 2: Start Up and GUI Introduction 1 Hardware Setup 1 Running the DMS Client. 1 The DMS GUI 1 Panels 1 Open Panels Overview 1 The Dashboard Panel 1 The Groups Panel 1 The Device Browser Panel 1 The Device Properties Panel 2 Schedule Panel 2 RF Panel 2	010101011011011011011011011011011011011
Chapter 3: Redundancy2	25
Chapter 4: Device Database Administration 2 Add Device 2 Adding a Single Device 2 Exporting Devices 3 Importing Devices 3 Reporting Devices 3 Updating a Device 3 Swapping Two Devices 3 Group and Folder Operations 3 Creating a Group and Adding Devices 3 Performing Commands on Groups 3 Editing a Folder 3 Removing a Folder </td <td>27 27 31 31 32 33 34 35 36 37 38 38 37 38 38 38 37 38 38 39 39 39 39 30 31 31 31 31 31 31 31 31</td>	27 27 31 31 32 33 34 35 36 37 38 38 37 38 38 38 37 38 38 39 39 39 39 30 31 31 31 31 31 31 31 31
Chapter 5: Device Commands 4 Upgrading Firmware. 2 Activating Firmware 2 Rebooting Devices. 2 Downloading Configuration Files 2	10 40 42 43 44

Rolling Back Device Configurations	44 45
Importing a License File Inserting a License Key	46
Set Model	47
Set TS Bitrate.	48
Bulk Update	49
General Device Command Functions.	. 50
Contraind Scheduling	51 51
Chapter 6: Affiliates	.52
Affiliates Management	52
Edit and Remove	53
Bulk Update	53
Export Affiliates	. 56 57
Report Affiliates	. 57
Chapter 7: Blackout	.58
Create Blackout Event	58
Blackout Events	60
Timeline	63
Chapter 8: Monitoring	.65
The Dashboard Panel.	65
Elements Introduction	65
Flement Descriptions	66
The Alarms Panel	70
Export Alarms Property Sheet	73
The Commands Panel	73
Displaying the Command Details	74
Displaying Target Devices	. 74
Canceling a Command in Progress	74
RF History	75
Schedule Panel	/5 75
Exporting the Audit Log.	. 77
Alerts	77
Chapter 9: Distribution Network Setup	.78
Service Plan	78
Adding a Transport Stream	78

Updating a Transport Stream79Removing a Transport Stream79Adding a Program79Updating a Program80Removing a Program80BISS Keys81Uplinks82Input Profiles84Importing from NMX86
Chapter 10: Processing Profiles
Decoding. 87 Transcoding 89 DTA 92 DPI 94
Chapter 11: Custom Device Attributes
Adding Custom Device Attributes95Editing Custom Device Attributes96Removing Custom Device Attributes96
Chapter 12: Setup
Network Connection97Firmware Versions99Uploading a Firmware Version100Removing a Firmware Version100Configuring Alerts100Sync Entitlements101User Management102Adding a User Profile102Editing a User Profile102Removing a User Profile102Removing a User Profile102Network Connection102Removing a User Profile102Network Connection102Removing a User Profile102Roles103
Chapter 13: The Help Tab106
Displaying Help Topics106Visiting Harmonic's Web Site106DMS License106Displaying the DMS Version Number106
Appendix A: Contacting the Technical Assistance Center
Annendix B. Safety and Regulatory Compliance Information 109
Important Safety Instructions

(français)
Sicherheit Symbole und übersetzt Sicherheit, Achtung & Vorsicht Anleitung (Deutsch) 115
Site Preparation Instructions
Product End-of-Life Disassembly Instructions
Product Disassembly Process
Safety Rules (English)
Règles de sécurité (French) 120
EU Manufacturer's Declaration of Conformity
Electromagnetic Compatibility Notices – Class A 121
Product Regulatory Compliance
Product Regulatory Compliance Markings 123
Product Environmental Compliance
EU RoHS
EU REACH
China RoHS
Other RoHS and REACH type Regulations 128
Waste Electrical and Electronic Equipment (WEEE)
Battery Directive
WEEE Take-Back Request Program 128
Compliance with additional country specific environmental, safety and EMC standards: 129

Broadcasters and content providers can use the Harmonic Distribution Management System (DMS) to control large device populations and monitor their RF statuses. It allows flexible device or group addressability, entitlements and authorization management as well as over-the-air (OTA)

in-band control of content distribution network elements such as ProView[™] 7000¹ and ProView[™] 8000 receivers. The DMS solution is ideal for content distribution to operators, affiliates and service providers, as well as distribution for digital terrestrial TV services.

DMS enables secure broadcast of video content over satellite or IP delivery networks, ensuring the delivery of content to authorized recipients only. DMS 3.5 provides individual or group entitlement control using Verimatrix embedded descrambling, CAS. DMS is based on open standards such as DVB SimulCrypt. The ProView 7000 and ProView 8000 have a module based DVB-CI descrambler.

DMS maintains a database of all receivers in the network enabling you to manage individual and groups of receivers (in-band) with a return channel to monitor alarms and RF inputs. It can store customized information about each receiver. You can filter lists to view receivers and affiliates with common attributes.

DMS can perform the following on ProView receivers:

- Upgrade Firmware (7000 and 8000)
- Activate Firmware (7000 and 8000)
- Reboot Devices (7000 and 8000)
- Update Configuration (RF tuning, port selection, decoding channel selection and more) (7000)
- CA Entitlement and subscriber management (Verimatrix CAS) (7000)
- Schedule events for automated operation (7000 and 8000)

DMS performs validation checks on immediate and scheduled commands, this provides the operator ample time to take corrective action in case of any inconsistencies.

You can monitor events and commands in the system. Alarms and alerts draw your attention to events that may require your response. The Dashboard enables you to see multiple elements at the same time for monitoring and information purposes.

The DMS is a client-server based system and you can set up additional DMS Client PCs locally or remotely for operating or monitoring. Hot and cold DMS server redundancy is supported, see the server redundancy manual for instructions.

If you are a first time user you should proceed to *Chapter 2, Start Up and GUI Introduction* then proceed to one of the following: *Affiliates Management, Import Affiliates, Chapter 9, Distribution Network Setup, Chapter 10, Processing Profiles, Chapter 12, Setup.*

^{1.} All references to the ProView 7000 include the ProView 7100 unless the ProView 7100 is specified.

The following topics describe how to get started and how to use the GUI:

- Hardware Setup
- Running the DMS Client
- The DMS GUI

Hardware Setup

Harmonic recommends you use the ProStream 1000 to multiplex the DMS output data.

To connect the DMS:

- Connect one Ethernet cable to the rear panel socket labeled Gb1 and to the management switch for CAS and remote clients.
- Connect one Ethernet cable to the rear panel socket labeled Gb2 and to the mux input for streaming the DMS control data.

Running the DMS Client

Use a DMS client for DMS database administration of receivers and to send commands to receivers.

To run the DMS client:

1. Double-click the DMS Client icon on the Desktop.

If your version of Windows prompts you to select firewall permissions, select all permissions.

- 2. Enter the Server name or IP address.
- 3. Login with the default Username: admin and no password.

The DMS GUI displays.

NOTE: The Server name should only be used if the DMS Client is on the DMS server.

The DMS GUI

The DMS GUI is a very versatile GUI, see *Figure 2–1* for a sample layout. There is a **Quick Launch** toolbar at the very top of the window. The ribbon near the top of the window contains the main menu items on four tabs, namely:

- Home
- Configuration
- Setup
- Help

The DMS window comprises mainly of panels, that you can freely re-position and re-size, and tabs. At the bottom left of the window there is the **Alarm panel launch** button, use it to launch the alarm panel.

The following display in the bottom right hand side of the window:

- The current user name hover over the user name to display the user role
- The server IP address
- The server time

Related Topics

- Panels
- Open Panels Overview
- The Dashboard Panel
- The Groups Panel
- The Device Browser Panel
- The Device Properties Panel
- Schedule Panel
- The Service Plan Panel
- *RF Panel*



Figure 2–1: DMS GUI with the Dashboard

12

Panels

The DMS GUI comprises multiple panels. The **Dashboard** panel displays in the DMS window by default.

Customizing Panels

You can drag panels in the upper part of the DMS window to the lower part of the window and you can drag panels in the lower part of the DMS window to the upper part of the window using the panel title bar.

You can float panels with the floating gadget and set them to auto-hide with the auto-hide gadget, see *Figure 2–2*.



Figure 2-2: Panel GUI operations

To resize panels:

Drag the dotted handle in the middle of the panel bar.

To collapse panels:

Double-click the gray area below the panel title bar.

Searching in Panels

You can search for text that matches any column in the Device Browser panel.

NOTE: Some devices must display in the Device Browser and one of them must be highlighted.

To search for text in the **Device Browser** panel:

- 1. Click on the panel.
- 2. Press <Ctrl> + <F>.

A search box displays at the bottom of the panel.

3. Enter search text in the Find field.

Column Order

You can change the order of columns by dragging the column headings past each other.



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NOTE: In the current release the application does not save the column positions when you exit it.

Column Display

Right-click any column heading to view a drop-down menu which enables you to select which columns to display or hide and to resize.

If there are too many columns to fit comfortably on the screen then you can de-select the **Fit to Screen** drop-down menu item which causes a horizontal scroll bar to appear.

Column Sorting

Use column sorting to sort lists according to select list columns to select specific device populations for applying commands or defining groups. The device list is sorted by default according to device name in ascending order.

To sort a list according to a column in descending order:

Click on a column header.

An arrow displays in the column header to indicate the sort order.

To sort a list according to a column in ascending order:

If the column header has a sort arrow pointing upwards, click once on the column header, if the column header has no sort arrow, click twice on the column header.

To remove a sort:

If the column header has a sort arrow pointing downwards, click once on the column header, if the column header has a sort arrow pointing upwards, click twice on the column header.

To sort a list according to several columns:

- 1. Click on the column header for the primary sort.
- 2. Hold the Control key and click on more column headers for secondary sorting.

Sequential numbers display in each column header to indicate the sort weights.

Open Panels Overview

You can display an overview of all open panels, including those reduced to a tab, and jump to an open panel.

To jump to an open panel:

1. Click the triple panel icon on the Quick Launch toolbar, see Figure 2-1.

A property sheet displays with a list of all open panels.

2. Double-click a panel name to jump to the respective panel -or-

click a panel name and double-click the panel preview.

		Euclideard Alarma Evela Brower Event Log Commands

The Dashboard Panel

The **Dashboard** is an aggregative view to monitor the system, including system events, active commands, alarms and others. You can customize it by selecting and arranging the elements to view. The **Dashboard** elements' layouts and configurations are stored on your client machine. For element details see *The Dashboard Panel*.

The **Dashboard** can occupy all the screen below the **Ribbon**, or share it with the **Groups** and or lower screen panels. The **Dashboard** displays by default when you open the client.

To display the **Dashboard**:

Click Dashboard in the Monitoring group of the Home tab, see Figure 2–1.

TIP: You can display the Dashboard with the Quick Launch toolbar, see Figure 2-1.

Customizing Elements

See Figure 2–3 for element operation call outs.



Figure 2–3: Element GUI operations

To position an element:

Click the element title bar and drag it.

To resize an element:

Click and drag the dotted handle on the element base.

To configure an element:

1. Click the button in the element title bar, labeled **Configure** in *Figure* 2–3.

The Device Element Configuration property sheet displays.

Each element has a number of parameters which you can configure.

2. Click **OK** to complete the configuration.

To collapse or expand an element:

Click the button in the element title bar, labeled Collapse / Expand in Figure 2–3.

To maximize an element or restore it after a maximize operation:

Click the button in the element title bar, labeled Maximize / Restore in Figure 2–3.

To close an element:

Click the button in the element title bar, labeled Close in Figure 2–3.

The Groups Panel

Use the **Groups** panel to manage device groups, folders and subfolders in the system. The **Groups** panel always displays on the left side of the DMS window and can be tabbed with the **Services Plan** panel when you use the push-pin. See *Group and Folder Operations* for group administration functions.

Opening the Groups Panel

To open the **Groups** panel:

• Hover over the **Groups** tab on the left side of the screen.

The **Groups** panel opens.

You can click the push-pin to pin the panel down and click it again to close the panel.

Finding a Folder or Group

Use the quick search box in the **Groups** panel to quickly find a folder or group. The quick search box is useful when there are many groups or folders.

To quickly find a folder or group:

- 1. Click the magnifying icon to select filter matching options.
- 2. Enter filter text in the quick search box.

The filter text is matched as you type and only matching folders or groups display.



Figure 2-4: Groups panel

The Device Browser Panel

The **Device Browser** displays a list of all the devices in the system. You can use it for the following:

- Device database administration
- Device grouping
- Device updates
- Initiating commands
- Entitlements

See *Figure 2–5*.

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Mediteranean Region (0)										
Southern Africa (0)	Device Name is anything									Remo
West Coast (0)										Remov
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Figure 2-5: Device Browser panel

Displaying the Device Browser Panel

To display the **Device Browser** panel:

Click **Device Browser** in the **Device** group of the **Home** tab, see *Figure 2–1*.

TIP: You can display the Device Browser with the Quick Launch toolbar, see Figure 2-1.

The **Device Browser** columns represent all the device attributes. See *Columns* for column related functions. The following table describes the different device icon colors.

Device Icon	Definition
a	Deployed, not managed
₩	Receiving commands
-	Not authorized or Defined states

Device Icon	Definition
a	Return channel, no alarms
a	Return channel, alarms
a	Warning alarm
a	Major alarm
a	Critical alarm

Columns

The default view is predefined with a selection of common and important columns. You can freely customize the columns in your client by right-clicking on a column heading.

Query Editor

Click **Query Pane** to display the **Query Editor** if it is hidden. It can be used with the following panes: **Device Browser**, **Affiliates Management**, **Audit Log** and **Alarms**, Use the **Query Editor** to filter by attribute values and select specific device populations for applying commands or defining groups. You can define queries and save them for re-use. You can use multiple attributes and conditions in a single query but all conditions can only be joined with the **And** or **Or** operand, you cannot mix **And** and **Or** in a query. The list of conditions depends on the type of selected attribute.

Use the **Save Query** button to save queries, the **Manage Queries** button to use saved queries, and the **Update Query** button to update an existing query (Name, Description, and whether it is a Public Query - shown to everybody - or not).

Use the **Remove Selected Query** (red X) to remove the selected query.

To display the Query Editor:

Click Query Editor in the Device Browser panel.

	State Device Prevent State Device Prevent State Device Prevent Orect: ally trans, selected Showing 0 of 287 devices Opence: ally trans, selected	a e× harmonic
Attributes Conditions	Councilian Antodat: Devections v (sampting v)	Append
Operands	Manage Querres [Save Query]	Remove Al And Cr Search

To display all devices:

- 1. Make sure that the second list has is anything selected.
- 2. Click **Append**.
- 3. Click Search.

The common way of using this editor is:

- 1. Select an attribute type.
- 2. Select a condition.
- 3. Enter a value if relevant.

- 4. Click Append.
- 5. If you need to add another condition then click And or Or and repeat Step 1 through Step 4.
- 6. Click Search.

The Device Properties Panel

Use the Device Properties panel to display the following device properties:

- Attributes
- CA entitlements
- Hardware inventory
- Licenses

The Device Properties panel displays in the Device Browser panel.

āļ 2+ 📖		_
General		^
Name	BestMSO2	_
Description		- 11
Device type	Proview 7000	_
Firmware version	2.4.0.022	_
Standby firmware ve	. Unknown	_
MAC address	1A:19:D1:5F:F5:25	
Serial number	155345-2	
Deployed	Yes	
Redundancy state	None	
Customer	BestMSO	
Channel	Sports HD	
Coverage Area		
Time zone	GMT-5:00	
ZIP code		
🖻 Site		
Site name		
Contact person		
Phone number		~

Figure 2-6: Device Properties panel

The Device Properties panel comprises the following:

- Filter box enter part of a field name or contents to display matching entries
- Category sort to sort fields according to category
- Alphabetical sort to sort fields alphabetically according to field name
- Description display or hide a description of the selected field

Viewing a Device's Properties

Prerequisite

• You must have at least one device in the device database.

To view a device's properties in the **Properties** panel:

- Click Device Browser in the Device group of the Home tab. The Device Browser panel displays.
- 2. Use the Query Editor to display devices. See Query Editor.
- 3. Click a device in the **Device Browser** panel.

4. Hover over the **Device Properties** tab on the right side of the DMS window.

The Device Properties panel displays, see Figure 2-6.

5. You can click the push-pin to pin the panel down and click it again to close the panel.

Filtering Properties by Property Name or Content

The device properties filter uses pattern matching.

Prerequisite

Display a device's properties in the **Devices Properties** panel, see *Viewing a Device's Properties*.

To filter the properties by property name or content:

• Enter a few letters of the property name or content in the filter box.

Only properties with the same sequence of letters in them display.

Selecting Devices

Select devices for applying commands, changing CA entitlements or defining groups.

To select devices:

- Select devices in one of the following ways:
 - Mark the checkboxes of several devices.
 - Click All next to Check: to mark the checkboxes of all devices in the displayed list.
 - Click None next to Check: to clear the checkboxes of all devices in the displayed list.
 - Click Selected next to Check: to mark the checkboxes of selected devices in the displayed list.

Schedule Panel

Use the Schedule panel to view and manage scheduled commands.



NOTE: When you select a command instance, all the instances for the command are selected.

To display the **Schedule** panel:

Click Scheduled Commands in the Monitoring group on the Home tab, see Figure 2–1.



The **Schedule** panel comprises the following:

- Cancel Button
- Edit Button
- Collapse and Expand Buttons
- Period to Display
- Refresh Button
- Commands Button

Cancel Button

Use the **Cancel** button to cancel a scheduled command.

Edit Button

Use the **Edit** button to edit the start time of a scheduled command. With the Configuration Update command you can switch inputs and edit the schedule and name and description parameters.

Collapse and Expand Buttons

Use the Collapse and Expand buttons to expand or collapse all scheduled command entries in the **Schedule** panel. When a scheduled command is expanded, you can see more details of the scheduled command including the target devices.

Period to Display

Use the **From** and **Until** date-pickers to configure the filter period for scheduled commands. Click the **Refresh** button after configuring **From** or **Until** date pickers.

Refresh Button

Use the **Refresh** button to refresh the scheduled commands display after you configure the filter period. The scheduled commands display refreshes automatically at regular intervals.

Commands Button

Use the Commands button to display the Commands panel in place of the Schedule panel.

The Service Plan Panel

The **Service Plan** panel displays on the left side of the DMS window by default and can be tabbed with the **Groups** panel.



You can click the push-pin gadget to pin the panel down and click it again to close the panel. Use the float gadget to float the panel.

When a panel is floating you can drag it into another panel position.

Use the quick search box to quickly find a transport stream or service.

Opening the Service Plan Panel

To open the **Service Plan** panel:

Click Service Plan in the Distribution Network Setup group on the Configuration tab.
 The Service Plan panel opens.

RF Panel

Use the **RF** panel to monitor RF inputs of receivers.

Requirements to monitor a receiver's RF inputs:

- Receiver must have a MAC address configured
- Receiver must be deployed
- The return channel must be enabled
- Management IP
- Management port
- Agent

Use the Device Browser to configure the above, see Add Device and Updating a Device.

To display the RF panel:

- 1. Right-click a group.
- 2. Select RF Monitor.

🔅 RF M	lonitor										9 t
5	Man	age Thresholds									Jarmonic
Device Na	me 💽	Port Nomber	~	Carrier Lock Status	Demodulator Lock Sta	atus 🔽 EBN O	Link Margin	Bit Error Rate	Packet Error Rate	Carrier To Noise	~ 8
PVR-7K wit	h return	1			•	0.01	26.09	1.2009	1.0E-7	0.0	^
				\							~
					- Manage Thres	holds button					

Thresholds

Use the Manage Threshholds property sheet to configure threshold values.

To display this property sheet:

• Click the Manage Thresholds button in the RF Monitor panel.

Edit RF Monitor Thresholds			×	
Name	Active	Value	Direction	T I I I I I I I
Bit Error Rate (1.0E-8 - 0.1)		0.0	L Upper	Ihreshold direction
Carrier To Noise (0.0 - 20.0)		1.0	V Lower	
EBN 0 (0.0 - 20.0)		10.0	▼ Lower	
Link Margin (0.0 - 15.0)		7.3	V Lower	
Packet Error Rate (1.0E-5 - 0.1)		0.01	🔺 Upper	
	✓ OK	Cancel		

To configure a threshold:

- 1. Mark the **Active** checkbox for an RF value.
- 2. Enter the threshold value.
- 3. Click OK.

RF values display in red in the panel if they exceed the value set according to the direction triangle in the thresholds property sheet.

Use the **DMS Redundancy Control** utility to manage and monitor server hot:hot redundancy using two physical DMS servers. This utility is part of the server installation.

You must first configure the host addresses before you can manage or monitor any redundancy servers.

NOTE: The servers are unavailable during synchronization.

The GUI components are:

System tab

 \equiv

- Redundancy Group
 - □ Hosts Config Use to configure the redundancy mode and the server IP addresses
 - Perform Sync Use to initiate a full synchronization, this is useful in circumstances when the backup server has been off or off-line
- □ View Group
 - Clear Console Use to clear the Operations Console
- Server Status box
 - Server IP column displays the server IP addresses
 - **Redundancy Role** column displays the server role: standalone, primary or backup
 - □ Status column indicates which servers are configured for redundancy and are active
- Redundancy Alarms box See Table 3–1 for some important alarm descriptions.
 - □ Time
 - Severity
 - Description
 - Corrective Action
- **Operations Console** this console displays current and past operations

rstem			
ists Perform Clear nhig Sync Console Redundancy View			
rvers Status			
Server IP	Redunda	ancy Role	Status
10.41.33.206	Prin	narv	
10.41.33.205	Bac	kup	(3)
dundancy Alarms Time	Severity	Description	Corrective Action
dundancy Alarms Time	Severity	Description	Corrective Action
dundancy Alarms Time erations Console	Sevenity	Description	Corrective Action
Time Time erations Console = opp ET 1458127 PDT 2013 ### Execut	Severity	Description	Corrective Action
dundancy Alarms Time erations Console sepp 1 + 100000 PDF 2013 ### 2000 s Sop 2 + 1458:27 PDF 2013 ### 2000 s Sop 2 + 1458:27 PDF 2013 ### 2000	Severity	Description	Corrective Action
Inne Time erations Console e opp 24 1455/27 PDT 2013 ### 0 Revol e opp 24 1455/27 PDT 2013 ## 0 Revol e opp 24 1455/2	Severity	Description	Corrective Action
Bits Bits Bits erations Console	Severity ing DB procedure 1 cadara completed successfully!1 ang DB procedure 2 cedura completed successfully!1 ing DB procedure 3	Description	Corrective Action
Imme	Severity ing DB procedure 1 codure completed successfully11 order a completed successfully11 ing DB procedure 3 cedure completed successfully11 eader completed successfully11	Description	Corrective Action
Andaro, Alama Tana estatora Contala estatora (14532) FOT 2013 ### Electro estatora (14532) FOT 2013 ### Electro	Severity ing DB procedure 1, codure completed successfully!! ing DB procedure 2. codure completed successfully!! ing DB procedure 3. cedure completed successfully!!	Description	Corrective Action
Andrary Alams Time erdions Console a special (140000 PT 0210 2447 Depres a 500 21 (140000 PT 0210 2447 Depres a 500 21 (14000 PT 0210 2447 Depres a 500 21 (15000 DPT 0210 2447 Depres a 500 24 (15000 DPT 0210 2447	Severity ing DB procedure 1., eadure occupiedd successfully!1 ing DB procedure 3., eadur completed successfully!1 ing DB procedure 3., eadure completed successfully!1 ing DB procedure 4., eadure completed successfully!1	Description	Corrective Addan
Advance, Vilame Time International Controls International Contrecontrols <td>Severity ing DB procedure 1 codute completed successfully!! Ing DB procedure 2 codute completed successfully!! codute completed successfully!! codute completed successfully!! codute completed successfully!!</td> <td>Description</td> <td>Corrective Action</td>	Severity ing DB procedure 1 codute completed successfully!! Ing DB procedure 2 codute completed successfully!! codute completed successfully!! codute completed successfully!! codute completed successfully!!	Description	Corrective Action
Advance Time Ime Ime Ime </td <td>Severity 24) 61 procedure 1,</td> <td>Description</td> <td>Corrective Action</td>	Severity 24) 61 procedure 1,	Description	Corrective Action

Starting the DMS Redundancy Control utility.

You can launch the Redundancy Management utility from the Setup tab in the DMS Client or by double-clicking the DMS Redundancy Management utility Desktop icon (server installation only).

To configure redundancy:

1. Double-click the DMS Redundancy Control utility.

The DMS Hot Redundancy Configuration property sheet displays.

DMS Hot Redundancy Configuration ×
Settings-
Redundancy Mode No Redundancy
Primary Server IP 10 . 41 . 10 . 10
Backup Server IP 10 . 41 . 10 . 11
Swap OK Cancel

- 2. In the Redundancy Mode list, select No Redundancy or Hot-Standby.
- 3. Enter the **Primary** and **Backup** IP addresses. You can swap the addresses with the **Swap** button.
- 4. Click OK.

Table 3–1: Redundancy Alarms and descriptions

Alarm Text	Severity	Description
Disconnected From Primary Server	Critical	Is asserted when the DMS Redundancy Management application does not have an IP connection to the Primary Server (or the Server services are down).
Disconnected From Backup Server	Critical	The alarm is asserted when the DMS Redundancy Management application does not have an IP connection to the Backup Server (or the Server services are down).
 The following DMS alarms: No Available Backup No Primary Available Backup Server Not Synced SW Version Mismatch with Backup Server 		See <i>Table 8–1</i> for details.

Use the DMS to maintain a device database which can be used to remotely control and monitor devices. The database can include ProView 7000 and ProView 8000 Use the **Device Browser** to display a list of all the devices in the system, it is covered in *The Device Browser Panel*.

The following topics describe device related operations:

- Add Device
- Exporting Devices
- Importing Devices
- Reporting Devices
- Updating a Device
- Cloning a Device
- Swapping Two Devices
- Removing Devices
- Group and Folder Operations

Add Device

You can add devices to the device database by manually creating them or importing them from one or more Excel 2007/2010 files. You should create service plans, uplinks and input profiles (if the device will be added in deployed or not authorized states), processing profiles (Decoder, DTA, TX, DPI) before adding devices.

- Adding a Single Device
- Importing Devices

Adding a Single Device

Use the Add Device feature to add devices one by one.

The Expected Firmware Version drop-down menu contains the firmware versions loaded on the server (ProView 7000/7100/8000 only).

Prerequisites:

- Service plan, see Service Plan.
- Uplinks, see Uplinks.
- Input profiles, see Input Profiles.
- Processing Profiles, see Processing Profiles.
- Relevant firmware versions uploaded, see Uploading a Firmware Version.

To add a device:

1. Click Add Device in the Device group of the Home tab.

The Add Device property sheet displays.

Device Type	ProView 7100	~
Device Model	ProView 7110	~
MAC Address	00:0C:A2:**:**	
Device Name		
Device State	Deployed	~
Front Panel Lock Level	d Normal	~
General 🚺	Affiliate Information 📋 Authorization 📋 Return Channel 📋 Advanced	
Serial Number		
Virtual Smart Card ID		
CAM-1 Smart Card ID		
CAM-2 Smart Card ID		
CAM-3 Smart Card ID		
CAM-4 Smart Card ID		
Firmware		
Expected Eirmusce	Version 3 2 0 044	
copected randoe		

- 2. Select the device type.
- 3. Select the device model.
- Enter the unique MAC Address (mandatory). This is the MAC address of the device management port. The address is mandatory for ProView 7000 and ProView 8000 devices, it must be unique.
- 5. Enter a unique name (mandatory). With ProView 7000/7100/8000 DMS populates this field with the device model number and the first 3 bytes of the MAC Address but you can change this.
- 6. Select a state (mandatory):
 - Not Authorized in this state the DMS de-authorizes the VMX (if applicable) and the device from all its services
 - Defined switching to Defined de-authorizes the VMX (if applicable) and the device from all its services (Default for ProView 8000). All previous authorization configurations are deleted from the DMS DB/GUI.
 - Deployed (Default for ProView 7000)
- 7. Enter the Serial Number (alphanumeric).
- 8. Enter the **Virtual Smart card ID**. You can find the Verimatrix VSC ID in the Verimatrix properties in the EMS and front panel of the ProView 7000. If you don't enter a unique Virtual Smart Card ID then you can't authorize a program that uses it.
- 9. Enter the CAM-1/2/3/4 Smart Card ID. If you don't enter a CAM Smart Card ID then you can't authorize a program that uses it.



NOTE: ProView 7000 and 8000 can only have CAM-1/2.

- 10. Select the **Expected Firmware Version**. This is the firmware version in the actual device, DMS does not validate the version.
- 11. Click the Affiliate Information tab.
- 12. Select the **System ID**. If you select an affiliate by name from the **Affiliate** list then the **System ID** field automatically populates.
- 13. Select an affiliate from the **Affiliate** list or create a new affiliate, see *Affiliates Management*. If you select a system ID from the **System ID** list then the **Affiliate** field automatically populates.

14. Select the **City Served** from the list.

The state, ZIP Code and contacts are retrieved from the selected City Served.

The Blackout Codes are retrieved from the selected City Served.

- 15. Click the **Authorization** tab. Different fields display on this tab according to the device model that you select at the top of the property sheet. The boxes that may display are:
 - □ **Transcoding** box
 - Decoding box NOTE: The Program column in the Decoding box has the Local Override option. Use Local Override instead of a program to enable a user to configure a program on the ProView 7000, you are not required to configure any other profile.
 - Passthrough (DTA) box
 - **TS Passthrough** checkbox¹.
- 16. Select the **Input Profile** from the list (Mandatory for **Not Authorized** and **Deployed** device states).
- 17. If the device has a transcoder then the properties sheet has a transcoding box as below. If it has no transcoders then proceed to step If the device has a decoder then the tab has a decoding box as below. If it has no decoders then proceed to step If you will use a return channel then:..

evice Typ	De	ProView 7100						
evice Mo	del	ProView 7134						
AC Addr	ess	55:55:55:55:55						
evice Na	me	7134-55:55:55						
evice Sta	ite	Deployed	loyed					
ront Pan	el Lock Level	Normal						
Gen	eral 🚺 Affilia	te Information	thoriza	tion Return Channel	Advanced	Custom Attr	ibutes	
Iransc	oang							
		Decaram		min (1				
		Program		TX Profile		De	PI Tiers	
TX 1:	(240) NBA T	Program / HD	- 0	TX Profile M2:HD @15Mbps	~	Df 1-5	PI Tiers	
TX 1: TX 2:	(240) NBA T (241) TNT E	Program / HD HD	- () - ()	TX Profile M2:HD@15Mbps M2:HD@15Mbps	* *	1-5 10	PI Tiers	
TX 1: TX 2: TX 3:	(240) NBA T (241) TNT E None	Program / HD HD	~ () ~ () ~	TX Profile M2:HD@15Mbps M2:HD@15Mbps	~ ~	04 1-5 10	PI Tiers	
TX 1: TX 2: TX 3: TX 4:	(240) NBA T (241) TNT E None None	Program / HD HD		TX Profile M2:HD@15Mbps M2:HD@15Mbps	~	Df 1-5 10	PI Tiers	
TX 1: TX 2: TX 3: TX 4:	(240) NBA T (241) TNT E None None	Program / HD HD		TX Profile M2:HD@15Mbps M2:HD@15Mbps	~	Df 1-5 10	PI Thers	
TX 1: TX 2: TX 3: TX 4:	(240) NBA T (241) TNT E None None	Program / HD HD	- 0 - 0 -	TX Profile M2:HD@15Mbps M2:HD@15Mbps	~	D/ 1-5 10	VI Tiers	
TX 1: TX 2: TX 3: TX 4: Pass TI	(240) NBA T (241) TNT E None None	Program /HD HD		TX Profile M2:HD@15Mbps M2:HD@15Mbps DTA profile	~	Di 1-5 10	PI Tiers	
TX 1: TX 2: TX 3: TX 4: Pass TI	(240) NBA T (241) TNT E None None None	Program /HD HD Program		TX Profile M2:HD@15Mbps M2:HD@15Mbps DTA profile	v	D/ 1-5 10 D/	PI Tiers	
TX 1: TX 2: TX 3: TX 4: Pass TI 1: 2:	(240) NBA T (241) TNT E None None None None	Program /HD HD Program		TX Profile M2:HD@13Mbps M2:HD@13Mbps DTA profile	v	Di 1-5 10 Di	21 Tiers V 21 Tiers	
TX 1: TX 2: TX 3: TX 4: Pass TI 1: 2: 3:	(240) NBA T (241) TNT E None None None None None	Program HD HD Program		ТХ Profile (M2HD @1545ps (M2HD @1545ps (M2HD @1545ps DTA profile	v	Dr 1-5 10 Dr	21 Tiers V 21 Tiers	
TX 1: TX 2: TX 3: TX 4: Pass TI 1: 2: 3: 4:	(240) NEA T (241) TNT E None None None None None	Program HD HD Program		TX Profile M2HD @154bps M2HD@154bps M2HD@154bps DTA profile	v v	DX 1-5 10 DX	21 Tiers v 21 Tiers	

- 18. In the **Program** column in the **Transcoding** box select a program for each transcoder to transcode. These programs must first be configured in the **Service Plan** panel, see *Adding a Program*.
- 19. In the **TX profile** column select a **TX profile**. **TX profiles** must first be configured in the **Transcoding Profiles Management** panel, see *Transcoding*.
- 20. In the **DPI Tiers** column select a **DPI profile** (optional). **DPI profiles** must first be configured in the **DPI Profiles Management** panel, see *DPI*.
- 21. If the device has a decoder then the tab has a decoding box as below. If it has no decoders then proceed to step If you will use a return channel then:.

^{1.} ProView 7100

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Device Type	ProView 7100					
Device Model	ProView 7141					
MAC Address	55:55:55:55:55					
vice Name 7141-55:55:55						
Device State	Deployed					
Front Panel Lock Leve	Normal					
📋 General 📋 A	ffiliate Information	Authorization	urn Channel 📋 Ad	vanced 📋 Cust	om Attributes	
tan to sela	Main no DD					
Transcoding	Program A TV HD	V () M2:HD@15	TX Profile Mbps	v 1-5	DPI Tiers	~
Transcoding TX 1: (240) NB	Program A TV HD	V () M2:HD@15	TX Profile Vibps	v 1·5	DPI Tiers	~
Transcoding	Program A TV HD	▼ () M2:HD@15	TX Profile Ybps	▼ 1-5	DPI Tiers	~
Transcoding	Program A TV HD Program	▼ () M2:HD@15	TX Profile Vbps Decoding Profile	▼ 1-5	DPI Tiers DPI Tiers	~
Transcoding TX 1: (240) NB. Decoding DC 1: None	Program A TV HD Program	✓ ● M2+D@15	TX Profile Vbps Decoding Profile	v 1.5	DPI Tiers DPI Tiers	~
Transcoding TX 1: (240) NB Decoding DC 1: None	Program A TV HD Program	✓ ● M2HD@15	TX Profile Vbps Decoding Profile	v) [1-5	DPI Tiers DPI Tiers	~
Transcoding TX 1: (240) NB Decoding DC 1: None	Program A TV HD Program	▼ M2:HD@15	TX Profile Mops Decoding Profile	♥ 1-5	DPI Tiers DPI Tiers	~
Transcoding TX 1: (240) NB Decoding DC 1: None	Program N TV HD Program	v () M2+D@19	TX Profile Mops Decoding Profile	v) [1-5	DPI Tiers DPI Tiers	~
Transcoding	Program TV HD Program	V () M2+D@13	TX Profile Vitops Decoding Profile DTA profile	v) 1-5	DPI Tiers DPI Tiers DPI Tiers DPI Tiers	~
Transcoding TX 1: (240) NB Decoding DC 1: None Pass Through (DTA 1: None	Program TT / HD Program	v 0 M2+D@15	TX Profile Hops Decoding Profile DTA profile	v) [1:5	DPI Tiers DPI Tiers DPI Tiers	~

- 22. In the **Program** column in the **Decoding** box select a program for each decoder to decode. These programs must first be configured in the **Service Plan** panel, see *Adding a Program*.
- 23. In the **Decoding Profile** column select a **Decoding Profile**. **Decoding Profile** must first be configured in the **Decoding Profile Management** panel, see *Decoding*.
- 24. In the DPI Tiers column select a DPI Profile. DPI Profiles must first be configured in the DPI Profiles Management panel, see DPI.
- 25. To pass a program, in the **Program** column in the **Passthrough (DTA)** box select the programs to pass through. These programs must first be configured in the **Service Plan** panel, see *Adding a Program*.
- 26. Select a corresponding DTA Profile for each program.
- 27. Select a corresponding DPI Tier for each program.
- 28. If you will use a return channel then:
 - a. Select the **Return Channel** tab. (This tab only displays for devices that support a return channel.)
 - b. Mark the Enable checkbox.
 - c. Enter the management address (mandatory).
 - d. Enter the return channel port.
- 29. Select the Advanced tab.
 - Lock to Broadcaster Network A device that is locked executes commands from this DMS only. The DMS ID should not be 0, if it is 0 then the Device Lock is compromised. The default is Disabled.
 - Disable Disaster Recovery When this is selected, the device will not trigger disaster recovery even if it is configured in the input profile.
 - Send Resume Command Command the device to stop disaster recovery and resume to primary.
- 30. Click OK.

Exporting Devices

DMS enables you to export ProView 7000 and ProView 8000 devices in Excel 2007/2010 format. You can use these files for importing with the **Import Devices** function. If you don't select any devices to export then all the devices are exported.

To export devices:

1. Click Device Browser in the Device group of the Home tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Select the devices to export with the checkbox.
- 4. Click **Export Devices** in the **Device** group of the **Home** tab.

The **Export Device** property sheet displays.

DMS generates a file name in the format of devices.inventory.<date><time>.xlsx. You can define the file name too.

5. Click Download.

Importing Devices

DMS enables you to import ProView 7000 and ProView 8000 devices in Excel 2007/2010 format. You can download a template Excel file from the server to populate to ensure compatibility.

Prerequisites

 Firmware files of the same version as devices in the Excel file must be loaded on the DMS server. See section *Firmware Versions* for instructions on loading firmware versions.

To import devices:

1. Click Import Devices in the Device group of the Home tab.

The Import Device property sheet displays.

- 2. Browse for the file and select it.
- 3. Click Import devices.

Devices are added in the defined state.

To download a template Excel file:

 Enter http://<DMS Server management IP Address>:9090/dms in your browser address box

-or-

a. Click Import Devices in the Device group of the Home tab.

The Import Device property sheet displays.

b. Click Download template Excel file.

Reporting Devices

DMS can generate a device report in Excel 2007/2010 format. The report contains all the device properties. If you don't select any devices for the report then all the devices are included in the report.

To report devices:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Select the devices to report with the checkbox.
- 4. Click **Devices Report** in the **Device** group of the **Home** tab.

The **Devices Report** property sheet displays.

- 5. Select the fields that the report should contain.
- 6. Click Create Report.

DMS generates a file name in the format of devices.report.<date><time>.xlsx. You can define the file name too.

7. Click Download.

Updating a Device

Use the device Update feature to edit a device's attributes.

NOTE: The Serial number and Smart card ID fields are disabled for devices in **Deployed** or **Not Authorized** states. The **Device Type** and **Expected Firmware Version** fields are not disabled if the device is receiving a command and the device state is **Deployed**.



NOTE: You can click on different steps to perform them in a different order.

To update a device:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Double-click a device.

-or-

- a. Mark a device checkbox for updating.
- b. Select **Device > Update**

The Update Device property sheet displays.

- 4. Enter new device attributes. See Adding a Single Device for details on device attributes.
- 5. Select the **Audit Log** tab. This tab displays the log for the selected device only. See *The Audit Log Panel* for a description of the operation.
- 6. Select the **Blackout** tab.
 - u Use the Add Device to Blackout Event button to add devices to blackout events.
 - use the **Remove from Blackout Event** button to remove devices from blackout events.

NOTE: When using a dynamic target list, you are not able to manually add or remove devices from the Blackout event.

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Device Type	ProView 7100
Device Model	ProView 7144
MAC Address	00:0C:A2:00:00:00
Device Name	7144-00:00:00
Device State	Deployed
Front Panel Lock Level	Normal
General D Aff	late Information 👖 Authorization 👖 Return Channel 👖 Advanced 📋 Audit Loo 📋 Blackout
Add Device to Bla	Sour Event:
Add bevice to Bla	dout Dent:
Add to Blackout 1	daud Event:
Add to Blackout	Sour Event: Source Event Description End Time Badded Out Program Alternative Program Source Event Description End Time Badded Out Program Alternative Program Internative Program Internative Program Internative Program

7. Click OK.

Cloning a Device

Use the device **Clone** feature to create a single clone of a device with similar attributes. The new device has the same properties (except the ones defined with this feature) and authorization as the source device.



NOTE: Unique attributes, such as serial number, will not be copied from the original device.

To clone a device:

1. Click Device Browser in the Device group of the Home tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Mark one device checkbox.
- 4. Select **Device > Clone**.

The **Device Configuration** property sheet displays.

- 5. You must enter the following:
 - □ A new **MAC Address**.
 - A new Device Name.
 - A new Virtual Smart Card ID.
 - Dear The Return Channel IP Address if Return Channel is enabled.
- 6. Edit any other parameters that you wish.
- 7. Click OK.

Swapping Two Devices

Swapping a device has the same functionality as cloning a device, only that at the end of the process the source device is in the defined state. The new device has the same properties (except the ones defined with this feature) and authorization as the source device.



NOTE: You have the option to delete the source device.

To swap two devices:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Mark one device checkbox.
- 4. Select **Device > Swap**.

Delete Swapped Device query displays.

The Device Configuration property sheet displays.

- 5. You must enter the following:
 - A new MAC Address.
 - A new **Device Name**.
 - A new Smart Card ID.
- 6. Edit any other parameters that you wish.
- 7. Click OK.

Removing Devices

Use the **Remove** feature to remove selected devices. You can delete only devices in the Defined state.

To remove a device:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Use the Query Editor to search for devices. See Query Editor.
- 3. Select devices to remove, see Selecting Devices.
- 4. Click **Device** > **Remove**.

A confirmation dialog displays.

5. Confirm to remove the devices.

Group and Folder Operations

Groups simplify the task of managing many devices. You can create folders and subfolders to contain groups and manage them in a hierarchy. To open the **Groups** panel see *Opening the Groups Panel*.

Figure 4-1: Groups panel with folders and groups

See The Groups Panel for GUI related group functions.

- Creating a Group and Adding Devices
- Performing Commands on Groups
- Editing a Group
- Removing a Group
- Creating a Folder
- Removing a Folder

Editing a Folder

Creating a Group and Adding Devices

You can create groups and add devices to them in one procedure. If need you can create empty groups and add devices to them later on, though this is not the mainstream way of working.

Creating a Group and Adding Devices with the Create Group Function

In this procedure you enter the group name and then select devices to add to the group.

To create a group and add devices with the Create Group function:

1. Click **Create Group** in the **Device** group of the **Home** tab.

The Group Management panel displays.

2. To change the container folder, click Browse and browse to another folder.

The default **Container Folder** is **Groups**. Under normal circumstances there is no need to change this.

- 3. Enter a name for the group. (Mandatory)
- 4. The Group Description is optional.
- 5. To add selected devices:
 - a. Select devices using the **Shift** and **Control** keys in combination with the mouse.
 - b. Click Add to group.
- 6. To add all devices:
 - Click Add all to group.
- 7. Click Create Group.
- 8. If you did not add devices then a warning displays and you can create the group with no devices if you click **Create Group** again.

Creating a Group and Adding Devices from the Device Browser

In this procedure you select devices, to add to the group, in the **Device Browser** and then enter the group name.

To create a group and add devices from the Device Browser:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The devices in the database display in the **Device Browser** panel.

- 2. Choose one of the following procedures:
 - a. Select devices, see *Selecting Devices*.
 - b. Click Device > Create Group in the Device Browser panel

-or-

- a. Right-click a folder in the **Groups** panel.
- b. Select Create Group.
- c. Select devices, see Selecting Devices.
- 3. To change the container folder, click **Browse** and browse to another folder.
- 4. Enter a name for the group.
- 5. The Group Description is optional.
- 6. Click Create Group.

Performing Commands on Groups

You can perform the following commands on groups of devices:

- Upgrade Firmware
- Activate Firmware
- Reboot Devices
- Download Configuration File
- Roll Back Configuration
- Set Model

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Set TS Bitrate

NOTE: If the group contains at least one ProView 8000 device, the available commands are Upgrading Firmware, Activating Firmware, Rebooting Devices, and Bulk Updates.

To perform a command on a group of devices:

- 1. Right-click a group in the Groups panel.
- 2. Select Commands > <command>.

Groups				÷
Q. Enter Query				
System				
😑 🍃 Groups				
Kegions				
East 🗠	act (72)	1		1
📑 Midd	Commands >	di	Upgrade Firmware	
🗮 Mid V 🍭	RF Monitor	0	Activate Firmware	
🧱 S.A. 🔰	Remove Group	¢	Reboot Devices	
west 🗮 West	Properties	-	Download Configuration File	
		5	Roll Back Configuration	lesses)
No. of the second		٩	Set Model	
		Ø	Set TS Bitrate	
		_		· .
📑 Groups 🔩 Serv	ice Plan			

Figure 4-2: Groups Commands Menu

Editing a Group

You can move a group to another folder, change the group name and description and add or remove devices.

To edit a group:

- 1. Click the Groups tab on the left side of the main window.
- 2. Right-click a group.
- 3. Select **Properties**.

The Group Management panel displays.

- 4. To add or remove selected devices:
 - a. Select devices using the Shift and Control keys in combination with the mouse.
- b. Click Add to group -or-Click Remove from group
- 5. To add all devices click Add all to group.
- 6. To remove all devices click Remove all from group.
- 7. To change the container folder, click **Browse**.
- 8. You can edit the group name and description.
- 9. Click Update group.

To move a group:

- 1. Click the Groups tab on the left side of the main window.
- 2. Drag the group to the appropriate folder.

Removing a Group

You can remove groups one at a time.

To remove a group:

- 1. Click the Groups tab on the left side of the main window.
- 2. Right-click a group.
- 3. Select Remove Group.

A confirmation dialog displays.

Creating a Folder

You can create folders and add groups to them to organize them.

To create a folder and drag content into it:

1. Right-click a folder in the **Groups** panel where you want to create the folder.



2. Select Create Folder.

The Create Folder dialog displays.

- 3. Enter a folder name.
- 4. The Folder Description is optional.

5. Click OK.

The folder is created.

6. Drag a folder or group into the new folder. To drag a folder, you must click on the folder name.



Removing a Folder

You can remove any folder in the system except those directly under **System**. Any groups in the folder are also removed.

To remove a folder:

- 1. Right-click a folder in the groups panel.
- 2. Select Remove Folder.

A confirmation dialog displays.

3. Click OK.

The folder is removed.

Editing a Folder

You can change the name and description for a folder and you can move it under different folders.

To change the name or description of a folder:

- 1. Right-click a folder in the Groups panel.
- 2. Select Properties.

The Update Folder dialog displays.

- 3. Edit the relevant fields.
- 4. Click OK.

To move a folder:

• Drag the folder in the **Groups** panel to the folder you want it to be under.

DMS commands enable you to remotely control ProView 7000 and ProView 8000 receiver devices.

The following topics describe device configuration and control commands:

NOTE: For ProView 8000, only Upgrading Firmware, Activating Firmware, Rebooting Devices, Bulk Updates, and General Device Command Functions are relevant.

- Upgrading Firmware
- Activating Firmware
- Rebooting Devices
- Downloading Configuration Files
- Rolling Back Device Configurations
- Upgrading Licenses
- Set Model
- Resume from Disaster Recovery
- Set TS Bitrate
- Bulk Update
- General Device Command Functions

The following commands can be sent to devices in the **Defined** state:

NOTE: For ProView 8000, only Upgrading Firmware, Activating Firmware, Rebooting Devices, and Bulk Updates are relevant.



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- Upgrade Firmware
- Activate Firmware
- Reboot Devices
- Download Configuration File
- Rollback Configuration
- Upgrade Licenses

All other commands can only be sent to devices that are not in the **Defined** state.

Upgrading Firmware

DMS enables you to upgrade the firmware of remote devices and activate the new firmware version.

You can configure the start or finish date and time to send the command.

If you use the **No activation** parameter with the Upgrading firmware command, the firmware is loaded into the secondary bank, the Standby firmware version attribute is set with the firmware upgrade version, you can activate the firmware later with the **Activate Firmware** command.

You can increase the number of repetitions or set the repetitions to indefinite (repeat till you succeed) for the firmware download to increase the reliability of the process, since the download is performed over a one-way satellite link. Under normal circumstances three repetitions are enough. Repetitions are labeled as cycles in the timeline simulation in *Figure 5–1*.

The following Firmware Activation Mode options are available:

- Simultaneous once all repetitions are complete, DMS sends a command to all devices to activate. After activation, the device will reboot.
- Independent each device reboots and activates the firmware as soon as it is fully received
- No Activation do not activate the firmware after the firmware download

You can give each Upgrade Firmware command a name and description which displays when monitoring commands.

Upgrade Firmware			×	
Steps	Firmware Upgrade Planner			
2. Name and Description 3. Target Devices	Expected Firmware Version	3.4.0.174	~	
	Indefinite Repetitions			
	Number of Repetitions (2-10)		3 🗘	
	Bitrate (50 - 480 Kbps)		480 🗘	
	Firmware Activation Mode 💿	Independent	~	
AL	Overwrite Identical Version	Schedule		
A A BE BURN	Start Time	Immediately	~	
A DELEVISION DELEVISION	 Finish Time 	10/5/14 12:06:06 PM	~	
SHE HO	Select Finish Time (must be	e later than Oct 5, 12:06)		
A HER A				_ Download cycles
	10:49	Timeline Simulation	12:05	
1000		2	3	_ Cycle end
	Oct 5 Oct	5 Oct 5	Oct 5	_ Cycle start

Figure 5-1: Upgrade Firmware property sheet

NOTE: You can launch two concurrent firmware upgrade commands; one for ProView 7000 and one for ProView 8000 devices.

NOTE: To cancel an active command see Canceling an active command from the Device Browser Panel.

Prerequisites

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- Upgrade firmware versions must be loaded onto the server before starting the upgrade procedure, to upload a firmware file see Uploading a Firmware Version.
- If the DMS Stream is not configured, you must configure it, see Network Connection.

To upgrade the firmware of selected devices:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

2. Select devices to upgrade, see *Selecting Devices*.

3. Select Commands > Upgrade Firmware.

The Upgrade Firmware property sheet displays.

- 4. Select the firmware version for the upgrade from the **Expected Firmware Version** drop-down menu.
- 5. Set the **Number of Repetitions** parameter for the firmware download or select the Indefinite Repetitions check box.
- 6. You can set a specific bitrate or a bitrate that is calculated according to a specific completion time, see *Figure 5–1*.

The timeline simulation updates accordingly.

- 7. Select a firmware activation mode.
- 8. If you want scheduled activation, configure the start or finish dates and times.

NOTE: You can always change the start time before the command is executed.

9. Click Next.

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- 10. Enter a name and description. (Optional)
- 11. Click **Next** and change the list of target devices if you want to do so.
- 12. Click Finish to send the upgrade command.

The firmware upgrade progress displays in the command panel, see *The Commands Panel*.

To upgrade the firmware for a group of devices:

- 1. Click the Groups tab on the left side of the main window.
- 2. Right-click a group.
- 3. Select **Commands > Upgrade Firmware**.

The Upgrade Firmware property sheet displays.

- 4. Select the firmware version for the upgrade from the drop-down menu.
- 5. Set the **Number of Repetitions** parameter for the firmware download or select the Indefinite Repetitions check box.
- 6. You can set a specific bitrate or a bitrate that is calculated according to a specific completion time, see *Figure 5–1*.
- 7. Select a firmware activation mode.
- 8. If you want scheduled activation, configure the start or finish dates and times.

NOTE: You can always change the start time before the command is executed.

- 9. Click Next.
- 10. Enter a name and description. (Optional)
- 11. Click Next and change the list of target devices if you want to do so.
- 12. Click Finish to send the upgrade command.

The Firmware Upgrade progress displays in the command panel. See The Commands Panel.

Activating Firmware

You can load upgrade firmware into the second bank with the Upgrade Firmware command and activate the firmware later with the **Activate Firmware** command. You can configure the date and time to send the command. After a successful activation the secondary bank is now the active bank and the previous active bank is now the secondary bank.

You can give each Activate Firmware command a name and description which displays when monitoring commands.

Prerequisites

The device's secondary bank must contain the upgrade firmware.

To activate firmware for devices:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices to upgrade, see *Selecting Devices*.
- 3. Select Commands > Activate Firmware.

The Activate Firmware Version property sheet displays.

- 4. If you want scheduled activation, configure the start date and time.
- 5. Select the firmware version from the list.
- 6. Click Send.

Rebooting Devices

Use the **Reboot Devices** command to reboot selected devices or a group of devices. A device reboot causes the device to be unavailable for a few minutes. You can configure the date and time to send the command.

You can give each Reboot Devices command a name and description which displays when monitoring commands.

Prerequisite

If the DMS Stream is not configured, you must configure it, see *Network Connection*.

To reboot selected devices:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices to reboot, see Selecting Devices.
- 3. Select Commands > Reboot Devices.
- 4. If you want scheduled activation, configure the start date and time.
- 5. Click **Send**.

To reboot a group of devices:

- 1. Click the Groups tab on the left side of the main window.
- 2. Expand the group tree.
- 3. Right-click a group.
- 4. Select Commands > Reboot Devices.
- 5. If you want scheduled activation, configure the start date and time.
- 6. Click Send.

Downloading Configuration Files

You can change the configuration for a set of ProView 7000s by downloading a configuration file to these devices. You can configure the date and time to send the command. Up to 10 configuration commands can run concurrently. DMS reports a validation failure if the configuration file does not match the hardware configuration, software version and license of the device, but you can still download the configuration file if you are confident that it is suitable.

DMS activates the new configuration as soon as the download is complete. If DMS loses control of the device after it activates the new configuration, the device rolls back to the previous configuration.

You can give each Download Configuration File command a name and description which displays when monitoring commands.

Prerequisites

The configuration file must first be created with a ProView 7000 that has the same hardware configuration, software version and licenses.

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NOTE: You can check the hardware configuration, software version and licenses of a ProView_7000 using the front panel or EMS. To check these details in DMS double-click a device in the **Device Browser**.

The ProView 7000 saves the file as a preset file. The filenames have the .pvr extension. See Manage Presets in the ProView 7000 User Manual for instructions on saving a preset file.

 The same firmware version must be in the DMS database. To load a firmware file, see Uploading a Firmware Version.

To download a ProView 7000 configuration file:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices, see Selecting Devices.
- 3. Select Commands > Download Configuration File.

The Download Configuration File dialog displays.

- 4. Configure scheduling.
- 5. Select the necessary configuration file.
- 6. Click Next.

Validation message displays.

7. Click Send.

DMS downloads the configuration.

Rolling Back Device Configurations

Use the Roll Back command to roll back to a previous configuration after uploading and activating a new configuration file. You can configure the date and time to send the command. There is no limit to the number of Roll Back commands that can run concurrently. You cannot cancel a Roll Back command.

There is no limit to the number of times DMS you can send the Roll Back command, however the device will not accept the command after one successful configuration roll back.

You can give each Roll Back Configuration command a name and description which displays when monitoring commands.

To roll back devices to the previous configuration:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices, see *Selecting Devices*.
- 3. Select Commands > Roll Back Configuration.

The Roll Back Configuration property sheet displays.

- 4. Configure scheduling.
- 5. Click Send.

To roll back a group of devices to the previous configuration:

- 1. Click the Groups tab on the left side of the DMS window.
- 2. Expand the group tree.
- 3. Right-click a group.
- 4. Select Commands > Roll Back Configuration.

The Roll Back Configuration property sheet displays.

- 5. Configure scheduling.
- 6. Click Send.

Upgrading Licenses

Use the **Upgrade Licenses** command to upgrade the licenses of a single device or many devices using a license file in Excel format or a license key. The license keys must reflect the licensed features in the **License Upgrade** property sheet or in the Excel file if you import licenses. You can configure the date and time to send the command.

You can give each **Upgrade Licenses** command a name and description which displays when monitoring commands.

License Upgrade					
Steps					
1. Select license upgrade type	License upgrade wizard				
	Choose how to upgrade your device				
	O License key				
	License file				
	Cancel < Back Next > Send				

Importing a License File

When you purchase licenses for many devices, Harmonic can supply you a license file in Excel .xlsx format which you can import to upgrade multiple devices with one procedure. The target devices are defined in this Excel file, devices selected in the **Device Browser** have no effect on the license import operation. DMS validates the licenses with the devices in the DMS database. If there is a validation mismatch and you are confident that the licenses are suitable, you can still start the upgrade.

Steps 1. Select license file 2. Validate license file 3. Name and Description	Select the license file. Target devices for this command are defined in the Excel file. Select File Press button to select a file				
	ScheduleStart:	Immediately	V		
		Cancel < Back	Next > Send		

To import a license file and upgrade multiple ProView 7000 licenses:

1. Click Device Browser in the Device group of the Home tab.

The Device Browser panel displays.

2. Select Commands > Upgrade Licenses.

The License Upgrade property sheet displays.

- 3. Select License file.
- 4. Click Next.
- 5. Select a license file.
- 6. Configure the date and time for the upgrade in the Schedule box.
- 7. Click Next to validate the licenses.
- 8. You can enter a name and description for this command.
- 9. Click Send to send the command.

Inserting a License Key

To insert a license key and upgrade multiple ProView 7000 licenses:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

2. Select Commands > Upgrade Licenses.

The License Upgrade property sheet displays.

- 3. Select License Key.
- 4. Click Next.
- 5. Enter the license key.
- 6. Click Next.

- 7. Configure the date and time for the upgrade in the **Schedule** box.
- 8. Click Next.
- 9. You can enter a name and description for this command.
- 10. Click Send to send the command.

Set Model

You can change the model of devices.

Set Model command for devi	ice 7131-00:00:00		
Steps 1. Schedule 2. Name and Description	Please select when to start the command. Configure Scheduling Start: Immediately		
	Select PVR Model Expected PVR Model ProView 7110 Cancel < Back Next > Send		

To set a device model:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices, see Selecting Devices.
- 3. Select **Commands > Set Model**.

The Set Model command property sheet displays.

- 4. Configure the date and time for the command in the Configure Scheduling box.
- 5. Select a PVR model from the list.
- 6. Click Next.
- 7. You can enter a name and description for this command.
- 8. Click Send to send the command.

Resume from Disaster Recovery

Use the **Resume from Disaster Recovery** to command the device to stop disaster recovery and resume to primary.

Stop Disaster Recovery comm	nand for device 7	110-00:00:01			
Steps	OPlease select	when to start the command.			
2. Name and Description	Start: Immediately				
	Cancel	< Badk Next > Send			

To resume from disaster recovery:

1. Click Device Browser in the Device group of the Home tab.

The Device Browser panel displays.

- 2. Select devices, see Selecting Devices.
- 3. Select Commands > Resume from Disaster Recovery.

The Stop Disaster Recovery property sheet displays.

- 4. Configure the date and time for the command in the Configure Scheduling box.
- 5. Click Next.
- 6. You can enter a name and description for this command.
- 7. Click **Send** to send the command.

Set TS Bitrate

Use the Set TS Bitrate command to set the transport stream output bitrate. The range is 1• 160 Mbps, the default 70 mbps.

Set TS Output Bitrate comma	and for device 71	21-11:11:11	
Steps 1. Schedule 2. Name and Description	Please select when to start the command. Configure Scheduling Start: Immediately		
	Set TS Output Bitr TS Output Bitrate Cancel	ate	

To set the transport stream output bitrate:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The Device Browser panel displays.

- 2. Select devices, see Selecting Devices.
- 3. Select Commands > Set TS Bitrate.

The Set TS Output Bitrate property sheet displays.

4. Configure the date and time for the command in the Configure Scheduling box.

- 5. Enter a value for the TS Output Bitrate.
- 6. Click Next.
- 7. You can enter a name and description for this command.
- 8. Click **Send** to send the command.

Bulk Update

Use the device properties **Bulk Update** command to update the following on selected devices on a specified date and time:

- Affiliate Association
- Program Replacement
- New Program Authorization
- Input Profile Replacement
- Processing Profile Replacement
- Change Device State
- Change Device Property
- Program Authorization Re-Scheduling

The following configurations are available on the **Command Configuration** page:

Update Type	Command Configuration
Affiliate Association	AffiliateAffiliate City
Program Replacement	 Current Program (From) New Program (To) Processing Type: All, DTA, TX, Decoding Processing Profile DPI Profile
New Program Authorization	 New Program (To) Processing Type: DTA, Decoding, TX Processing Profile DPI Profile
Input Profile Replacement	 Current Input Profile (From) New Input Profile (To) Program aliasing: Replaced Program, Substitute Program
Processing Profile Replacement	 Profile Type: DTA, TX, Decoding, DPI Profile Program Current Profile (From) New Profile (To)
Change Device State	 Device State: Not Authorized, Defined, Deployed Input Profile

Update Type	Command Configuration
Change Device Property	 Name: Device Model in DMS, Expected Firmware Version, TS Pass-Through, Lock to Broadcaster Network, Disable Disaster Recovery Value
Program Authorization Re- Scheduling	 Current Program (From) Authorize indefinitely Authorize with start/end dates Recurrent authorization Suspended authorization

	_		
~			
	-	-	-
	_	_	-
	_	_	-
	_	_	-

NOTE: This command is very useful for many devices that have been imported using the Excel format.

steps	
1. Scheduling	C General Information
2. Configuration	
3. Summary	Name
	Description
	Update Type Affiliate Association
	Execution Schedule
	Start Time Immediately

To perform a Bulk Update:

1. Click **Device Browser** in the **Device** group of the **Home** tab.

The **Device Browser** panel displays.

- 2. Select devices, see *Selecting Devices*.
- 3. Select **Commands > Bulk Update**.

The Device Properties Bulk Update property sheet displays.

- 4. Enter the Name (mandatory) and Description.
- 5. Select the **Update Type** from the list.
- 6. Set the start date and time.
- 7. Click Next to configure the Command Configuration page.
- 8. Click Next.
- 9. A summary of the changes made displays.
- 10. To submit these changes, click Finish.

General Device Command Functions

- Command Scheduling
- Canceling an active command from the Device Browser Panel

Command Scheduling

You can schedule all commands and commands for groups of devices using the command property sheet. You can make changes to a group before the command starts. See the relevant section for the command. You can only schedule the **Update Configuration** command for recurrent activation. DMS validates scheduled commands with devices up to a week in advance, thus it checks if they can be performed, this provides you the opportunity to take corrective action.

Use the Schedule Panel to cancel or edit scheduled commands, see Schedule Panel.

Every command property sheet has a page to configure the command to be sent immediately or to be scheduled. Click on the drop-down menu to display a monthly calendar and set a start or end time, see *Figure 5–2* for an example.

Start Time	Sd	nedule Imm	Config ediately	uration /	i ——			~
○ Finish Time	44	4		June	2011		,	+ ++
Select finish time st		Sun	Mon	Tue	Wed	Thu	Fri	Sat
	23	29	30	31	1	2	3	4
	24	5	6	7	8	9	10	11
02:35	25	12	13	14	15	16	17	18
1	26	19	20	21	22	23	24	25
Jun 15	27	26	27	28	29	30	1	2
	28	3	4	5	6	7	8	9
		_		2:35	51 AM	\$	_	
			No <u>v</u>	<u>v</u>		OK		
Cancel < Back Next > Send								

Figure 5–2: Schedule configuration

Canceling an active command from the Device Browser Panel

You can cancel the following commands:

- Upgrade Firmware
- Download Configuration File

NOTE: If you cancel an Upgrade Firmware command that is configured with the Independent Firmware Activation mode, the **Cancel Command** property sheet displays for to choose which firmware version to record for the target devices in the device database as there is no return channel.

To cancel an active command from the Device Browser:

1. Click a device that is receiving a command.

The command progress property sheet displays.

2. Click Cancel in the active commands view.

A confirmation dialog displays.

3. Click OK.

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- Affiliates Management
- Edit and Remove
- Export Affiliates
- Import Affiliates
- Report Affiliates

Affiliates Management

Use the **Affiliates Management** panel to **Add**, **Edit** and **Remove** affiliates. You can add up to 5 contacts for each affiliate. You can add up to 10 blackout codes per city.

To add affiliates:

1. Click Affiliates Management in the Affiliates group of the Home tab.

The Affiliates Management panel displays.

2. Click Add.

The Add New Affiliate property sheet displays.

Affiliate Nam	e 🗌					
General	Contacts	City Served				
MSO	[
System ID	(
H/E Type	1					,
Time Zone	1	Select time zo	ne			`
Street	(
City	(
County	ſ					
State/Provi	nce					
Zip Code	(
Area Code	(
Country	(United States	1			
	Blackout C	ode		City	Zip Code	

- 3. Enter a unique name for the Affiliate Name.
- 4. Complete the **General** tab:
 - □ MSO Company name
 - **System ID** Required

- **H/E Type** Head end type
 - Primary
 - Backup
 - Secondary
 - Simulcast
 - 🗆 Lab
- Time Zone
- □ Street
- City
- County
- State/Province
- Zip Code
- Area Code
- Country

Blackout Codes for each city display. Enter blackout codes using the City Served tab.

- 5. Contacts tab.
 - Click Add New to add contacts.
 - □ To edit or remove a contact, right-click on a contact and select the appropriate menu item.
- 6. City Served tab.
 - Click Add New to add a city.
 - **D** To edit or remove a city, right-click on a contact and select the appropriate menu item.
- 7. Click OK.

Edit and Remove

Use the **Edit** and **Remove** buttons to edit and remove affiliates, you can also right-click on an affiliate to do the same. Changes that you make to an affiliate are applied. You cannot remove an affiliate that is assigned to a deployed device.

To edit or remove affiliates

1. Click Affiliates Management in the Affiliates group of the Home tab.

The Affiliates Management panel displays.

2. Right-click an affiliate.

Click Edit or Remove.

Bulk Update

Use the **Bulk Update** button to update properties of selected affiliates. There are three main steps in this procedure:

- Scheduling
- Configuration
- Summary

For each property, unless specified otherwise, you can perform the update in one of two modes:

- Replace In Replace mode you enter the new value of the property and all the selected affiliates are updated with the new value.
- Search/Replace (default) In Search/Replace mode you enter a value to search criteria for and a new replacement value. The matching affiliates are updated with the new value.

To perform a bulk update:

1. Click Affiliates Management in the Affiliates group of the Home tab.

The Affiliates Management panel displays.

2. Select affiliates.

Click Bulk Update.

The Affiliates Bulk Update property sheet displays.

Steps				
1. Scheduling	General Inform	mation		
. Configuration . Summary	Name			
	Description			
	Update Type	Affiliate Properties		~
	Execution Sch	edule		
	Start Time	Immediately		~

3. In the **General Information** box in **Step 1 Scheduling**, enter a name for the update operation. **Description** is optional. Select an update type:

Affiliate Properties

- Blackout Codes Update
- 4. Configure a start date and time in the Execution Schedule box.
- 5. Click Next.
- 6. If you selected Affiliate Properties then Step 2 Configuration displays as below, if you selected Blackout Codes Update then proceed to *Step 11*.

Affiliate Bulk Update		×
Steps		
1. Scheduling	Command Configuration	
3. Summary	Name	Affiliate Name
	Update Type	Search/Replace
	Find What	
	Replace With	
	Search Options:	
	Match Case	
	Find Whole Word Only	
		Cancel < Back Next > Finish

- 7. Select an affiliate name from the name list. See *Table 6–1* for the list of names.
- 8. Select an update type. See *Table 6–1* for the list of types.

- 9. The remaining parameters in the **Command Configuration** box vary depending on the affiliate name and update type selections.
- 10. Proceed to Step 15.
- 11. Step 2 for Blackout Codes Update displays.

Steps			
1. Scheduling 2. Configuration 3. Summary	Command Configu	Add	~

- 12. Select an Update Type:
 - □ Add
 - Replace
 - Delete
- 13. The remaining parameters in the **Command Configuration** box vary depending on the **Update Type** selection.
- 14. Configure the execution schedule.
- 15. Click Next.
- 16. **Step 3 Summary** displays what property is updated, what the new value is, scheduled execution and how many affiliates are updated.
- 17. Click Finish to close the Affiliates Bulk Update property sheet.

Update Type (General Information box)	Name (Command Configuration box)	Update Type (Command Configuration box)
Affiliate Properties	 Affiliate Name 	 Search/Replace
	 MSO 	Search/ReplaceReplace
	 System ID 	Search/ReplaceReplace
	 H/E Type 	 Replace
	Time Zone	 Replace
	 Area Code 	Search/ReplaceReplace
	 Street Address 	Search/ReplaceReplace
	City	Search/ReplaceReplace
	County	Search/ReplaceReplace
	 State/Province 	Search/ReplaceReplace
	Zip Code	Search/ReplaceReplace
	Country	 Replace
Blackout Codes Update	N/A	AddReplaceDelete

Table 6-1: Affiliate Bulk Update Command Configuration box configurations

Export Affiliates

You can export the DMS affiliates as an Excel file. The exported file includes all the Contacts properties, City Served properties, blackout codes, affiliate index/ID and City Served index/IDs. If you don't select any affiliates then all the affiliates and device properties which are assigned to the affiliates are exported.

To export affiliates:

1. Click Affiliates Management in the Affiliates group of the Home tab.

The Affiliates Management panel displays.

- 2. Use the Query Editor to search for affiliates. See Query Editor.
- 3. Select the affiliates to export with the checkbox.
- 4. Click Export Affiliates in the Affiliates group of the Home tab.

The **Export Affiliates** dialog displays.

- 5. Select a folder to export to.
- 6. Click Download.

DMS generates a file name in the format of affiliates.<date><time>.xlsx. You can define the file name too.

Import Affiliates

You can prepare a table of affiliates on an Excel spreadsheet to import into the DMS database. Use the **Import Affiliates** property sheet to download an Excel template for populating. An affiliate or city served that exists in the database but not in the Excel file remains in the database. If the information for an affiliate is different in the database and the Excel file then DMS prompts you to choose which affiliate or city served should be used and you can choose to have DMS perform the same action on all following conflicts, therefore use the affiliate or city served in the file or the database.

To import affiliates

1. Click Import Affiliates in the Affiliates group of the Home tab.

The **Import Affiliates** property sheet displays.

- 2. Select an Excel file with affiliates.
- 3. Click Import Affiliates.

Report Affiliates

DMS can generate an affiliate report in Excel 2007/2010 format. The report contains all the affiliate properties. If you don't select any affiliates then all the affiliates and device properties which are assigned to the affiliates are reported.

To generate an affiliate report:

1. Click Affiliates Management in the Affiliates group of the Home tab.

The Affiliates Management panel displays.

- 2. Use the Query Editor to search for affiliates. See Query Editor.
- 3. Select the affiliates for the report with the checkbox.
- 4. Click Report Affiliates in the Affiliates group of the Home tab.

The Make Affiliates Report property sheet displays.

- 5. Select the fields that the report should contain.
- Click Create Report. DMS generates a file name in the format of affiliates.report.<date><time>.xlsx. You can define the file name too.
- 7. Click Download.

- Create Blackout Event
- Blackout Events
- Timeline

Create Blackout Event

Use the **Blackout Event Editor** panel to **Add** or **Edit** blackout events. Blackout events are minimum 15 minutes and maximum 24 hours. The alternate program must be in the same transport stream as the blacked-out program. The **Start Time** is validated because events cannot start in the past.

To create a spotlight event, set the Blacked-Out Program parameter to None.



NOTE: Blacked-Out programs must be authorized on the devices. You can authorize them directly with the **Device Browser** or access the **Device Browser** from the **Black-Out Event Editor**.

Prerequisites:

 Authorize devices using the Device Configuration property sheet accessible from the device browser.

To add a blackout event:

1. Click Create Blackout Event in the Blackout group of the Home tab.

The Blackout Event Editor panel displays.

So B	ckout Event Editor						ex.
3	Selected Date: 22/05/13						harmonic
-							
	18.00	1200 180	e 1940	20.05 Process Consisting mean analysis	21.00 22	00 23.00	90.90
C Steps 1. Bla 2. Sele	ckout Properties ct Targets	Backout Properties -	Titorid Series		Event Description:		
		Start Time: Activation Mode:	22/05/13 20:30:00 Manual v	×	End Time:	23/05/13 00:15:00	×
- Aller		Baded Out Program	None	×	Alternative Program	None Canoni < Esch	Nint > Prish

2. Enter the blackout properties. Name is mandatory. The default activation mode is **Manual**.

Activation Mode – This mode is active when the Start Time is not set to Immediately.

Manual (default) – Use manual to manually start the blackout without using scheduled dates and times.

- Automatic The event starts automatically at the scheduled start time.
- 3. Click Next.
- 4. In the Select Targets box, select the target devices.



You can select targets the following ways:

 Targets source type – Either Static (Default) or Dynamic. This is the mode that describes how the query result list will be updated.

A query that uses the dynamic mode, is a query that removes devices from the query result list when a device is no longer compliant to the criteria set in that query. It dynamically adds new devices that are added to the DMS and that are compliant to the criteria set in that query. Once the dynamic mode is configured, you cannot manually add or remove devices to/from the target list.

A query that uses the static mode, is a query of which the result list remains as is in an existing Blackout Event. You can make changes to the results list, but it will not be reflected in the existing Blackout Event.

- Query Use Add Devices via Query to add those devices that comply to the criteria set via the chosen query. Queries must first be saved in the Query Editor in the Device Browser, see *Query Editor*. This is also called a pre-defined query. When selecting Dynamic Query, you can select the relevant query from the list of pre-defined public queries only.
- Device Browser Use the Open Device Browser to select devices. After selecting the devices in the Device Browser, click Add Targets, see the figure below for the button location.

🗧 💼 Device Browser					
Contract Union Commands Commands Contract Contrat Contract Contract Contract Contract Contra	Devices are checked	0			
Check: His Maries Section	A COR	Pale			
Query Editor					
Attribute: Value(s):					
Device Type v is anything v					
Device Type is anything					
Manage Queries Save Query Lindate Query					
unale danse dans					
Device Model Device Name VI Device State	Serial Number	Affiliate Name	System ID	City Served	State/F
ProView 8130 📾 8130-10.41.33.88 Defined	161412020				
ProView 8110 📾 8110-10.41.33.89 Defined	311418012				
ProView 8105 📾 8105-10.41.33.87 Defined	161426166				
M ProView 7142 📾 7142-45:45:45 Deployed					
ProView 7122	161239028				

 Group Tree – Use Open Group Tree to select devices. After selecting the devices in the Groups panel, click Add Targets.

Groups																	
Sustan	Now	9															
System Groups										10/	14/2014						
🗮 test (5)		8:00 AM	9:00 AM			10:00 AM		1	1:00 AM		12:00 F	M		1	:00 PM		2:00 PN
											••••						
	eted to 0 dev	vice(s)															
		.,	Ļ	✓ A!	filiate Name						v c	ity Serve	ed .				

5. Click Finish.

Blackout Events

Use the **Blackout Events** panel to view all blackout events in the system. The events database are maintained after software upgrades.

You can:

- End an event or lengthen or shorten it while running.
- Add devices to the event before it has finished running.
- Remove devices from an event.
- Configure a device with two overlapping events with the same blackout program and the same alternative program.

The following features are available in this panel as context menu items:

- Edit
- View
- Clone Blackout Event
- Show in Timeline View
- Start Now
- End Now
- Remove

The following states are used in the **Blackout Event** panel: Table 7–1: States

Status	Definition
Defined	The start time has not been defined.
Ended	The event ran and stopped according to schedule.
Failed	The event failed to start on the device.
Incomplete	 The blackout event is not fully defined. Target devices are not selected. The blacked-out program has not been defined. The End Time has not been defined.
Preparing	The preparation command is sent and CAS entitlement opens (if CAS scrambling is selected). The blackout event is moved to the preparation state 4 minutes before the start.
Running	The event has been activated (either manually by the user or automatically). In the case of an automatic event, the device is considered to be in the Running state at the scheduled time.
Scheduled	The event definition is complete and a start time has been defined (regardless of the activation mode).
Skipped	The event was scheduled but never activated.
Stopped	The event was running and had a defined End Time, yet the user stopped it manually.

To display the **Blackout Events** panel:

1. Click Blackout Events in the Blackout group of the Home tab.

The Blackout Events panel displays.

NOTE: A new column have been added to indicate if the event has a static or dynamic Target Source Type.

े <i>ई</i> ° B	ackout Eve	nts																															0 #×
	Selected	Date: 03/	06/13		~) <u>N</u>	ow		•	•																						hаr	monic
	13:00			14:00				15:00				16:00				17:00				18:00				19:00				20:00			21	:00	
<																																	>
Event	Name 🔽	Event D	escrip	~	Activation	Mode	~	State	~	Star	t Time							End T	me					-	✓ Bl	acked-C	ut Prog	gram	~	Alterna	tive Progra	m	- 3
BO2		Local gar	me	- 1	Automatic			Schedul	ed	Jun	04, 201	3 05:00	0:00 PM	1+02:0	IO (Expe	cted Sta	art)	Jun 04	2013 0	6:00:00	PM +	02:00 (Expecte	d End)	Am	os 2:(1)) Chann	el 2		Amos 2:	(10) Chanr	el 10	~
BO1				r	Manual		(Schedul	ed	Jun (04, 201	3 03:00	0:00 PM	1+02:0	0 (Expe	cted Sta	art)	Jun 04	2013 0	04:00:00	PM +	02:00 (Expecte	d End)	TS	1:(211)	Travis	Cup		TS 1:(56	64) World ⊆	eries	
Da Da	shboard	Device	Browser	PL I	nout Profile	e Manao	emen	t VL UD	links M	lanage	ment	D SD	ooler ar	nd Strea	am Man	agement	1	Blacko	ut Eve	nts	-		_			_	_						-

To display the context menu:

- 1. Right-click an event in the **Blackout Events** panel.
- 2. A context menu displays with relevant menus from the following list:
 - □ Edit
 - \Box View
 - Clone Blackout Event
 - □ Show in Timeline View
 - Start Now
 - □ End Now
 - □ Remove

Editing a Blackout Event

Use the context menu or double-click a blackout event to edit it.

To edit a blackout event:

- 1. Right-click an event in the Blackout Events panel.
- 2. Select Edit.

Viewing a Blackout Event

Use the context menu to view the properties and targets of a blackout event.

To view a blackout event:

- 1. Right-click an event in the **Blackout Events** panel.
- 2. Select View.

Each of the columns can be used to filter the blackout events on event state (multiple selection). The default view will display only events that are: Defined, Incomplete, scheduled, and running. By default the events will be sorted according to the start_time. Events that are running are expected to be on top.

Cloning a Blackout Event

Use the context menu to clone a blackout event. When an event is cloned the following properties are copied from the source event:

- Event Description
- Blacked-Out program
- Alternative Program
- Targets

To clone a blackout event:

1. Right-click an event in the **Blackout Events** panel.

2. Select Clone Blackout Event.

Showing a Blackout Event in the TimeLine

Use the context menu to show a blackout event in the Timeline.

To show a blackout event in the Timeline:

- 1. Right-click an event in the Blackout Events panel.
- 2. Select Show in Timeline View.

Manually Starting a Scheduled Blackout Event

Use the context menu to start a scheduled blackout event immediately.

To start a blackout event:

- 1. Right-click an event in the **Blackout Events** panel.
- 2. Select Start Now.

Manually Stopping a Scheduled Blackout Event

Use the context menu to stop a scheduled blackout event immediately.

To stop a blackout event:

- 1. Right-click an event in the **Blackout Events** panel.
- 2. Select End Now.

Removing a Blackout Event

Use the context menu to remove a blackout event. You cannot remove past events or running events.

To remove a blackout event:

- 1. Right-click an event in the **Blackout Events** panel.
- 2. Select Remove.

Timeline

Use the **Timeline** to view a graphical representation of the blackout events. You can also create blackout events on the timeline using the mouse. You can choose to view events on a specific date or at the current time. You can zoom to change the viewing period. The **Timeline** is part of the **Blackout Event Editor** panel. The **Timeline** shows events in one of the following states:

- Scheduled
- Running
- Ended
- Stopped

The states are color coded.

You can:

- Stop running events
- Clone events
- Edit event properties
- Show in **Blackout Event** panel



Figure 7-1: Timeline

Creating Events

To create an event:

1. Click and drag the mouse pointer on the Timeline.

The Blackout Properties update to reflect the changes.

2. Enter properties as per *Create Blackout Event*.

Zooming

Use the magnifying glass buttons to zoom in or out and the minimum zoom button to display a large time range.

Use Alerts and the following panels to monitor receiver devices:

- Dashboard panel
- Alarms panel
- Commands Panel
- Schedule Panel
- Audit Log panel

To monitor the return channel use *The Alarms Panel*. The actual firmware version of a device displays in the **Expected Firmware Version** column in the **Device Browser** panel.

The following topics describe monitoring related operations:

- The Dashboard Panel
- The Alarms Panel
- Export Alarms Property Sheet
- The Commands Panel
- RF History
- Schedule Panel
- The Audit Log Panel
- Exporting the Audit Log
- Alerts

The Dashboard Panel

The **Dashboard** panel is an aggregative view to monitor the system, including system events, active commands, alarms and others. The **Dashboard** panel comprises of elements. For an explanation of the GUI functionality see *The Dashboard Panel*.

Related Topics:

- Elements Introduction
- Adding Elements
- Element Descriptions
- Displaying the Commands Panel
- Displaying Command Details
- Displaying Target Devices
- Canceling a Command in Progress

Elements Introduction

There are various Dashboard elements for different purposes. The elements currently available in the system are:

- Audit Log
- Calendar
- Clock
- Image
- Devices
- Commands
- Alarms
- Scheduled Commands

You can add multiple instances of the same element, with different configurations, to the Dashboard. For example you can add multiple Clock elements to the Dashboard, and configure them with different times, to represent different time zones.

Adding Elements

To add elements to the **Dashboard**:

1. Click the Show palette button in the bottom right corner of the Dashboard panel.

The palette displays at the bottom of the **Dashboard** panel.



2. Drag palette icons onto the **Dashboard** or double-click palette icons to add them.

You can hide the palette with the **Hide palette** button in the bottom right corner of the **Dashboard** panel.

Element Descriptions

The following elements are available:

Audit Log

This element displays the most recent events. You can filter this list by event type and originator and configure the refresh interval and list size limit.

You can configure the Audit Log element in the element configuration property sheet, see *Customizing Elements*.

🔄 Audit Log	S □ S
Current Query: Event Type: All Originator: All	
Description	Time 💌 1
CAS configuration property CAS IP was changed. O	14/03/13 18:03:21 🔨
🛶 The device was rebooted. Device Model: Pro¥i	14/03/13 17:25:58
A command execution has ended	14/03/13 17:25:58
A command execution has started	14/03/13 17:22:57
🛟 A new command has been configured. Comma	14/03/13 17:22:57
🛶 Device updated. Device Model: ProView 7134 ,	14/03/13 17:22:39
🛶 Device updated. Device Model: ProView 7134 ,	14/03/13 17:22:39
CAS configuration property CAS IP was changed. O	14/03/13 17:03:44
CAS configuration property CAS Port was changed	14/03/13 17:03:44
🛶 Device updated. Device Model: ProView 7131 ,	14/03/13 16:51:13
🛶 Device updated. Device Model: ProView 7131 ,	14/03/13 16:51:13
🛶 Device updated. Device Model: ProView 7131 ,	14/03/13 16:50:32
a Device updated. Device Model: ProView 7131 ,	14/03/13 16:50:32
🛶 Device updated. Device Model: ProView 7131-T	14/03/13 16:50:23
🞅 User logged in to the system	13/03/13 14:52:58
A command execution has ended	12/03/13 19:32:35 ¥

Calendar

This element is month based and displays the current date. To advance or retreat the year, click the double arrow buttons. To advance or retreat the month, click the single arrow buttons. To display the current date, click **Today**.



Clock

Use the element configuration property sheet to configure the clock caption and time zone, see *Customizing Elements*.

You can configure several Clock instances, each with their own time zone and caption.

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Image

This element displays an image file of your choice. This is a good place to display a map of the region where the devices are deployed.

You can select a file to display in the element configuration property sheet, see *Customizing Elements*.



Devices

This element displays a pie chart of the number of devices in the system grouped by any of the following categories:

- □ channel
- customer
- expected firmware version
- □ country
- □ state
- □ time zone

The chart refreshes every 60 seconds by default. You can change the refresh rate.

You can change the group category or refresh rate in the element configuration property sheet, see *Customizing Elements*

To display the corresponding filtered view in the **Device Browser**:

Double-click a slice of the pie chart.



Commands

This element displays running commands in the system in chronological order. You can set the maximum number of commands to display and whether to display only commands that are being executed. Scheduled commands display in the corresponding element.

You can view the target device/group and **Cancel** commands with the **Commands** element. The **Cancel** command is only available for firmware upgrade commands in idle or in-progress states.

You can configure the **Commands** element in the element configuration property sheet, see *Customizing Elements*.

To view the target device/group:

Click Targets.

To cancel commands:

Click Cancel.



Alarms

This element displays all the alarms in chronological order. Each alarm is colored according to the alarm severity predefined colors. Click an alarm to display the alarm details in the **Alarms** panel at the bottom of the DMS window.

Kalarms	8 u 8
Description	Time 1
No Connection to the	May 22, 2013 08:44:02 PM +02:00 🭕
🖉 No Connection to the	May 22, 2013 08:44:02 PM +02:00 🭕
No Connection to the	May 22, 2013 08:44:02 PM +02:00 🭕
No Connection to the	May 22, 2013 08:44:02 PM +02:00 🭕
No Connection to the	May 22, 2013 08:44:02 PM +02:00 🭕

Scheduled Commands

This element displays the next 20 scheduled commands for the following 7 days arranged according to the day of the week. You can decrease the number of days in the element configuration property sheet, see *Customizing Elements*.

Scheduled Commands	8 ⊗ ∎ 8			
Today - 03-Jun-2013				
17:00:00 +02:00 🕼 Requested by R.M.				
18:00:00 +02:00 🕼 SM				

The Alarms Panel

The **Alarms** panel enables you to monitor the system and receiver devices and respond quickly. An alarm is a state in the system or a receiver device.

To display the Alarms panel:

Click Alarms in the Alarms group of the Home tab, see Figure 2–1.

🤅 🍕 Alarms				
4	Check: All, None, Selected	Showing 1 of 1 Entries	0 Entries are checked	😵 <u>Query Pane</u> harmonic
Severity Alarm ID	V Description V	Corrective Action	Time	1 🗸 🗸 Status
Critical 1	Spovler Service is Unavailable	Please verify the following: 1. The IP address configured: 2. An IP connection can be estable server and the PC running Agent, 3. The 'Skp running on the Agent's PC	of the Agent's properly histed between the DMS per Spooler' service is	6 PM +02:00 Asserted

Current receiver device alarms are received via the return channel, if the return channel is enabled for the receiver device, and via CAS and display in the **Alarms** panel. Alarms are colored according to their severity. The following list defines the severity colors:

- Sellow Minor
- Orange Major
- Red Critical

Alarms are logged in The Audit Log Panel.

See Panels for information on selecting columns to display.

See *Table 8–1* for some important alarm descriptions.

Table 8–1: Alarms and descriptions

Alarm Text	Severity	Description
Agent Service is Unavailable	Critical	 The alarm is asserted when the server has no IP connection to the Agent service. The alarm is remitted as soon as connection is restored. Corrective Action: Verify the following: The Skipper Agent service is running on the Server's PC.
Backup Server Not Synced	Minor	The alarm is asserted by the Primary Server when it detects that it is out of sync with the Backup Server. The alarm is remitted as soon as a successful Sync is performed (and completed successfully). Corrective Action: Sync the Primary and Backup servers.
CAS Product X not Recognized by CAS	Major	The alarm is asserted when the DMS attempts to authorize a program and the CAS returns an error that the CAS product is not recognize by the CAS system. The alarm is removed once there are no pending entitlements to this product or a successful sync has been performed. Corrective Action: Verify that the CAS Product in the Service Plan is defined correctly. If the problem persists contact Harmonic's help desk.
Connection to CAS is compromised	Major	The alarm is asserted when the DMS is working in redundancy and it loses a connection to one of the CAS servers (either its own or its peer's). Corrective Action: Verify that the CAS parameters are configured properly and that the server has IP connection to the CAS server.
Connection to the Multiplexer is compromised	Minor	The alarm is asserted in the event that two data connections to the multiplexer are defined and one of them has failed (no IP connection). Corrective Action: Verify that there is an IP connection between the DMS server and both multiplexers.
No Available Backup	Major	The alarm is asserted by the Primary Server when it is working in Redundancy mode and it has no connection (IP or other) with the Backup. Corrective Action: Check connectivity to the backup server PC and verify that the DMS Server application is running.

Table 8–1: Alarms and descriptions

Alarm Text	Severity	Description
No CAS Server is Available	Critical	In standalone: The alarm is asserted when the DMS detects that it has no connection to the CAS. In Redundancy: The alarm is asserted when the DMS detects that it has no connection to all CAS (both its own and its peer). Corrective Action: Verify that the CAS parameters are configured properly and that the server has IP connection to the CAS server.
No Connection to the Multiplexer	Major	The alarm is asserted in the event that there is no connection to any of the defined multiplexers. Corrective Action: Verify that there is an IP connection between the DMS server and the defined multiplexers.
No Primary Available	Major	The alarm is asserted by the Backup Server when it is working in Redundancy mode and it has no connection (IP or other) to the Primary. Corrective Action: Check connectivity to the primary server PC and verify that the DMS Server application is running.
SC/VSC Not Recognized by CAS	Major	The alarm is asserted when the DMS attempts to authorize a device and the authorization failed since the SC or VSC is not recognized by the CAS. The alarm is removed once there are no pending entitlements to that device (either the SC was corrected in the DMS or a successful sync is performed). Corrective Action: Verify that the SC/VSC in the device configuration is defined correctly. If the problem persists contact Harmonic's help desk.
Software Version Mismatch with Backup Server	Major	The alarm is asserted by the Primary Server when it is working in Redundancy mode and it detects that the Backup Server is not running the same version. Corrective Action: The software version of the backup server is not identical to the Primary. Update the backup server to the correct version.
Table 8–1: Alarms and descriptions

Alarm Text	Severity	Description
Spooler Service is Unavailable	Critical	 The alarm is asserted when the server has no IP connection with the Spooler service. The alarm is remitted as soon as the connection is restored. Corrective Action: Verify the following: The Skipper Spooler service is running on the Server's PC

Export Alarms Property Sheet

You can export the alarm log in Excel 2007/2010 .xlsx format. If you don't select any alarms to export then all the alarms are exported.

To export the Alarm Log:

1. Click Browse in the Audit Log group of the Home tab.

The Audit Log panel displays.

- 2. You can use the Query Editor to filter the list, see Query Editor for instructions.
- 3. You can use the All, None or Selected buttons to mark the respective checkboxes.
- 4. Select entries to export with the checkboxes.
- 5. Click **Export** in the **Audit Log** group of the **Home** tab.

The Export Audit Log property sheet displays.

- 6. Enter a filename. The default entry is AuditLog<DateTime>.
- 7. Click Download.

The Commands Panel

The **Commands** panel lists all commands which are in progress or pending, as well as commands that have been executed (canceled, failed or finished). You can:

- Display command details
- Display target devices for a command
- Cancel commands that have not finished executing

Related Topics:

- Displaying the Commands Panel
- Displaying Command Details
- Displaying Target Devices
- Canceling a Command in Progress

Displaying the Commands Panel

To display the **Commands** panel:

Click Commands in the Monitoring group of the Home tab.

The Commands panel displays.

E Commands					
💥 🔀 Cancel	🚷 😵 🐴 Sche	<u>tule</u>			harmonic
Command Name	 Description 	Start Time	🗸 🗸 End Time	Status	~ 1
🕐 Reboot 3	Requested by J.D.	May 22, 2013 10:47:30 PM +02:00	May 22, 2013 10:50:35 PM +02	:00 (Expected End) 🛛 🔅 In Progress 🔲	19% ^
Reboot 2	Requested by J.D.	May 22, 2013 10:47:12 PM +02:00	May 22, 2013 10:50:17 PM +02	:00 (Expected End) 🛛 🔅 In Progress 📃	29%
Reboot 1	Requested by J.D.	May 22, 2013 10:46:57 PM +02:00	May 22, 2013 10:50:02 PM +02	:00 (Expected End) 🛛 🔅 In Progress 📰	37%
🕐 Device Reboot		May 22, 2013 08:39:11 PM +02:00	May 22, 2013 08:42:11 PM +02	:00 🧇 Completed	
🕐 RB1	\backslash	May 22, 2013 08:29:08 PM +02:00	May 22, 2013 08:32:08 PM +02	:00 🧇 Completed	
Set Device Model	\backslash	May 22, 2013 04:14:08 PM +02:00	May 22, 2013 04:17:09 PM +02	:00 🧇 Completed	
					~
🚴 Schedule 🛛 🍪 Con	nmands				
	\backslash				

Cancel the selected command



Displaying Command Details

To display command details:

Double-click on a command in the list to display its details.

The command in the list expands to display its details.

Displaying Target Devices

To display the target devices for a command:

1. Double-click on a command in the list to display its details.

The command in the list expands to display its details.

2. Click the blue Target devices link.

Canceling a Command in Progress

You can cancel the following commands:

- Download Configuration File
- Upgrade Firmware

To cancel a command in progress:

- 1. Select a command in the **Commands** panel list.
- 2. Click Cancel Command.

When you cancel a firmware upgrade that is configured with **Firmware Activation** mode set to **Simultaneous**, a property sheet displays so that you can choose one of the following:

- **Current device firmware** do not change the device firmware version in the database, assume it was not upgraded
- **Command firmware** update the device firmware version in the database with the version in the command, assume it was upgraded
- Unknown firmware there is no certainty whether the upgrade completed, record unknown in the device profile in the database

Command Alerts draw the user's attention to significant events with pop-up messages and audio. See *Configuring Alerts* for information on configuring Alerts.

RF History

DMS snapshots the RF status of every port on every device every hour and keeps the last week of snapshots on record so that you can save the RF history in Excel format and produce graphs with a spreadsheet. The Excel file is zipped.

To download the RF history:

1. Click Download RF History in the Monitoring group of the Home tab.

The Download RF History property sheet displays.

- 2. Browse to a folder.
- 3. Click Download.

Schedule Panel

Use the **Schedule** panel to display commands scheduled to execute between specified dates. Right-click a column heading to select columns to display. See *Schedule Panel* for an explanation of the buttons and usage.

The Audit Log Panel

The **Audit Log** panel displays a history of system and user actions in a sortable list, which can be used for tracking any past user or system activity and for auditing purposes. DMS records every time a user logs in or out of DMS, it also records alarm transitions. When an alarm transitions, therefore raised or cleared, it generates an event. You can scroll the log in the **Device Audit Log** box. Click on any column to sort the list according to that column. Right-click a column for a menu of column operations. Click the **Query Pane** to filter the log.

To display the **Audit Log** panel:

Click Browse in the Audit Log group of the Home tab, see figure below.



TIP: You can display the Audit Log panel with the Quick Launch toolbar, see Figure 2-1.

🚝 Audit Log						a ex
- Audit Log						
Check: All, None, Selected	Showing 341 of 341 Entries	0 Entries are selected			A Query P	ane
Query Editor						
Attribute:	Value(c).					
Date & Time (Server)	inde (a).				Annand	
bate at time (server) v is anyoing	•				Аррени	
					Remove	
					Remove All	
					And Or	
Manage Queries Save Query					Search	
						<u> </u>
Date & Time (Server) User		Description	Object	Object Id	Event Code	B
Mar 14, 2013 06:57:14 PM + 02:00 Default spooler	A command execution has ended		Commands	Device Reboot	1604	^
Mar 14, 2013 06:57:14 PM + 02:00 Default spooler	The device was rebooted. Device Model: ProVie	w 7131 , MAC: 11:11:11:11:11:17.	Device	7131-11:11:17	506	
Mar 14, 2013 06:57:01 PM + 02:00 Default spooler	A command execution has ended		Commands	Device Reboot	1604	
Mar 14, 2013 06:57:01 PM + 02:00 Default spooler	The device was rebooted. Device Model: ProVie	w 7131 , MAC: 11:11:11:11:11:14.	Device	7131-11:11:14	506	
Mar 14, 2013 06:54:14 PM + 02:00 Default spooler	A command execution has started		Commands	Device Reboot	1603	
Mar 14, 2013 06:54:14 PM + 02:00 admin	A new command has been configured. Comman Immediately	d Name: "", Command Description: "", Command Scheduled on:	Commands	Device Reboot	1601	
Mar 14, 2013 06:54:01 PM + 02:00 Default spooler	A command execution has started		Commands	Device Reboot	1603	
Mar 14, 2013 06:54:01 PM + 02:00 admin	A new command has been configured. Comman Immediately	d Name: "", Command Description: "", Command Scheduled on:	Commands	Device Reboot	1601	
Mar 14, 2013 06:03:21 PM + 02:00 admin	CAS configuration property CAS IP was change	d. Old value: 10.41.50.108 , New value: 1.1.1.1	CAS	CAS	1401	
			Configuration	Configuration		~
Entry Comments						
					Anne	nd
L					- oppo	
Insert Custom Entry						_
						-
					Apper	nd

Figure 8-2: Audit Log panel

Use the **Query Editor** to filter the list, see *Query Editor*. See *Panels* for information on selecting columns to display.

Comments

You can append comments to entries, these display in the **Entry Comments** box when the respective entry is selected.

Appending a comment:

1. Select the text of any entry.

The text highlights.

- 2. Click in the empty box next to the append button
- 3. Enter the comment.
- 4. Click Append.

Editing an appended comment:

Double-click the comment then edit it.

Removing an appended comment:

- 1. Click the comment.
- 2. Click **Remove**.

Custom Entries

You can add free text to the **Audit Log** using the **Insert Custom Entry** box. This is not appended to entries but is recorded as a separate entry.

Inserting a custom entry:

- 1. Click in the **Insert Custom Entry** box.
- 2. Type the custom text.
- 3. Click Append.

Exporting the Audit Log

You can export the audit log to a .xlsx Excel file. If you don't select any entries to export then all the entries are exported.

To export the Audit Log:

1. Click Browse in the Audit Log group of the Home tab, see figure below.

The Audit Log panel displays.

- 2. You can use the **Query Editor** to filter the list, see **Query Editor** for instructions.
- 3. You can use the All, None or Selected buttons to mark the respective checkboxes.
- 4. Select entries to export with the checkbox.
- 5. Click **Export** in the **Audit Log** group of the **Home** tab.

The Export Audit Log property sheet displays.

- 6. Enter a filename.
- 7. Click Download.

Alerts

Alerts draw the user's attention to significant events with pop-up messages and audio alerts. There are alerts related to:

- Devices
- Groups
- Commands
- Alarms
- CAS
- TS and Programs
- Device Authorization
- Uplinks
- Input Profiles
- Blackouts and SpotLights
- User Roles
- Public Queries
- BISS Keys

See Configuring Alerts for information on configuring Alerts.

- Service Plan
- BISS Keys
- Uplinks
- Input Profiles

Service Plan

In order to configure devices to process any service in the system it has to be defined in the processing profiles first.

You must give each profile a unique name.

The following topics describe device configuration and control commands:

- Adding a Transport Stream
- Updating a Transport Stream
- Removing a Transport Stream
- Adding a Program
- Updating a Program
- Removing a Program

Adding a Transport Stream

To add a transport stream:

1. Right-click Transport Streams in the Service Plan panel.

😳 Service Plan	₽₽×
Q, Filter	
Transport Streams	
Amos 2 Create Transport Stream	
💑 Channel 10 (ID : 101)	_
💑 Channel 2 (ID : 102)	
💑 Service Plan 🚟 Groups	

2. Select Create Transport Stream.

The Create Transport Stream property sheet displays.

- 3. Enter a unique name.
- 4. Click OK.

Updating a Transport Stream

To update a transport stream:

- 1. Right-click a transport stream in the Service Plan panel.
- 2. Select Update Transport Stream.

The Update Transport Stream property sheet displays.

- 3. Enter new data.
- 4. Click OK.

Removing a Transport Stream

You cannot remove a transport stream that is defined in an Input Profile.

To remove a transport stream:

- 1. Right-click a transport stream in the Service Plan panel.
- 2. Select Remove.
- 3. Confirm the dialog.

Adding a Program

DMS enables you to add and update programs for devices.

Prerequisite:

A transport stream.

To add a program:

- 1. Right-click a transport stream.
- 2. Select Create Program.

The Program property sheet displays.

rogram Properties		
General		
Program Name	1	
Number (1 - 65534)	1	\$
Video Resolution	HD	~
Video Codec	AVC	~
Scrambling		
Method	BISS	~
BISS Key	Key-1	~
DTA		
Output Program Number (1 - 65534)	1	\$
PID Offset (-4096 - 4096)	0	\$
-TX - SD		
Output Program Number (1 - 65534)	1001	\$
PID Offset (-4096 - 4096)	1000	\$
TX - HD		
Output Program Number (1 - 65534)	2001	\$
PID Offset (-4096 - 4096)	2000	\$
	Cancel	

- 3. Configure the following parameters:
 - General box:
 - Description Program Name unique within the transport stream

- **Number** unique within the transport stream (1• 65534)
- Video Resolution
 - 🗆 SD
 - HD (default)
 - Video Codec
 - D MPEG-2
 - □ AVC (default)
- Scrambling box:

- Method
 - None (default if VMX is not licensed)
 - VMX (default)
 - BISS
 - CAM-1/2/3/4
 - D VMX CAM-1/2/3/4
- Product Key When VMX or VMX CAM is selected this is required. Use this for CA products.
- BISS Key When BISS is selected this is required. Define the BISS keys using the Configuration tab.
- **DTA** box:
 - Description Output Program Number (Range 1-65534, default same as the program number)
 - □ **PID Offset** (Range -4096 4096, default is 0)
- **TX SD** box
 - **Output Program Number** (Range 1-65534, default is program number + 1000)
 - □ **PID Offset** (Range -4096 4096, default is 1000)
- **TX HD** box
 - Output Program Number (Range 1-65534, default is program number + 2000)
 - Description PID Offset (Range -4096 4096, default is 2000)

Updating a Program

DMS enables you to update programs for devices. Changes to programs are applied immediately unless there is a conflict.

Prerequisite:

A program.

To update a program:

- 1. Right-click a program.
- 2. Select Update Program.

The **Program** property sheet displays. See *Adding a Program* for parameter information

- 3. Enter new data.
- 4. Click OK.

Removing a Program

DMS enables you to remove programs.

Prerequisite:

• A program.

To remove a program:

- 1. Right-click a program.
- 2. Select Remove.
- 3. Confirm the dialog.

BISS Keys

Use the **BISS Keys** property sheet to configure BISS Keys for synchronization with devices. Use the **Edit** icon to edit the description and key number or the **Clear** icon to clear the description and number. A check mark in the **In Use** column displays for a key that is used for a program, this column is read only.



NOTE: You can also clear keys using the Clear icon.

To configure BISS keys:

1. Click BISS Keys in the Distribution Network Setup group on the Configuration tab.

The BISS Keys property sheet displays.

2. Click the **Edit** icon or double-click a key row to edit a key.

		Description	In Use	
Key-1	Key-1			100
Key-2	Key-2	N		Clear
Key-3	Key-3			
Key-4	Key-4			
Key-5	Key-5			Edit id
Кеу-б	Key-6			Edit N
Key-7	Key-7			
Key-8	Key-8			Key ro
Key-9	Key-9			
Key-10	Key-10			

The Key property sheet displays.

Key-9	
Description SW(12)	Кеу-9 *****
	OK Cancel

- 3. Enter a description and the key.
- 4. Click OK.

Uplinks

Use the **Uplink** property sheet to define uplink profiles to use with devices that have uplinks. You can define satellite and IP uplink profiles.

To open the Uplinks Management panel:

Click **Uplinks** in the **Distribution Network Setup** group on the **Configuration** tab.

The Uplinks Management panel opens.

Use the Edit and Remove buttons to edit and remove uplink profiles.

Satellite Uplink Properties

To add a satellite uplink profile:

1. Select Add > Add Satellite Uplink.

The **Uplink** property sheet displays.

Uplink Name		
Modulation Standard	DVB-S2	~
L-Band Frequency (0.95-2.125 Ghz)	1.000000	\$
Symbol Rate (1-45 Msym/s)	27.500000	\$
Modulation and FEC	Automatic	~
Spectral Inversion	Automatic	~
Roll Off	Automatic	~
PL Scrambling (0-262141)	0	0
Pilots	Enable	~
ISI (0-FF)	FE	0

The editable properties comprise the following:

- Uplink Name Must be unique.
- Modulation Standard (Default DVB-S2)
 - □ Automatic¹
 - DVB-S
 - **DVB-S2**¹
- L-Band Frequency Range 0.95 2.125 GHz. Default 1.
- Symbol Rate Range 1,000,000 45,000,000 Msym/s, adjustable in 100 sym/s steps. Default 27.5.
- Modulation and FEC
 - DVB-S options:
 - Automatic (default)
 - QPSK 1/2

^{1.} Only available with certain hardware configurations.

- QPSK 2/3
- QPSK 3/4
- QPSK 5/6
- QPSK 7/8
- DVB-S2 options:
 - □ Automatic¹ (default)
 - QPSK 1/4¹
 - QPSK 1/3¹
 - QPSK 2/5¹
 - QPSK 1/2
 - QPSK 3/5
 - QPSK 2/3
 - QPSK 3/4
 - QPSK 4/5
 - QPSK 5/6
 - QPSK 8/9
 - QPSK 9/10
 - □ 8PSK 3/5
 - BPSK 2/3
 - BPSK 3/4
 - □ 8PSK 5/6
 - BPSK 8/9
 - □ 8PSK 9/10
- Spectral Inversion Sets the mode of operation for the spectral inversion function. Options:
 - Automatic (default)
 - Normal
 - □ Inverted
- Roll Off
 - □ Automatic Default for DVB-S2.
 - **0.2**
 - **0.25**
 - **0.35** Default for DVB-S.
- PL Scrambling DVB-S2 only. Range 0 262144. Default 0.
- Pilot DVB-S2 only. Options:
 - □ Automatic¹ (default)
 - Enable
 - Disable
- ISI DVB-S2 only. Range 0 FF. Default is FF.

IP Uplink Properties

To add an IP uplink profile:

1. Select Add > Add IP Uplink.

The **Uplink** property sheet displays.

Uplink Proper	ties
Uplink Name	
Unicast	
Multicast IP	224 . 224 . 224 . 224
UDP Port	1000
FEC Mode	None
	✓ OK Cancel

The editable properties comprise the following:

- Uplink Name
- Unicast Default is not Unicast.
- Multicast IP Default is 224.224.224.224.
- UDP Port Default is 1000.
- FEC Mode Default is None. In this release you cannot change the FEC Mode.
 - None
 - 🗆 1D
 - □ 2D

Input Profiles

Use the **Input Profile** property sheet to define input profiles with links to use with devices that have RF, IP or ASI inputs. You can configure backup links in case of disasters. Each link must be configured with a different port.

To open the Input Profile Management panel:

• Click Input Profiles in the Distribution Network Setup group on the Configuration tab.

The Input Profile Management panel opens.

Use the **Edit** and **Remove** buttons to edit and remove input profiles. Changes that you make to an input profile are applied immediately to all devices that have the input profile as part of the device configuration. You cannot remove a profile that is part of a device configuration.

Prerequisites for adding and editing Input Profiles:

- Uplink profiles for RF and IP ports.
- A transport stream.

The editable properties comprise the following:

- Profile Name Must be unique.
- Line Up tab
 - Port Select a port above the Primary label to be the primary port. Select any relevant port in each of the four Port lists. You can select Local Override enabling a user to

configure the port directly on a ProView 7000. Note: When Disaster Recovery is enabled, the **Local Override** parameter is not available.

- **Priority** Select backup priorities for all ports except the first.
- Uplink Select uplinks for all ports that are not ASI ports. Uplink profiles must first be defined in *Uplinks*. You can select Local Override enabling a user to configure the uplink directly on a ProView 7000.
- **TS** Select transport streams for ports. You are required to select a transport stream for the primary port. First create transport streams in *Adding a Transport Stream*.
- Program aliasing Program names with backup links configured with the same transport stream as the primary link are automatically populated with the same program names as the primary link and you cannot change them. You can configure program names for different transport streams and you can configure a program as an alternative to more than one program on the primary.
- Disaster Recovery tab
 - Enable Disaster Recovery Mark the checkbox to enable disaster recovery
 - Start Conditions
 - Link Loss for You can change the period of time the link is lost before Disaster Recovery begins. Defaults: Always Enabled, 60 seconds. Range: 1• 86400 seconds.
 - End Conditions
 - Link Lock for You can change the period of time to end disaster recovery after the link is locked. Defaults: Always Enabled, 5 seconds. Range: 1• 86400 seconds.
 - DMS Lock
 - **Network ID** (0• 65535)
 - **TS ID** (0• 65535)

To add an input profile:

1. Select Add.

The Input Profile property sheet displays.

ofile Name:								
ine Up Disaste	er Recovery							
Port	RF 1	~	RF 2	~	RF 3	~	RF 4	~
Priority	Primary		Backup-2	~	None	~	None	~
Jplink	Sat Uplink 1	~	Sat Uplink 1	~	None	~	None	~
rs	TS 1	~	TS 1	~	None	~	None	~
Program Aliasing	CNN		CNN	~	None	~	None	~
	BBC		BBC	~	None	V	None	~

Importing from NMX

You can import program definition files generated with Harmonic NMX.

To import an NMX file:

1. Click Import from NMX in the Actions group on the Configuration tab.

The Import NMX File property sheet displays.

- 2. Select the file or enter the name.
- 3. Click Import NMX File.

In order to configure devices to process any service you must create processing profiles.

Use the **Edit** and **Remove** buttons to edit and remove processing profiles. Changes that you make to a processing profile are applied immediately to all devices that have the processing profile as part of the device configuration. You cannot remove a profile that is part of a device configuration.

The following topics describe the processing profiles:

- Decoding
- Transcoding
- DTA
- DPI

Decoding

Use the **Decoding Profile** property sheet to create decoding profiles for devices.

To create a decoding profile:

1. Click **Decoding** in the **Processing Profiles** group of the **Configuration** tab.

The Decoding Profile Management panel displays.

2. Click Add.

The **Decoding Profile** property sheet displays.

.ocal Override All		
-Video Decoding		
Video PID Selection	Automatic	,
Display Format	Automatic	
Video Format and Frame Rate	1080i@29.97	
Analog Format for 625 lines	PAL B/G	,
Analog Format for 525 lines	NTSC	
Aspect Ratio	Automatic	
Aspect Ratio Conversion to 4:3	AFD	
Aspect Ratio Conversion to 16:9	AFD	
Audio Channel 2		
-Audio Channel 2-		
Audio PID Selection	Automatic	~
Audio PID Selection	Automatic	~
Audo PID Selection -Audo Channel 3 -Audio PID Selection -Audio Channel 4 -Audio Channel 4	Automatic Automatic	v

- 3. Enter the **Profile Name** (unique).
- 4. Configure the following parameters:
 - Local Override
 - All

- Disabled (default)
- Video Decoding box
 - Video PID Selection
 - Automatic (default)
 - □ None
 - Display Format
 - Automatic (default)
 - 🗆 HD
 - □ SD
 - Video Format and Frame Rate This can only be configured when Display Format is set to HD.
 - □ 720p@50
 - □ 720p@59
 - □ 720p@60
 - □ 1080i@25
 - I080i@29.97 (default)
 - □ 1080i@30
 - Analog Format for 625 lines
 - D PAL B/G (default)
 - D PAL I
 - D PAL D
 - D PAL N
 - French SECAM
 - Russian SECAM
 - Analog Format for 525 lines
 - NTSC (default)
 - D PAL M
 - Aspect Ratio
 - Automatic (default)
 - **4:3**
 - **□** 16:9
 - Aspect Ratio Conversion for 4:3
 - AFD (default)
 - Center-Cut
 - Letterbox
 - Anamorphic
 - Aspect Ratio Conversion for 16:9
 - AFD (default)
 - Center-Cut
 - Pillarbox
 - Anamorphic
- Audio Channels
 - Audio Channel 1 box Audio PID Selection

- Automatic (default)
- □ None
- By Priority
- Audio Channel 2 box
 - Automatic (default)
 - □ None
 - By Priority
- Audio Channel 3 box
 - Automatic
 - None (default)
 - By Priority
- Audio Channel 4 box
 - Automatic
 - None (default)
 - By Priority
- 5. Click OK.

Transcoding

Use the TX Profile property sheet to create transcoding profiles for devices.

To create a transcoding profile:

- 1. Click **TX** in the **Processing Profiles** group of the **Configuration** tab.
- 2. Click Add.

The TX Profiles Management property sheet displays.

rofile Name					
ocal Override	Disabled	~			
Transcoding					
Output Codec	AVC	~			
Preferred Video Format	SD	~			
SD Output			HD Output		
Bitrate (bps)	2000000		Bitrate (bps)	10000000	
Video Resolution	720	~	Video Resolution	720p X 1280	~
Profile	High	~	Profile	Main	~
Aspect Ratio	4:3	~	Aspect Ratio	Pass Through	~
Aspect Ratio Conversion	AFD (Fallback to Center-	-Cut) 🗸	Aspect Ratio Conversion	None	~
GOP Mode	Follow the Input	~	GOP Mode	Follow the Input	~
Open/Close GOP	Follow the Input	~	Open/Close GOP	Follow the Input	~
GOP Length (6-90)	32	\$	GOP Length (6-90)	32	\$
Mini GOP Length	4	~	Mini GOP Length	8	~
AFD	Re-Insert	~			
MCTE Level	Off				
Advanced Options					
Pass all Data PIDs	ø				
Pass all Audio PIDs					
Audio Priorities					
Audio #1 (Primary) Source:	Audio #1 (Primary)	~			
Audio #2 Source:	Audio #2	~			
Audio #3 Source:	None	~			
Audio #4 Source:	None	~			

- 3. Enter a unique name for the **Profile Name**.
- 4. Configure the following parameters:

- Local Override
 - Disabled (default)
 - Display Format
 - □ All
- Transcoding box
 - Output Codec
 - MPEG-2 (default)
 - □ AVC
 - Preferred Video Format
 - □ HD (default)
 - □ **SD**
 - □ SD Output Box
 - D Bitrate –

When **Output Codec** is **MPEG-2** the range is 2• 15 Mbps, the default is 3. When **Output Codec** is **AVC** the range is 1• 15 Mbps, the default is 2.

- Video Resolution
- **a** 352
- **480**
- **528**
- **544**
- **640**
- **0 704**
- **720** (default)
- Description Profile –

When **Output Codec** is **MPEG-2** the parameter is **High**. When **Output Codec** is **AVC** the parameters are **Main** and **High**, the default is **High**.

- Aspect Ratio
- **4:3** (default)
- **19:9**
- Aspect Ratio Conversion –
 When Aspect Ratio is 16:9 the parameter is N/A.
 When Aspect Ratio is 4:3:
- □ Letterbox
- Center-Cut
- AFD (Fallback to Letterbox)
- AFD (Fallback to Center-Cut) (default)
- GOP Mode
- □ Follow the Input (default)
- □ Fixed (N & M)
- Variable (N & M)
- Capped (M follows the input)
- Fixed M
- Open/Close GOP

- **Follow the Input** (default)
- Open
- Close
- GOP Length The range is 6• 90, default 30. It must be a product of the Mini GOP Length.
- Mini GOP Length –
 When Output Codec is MPEG-2: 1, 2, 3 (default).
 When Output Codec is AVC: 1, 2, 4 (default).
- HD Output Box
 - Bitrate –
 When Output Codec is MPEG-2 the range is 6• 18 Mbps, the default is 15.
 When Output Codec is AVC the range is 3• 18 Mbps, the default is 10.
 - Video Resolution
 - □ 720 x 960
 - 720 x 1280 (default)
 - □ 1080i x 1280
 - □ 1080i x 1440
 - □ 1080i x 1920
 - Profile –
 When Output Codec is MPEG-2 the parameter is High.
 When Output Codec is AVC the parameters are Main and High, the default is Main.
 - Aspect Ratio Passthrough
 - Aspect Ratio Conversion None
 - GOP Mode
 - Follow the Input (default)
 - □ Fixed (N & M)
 - Variable (N & M)
 - Capped (M follows the input)
 - □ Fixed M
 - Open/Close GOP
 - Follow the Input (default)
 - Open
 - Close
 - GOP Length The range is 6• 90, default 30. It must be a product of the Mini GOP Length.
 - Mini GOP Length -
 - When **Output Codec** is **MPEG-2**: **1**, **2**, **3** (default).
 - When **Output Codec** is **AVC** and **Video Resolution** is **720p**: 1, 2, 4, 8 (default). When **Output Codec** is **AVC** and **Video Resolution** is **1080i**: 1, 2, 4 (default).
- □ AFD
 - Re-Insert (default)
 - Discard
- MCTF Level
 - D Off (default)

- Very Weak
- Weak
- Normal
- Strong
- Very Strong
- Pass all Data PIDs
 - Enable (default)
 - Disable
- Pass all Audio PIDs
- Audio Priorities box Select audio sources from the lists to map with the audio outputs on the left.
 - Audio #1 (primary) Source
 - None
 - Audio #1 (primary) (default)
 - □ Audio #2
 - □ Audio #3
 - □ Audio #4
 - Audio #2 Source
 - None
 - □ Audio #1 (primary)
 - □ Audio #2 (default)
 - □ Audio #3
 - □ Audio #4
 - Audio #3 Source
 - None (default)
 - Audio #1 (primary)
 - □ Audio #2
 - □ Audio #3
 - □ Audio #4
 - Audio #4 Source
 - None (default)
 - □ Audio #1 (primary)
 - □ Audio #2
 - □ Audio #3
 - □ Audio #4

DTA

Use the DTA Profile property sheet to create DTA profiles to map audio inputs with audio outputs.

To create a DTA profile:

1. Click **DTA** in the **Processing Profiles** group of the **Configuration** tab.

The DTA Profiles Management panel displays.

2. Click Add.

The DTA Profile property sheet displays.

Profile Name		
Pass all Data PIDs		
Pass all Audio PIDs		
Audio Priorities		
Audio #1 (Primary) Source:	Audio #1 (Primary)	~
Audio #2 Source:	Audio #2	~
Audio #3 Source:	None	~
Audio #4 Source:	None	~

- 3. Enter a unique name for the **Profile Name**.
- 4. Configure the following parameters:
 - Pass all Data PIDs
 - Pass all Audio PIDs
 - Audio Priorities box Select audio sources from the lists to map with the audio outputs on the left.
 - Audio #1 (primary) Source
 - □ None
 - Audio #1 (primary) (default)
 - Audio #2
 - Audio #3
 - Audio #4
 - Audio #2 Source
 - □ None
 - Audio #1 (primary)
 - Audio #2 (default)
 - □ Audio #3
 - □ Audio #4
 - Audio #3 Source
 - None (default)
 - Audio #1 (primary)
 - Audio #2
 - □ Audio #3
 - □ Audio #4
 - Audio #4 Source
 - None (default)
 - □ Audio #1 (primary)
 - □ Audio #2
 - □ Audio #3
 - □ Audio #4
- 5. Click OK.

DPI

Use the **DPI Profile** property sheet to create DPI profiles for devices. You can add up to 256 tiers in a profile.

To create a DPI profile:

1. Click **DPI** in the **Processing Profiles** group of the **Configuration** tab.

The DPI Profiles Management panel displays.

2. Click Add.

The Add DPI Profile property sheet displays.

Profile Name			
-DPI Tiers			
	Add		

- 3. Enter a unique name for the **Profile Name**.
- 4. Enter DPI Tiers values one at a time and click Add for each one.
- 5. Click OK.

Custom device attributes are attributes that are added to the standard attributes. You can use these attributes in the Query Editor or to sort the devices just like with any standard device attribute. The custom attributes can be of different types such as numeric, boolean, string or a list of values and you can categorize these attributes.

You can enter custom device attributes when:

- Adding devices
- Updating devices
- Cloning devices
- Swapping devices

List Type

The **List type** must have at least two entries. The first entry in the list is considered the default. You can delete entries from the list. Any devices that use the List type is assigned with the default entry.

The operations are:

- Adding Custom Device Attributes
- Editing Custom Device Attributes
- Removing Custom Device Attributes

Adding Custom Device Attributes

Use the Add button to add custom device attributes.

To add a custom device attribute:

- Click Custom Device Attributes in the Device Attributes group of the Configuration tab. The Custom Device Attributes panel displays.
- 2. Click Add in the Custom Device Attributes panel.

The Add Custom Attribute property sheet displays.

- 3. Enter a name for the attribute.
- 4. The description is optional.
- 5. Select an attribute type from the drop-down list:
 - Boolean
 - Date
 - Decimal
 - □ List
 - Numeric
 - String
- 6. To make this attribute unique, mark the Unique checkbox.
- 7. If you selected List for the Type parameter, enter a list of items in the List of Entries box.
- 8. Click OK.

Editing Custom Device Attributes

Use the Edit button to edit custom device attributes.

To edit a custom device attribute:

1. Click Custom Device Attributes in the Device Attributes group of the Configuration tab.

The **Custom Device Attributes** panel displays.

- 2. Select a custom device attribute in the Custom Device Attributes panel to edit.
- 3. Click Edit in the Settings panel in the Custom Device Attributes panel.

The Edit Custom Attribute property sheet displays.

The description is optional.

The attribute type cannot be changed.

- Edit the fields.
- 5. Click OK.

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NOTE: If the **Device Browser** panel is open when you edit custom attributes, any custom attribute update does not reflect in the **Device Browser** panel until you close and open it again.

Removing Custom Device Attributes

Use the Remove button to remove custom device attributes.

To remove a custom device attribute:

- Click Custom Device Attributes in the Device Attributes group of the Configuration tab. The Custom Device Attributes panel displays.
- 2. Select a custom device attribute in the Custom Device Attributes panel to remove.
- 3. Click Remove in the Custom Device Attributes panel.
- 4. Confirm the confirmation dialog.

The following topics describe operations related to system setup:

- Network Connection
- Firmware Versions
- Configuring Alerts
- Sync Entitlements
- User Management
- Roles

Network Connection

Use the **DMS Network Connection Setup** property sheet to configure the following:

- Connection to Multiplexers The DMS server supports two (2) physical connections to the multiplexer. Both multicast sources are used for the spooler and agent. (The spooler is used to spool the command data, that is sent to devices, using a transport stream.)
- DMS EMMs Configuration Configure the stream management.
- CAS Configuration Configure the CAS server.
- DMS Redundancy Configuration The number of connections used in the primary and backup servers for redundancy should be the same.

To configure the DMS network:

1. Click Network Connection in the Settings Group of the Setup tab.



- 2. Configure the following parameters in the **Connection to Multiplexers** step:
 - Connection #1 box
 - DMS NIC IP Address Required
 - Multicast Address The first Multicast IP to connect to a multiplexer. It must use the same NIC configuration as its peer DMS. It is required.
 - Enable Connection #2
 - Connection #2 box
 - DMS NIC IP Address Required if you enable Connection #2.

- Multicast Address The second Multicast IP to connect to a multiplexer. It must use the same NIC configuration as its peer DMS. It is required if you enable Connection #2.
- 3. Click Next.

DMS Network Connection Set	up			
Steps				
Connection to Multiplexers DMS EMMs Configuration CAS Configuration	Bitrates Reserved Bitrate for Control I	EMMs (50-500 Kl	bps)	500 🗘
I. DMS Redundancy Configuration	Reserved Bitrate for File Dow	nload (50-500 K	bps)	500 🗘
	PIDs Configuration			
	EMM Type	UDP Port	PID	CAS ID
	Commands EMM	5000 🗘	100 🗘	0x02250
	SW Files Download EMM	5001 🗘	101 🗘	0x02251
	Preset Files Download EMM	5002 🗘	102 🗘	0x02252
	Configuration EMM	5003 🗘	103 🗘	0x02253
	Authorization EMM	5004 🗘	104 🗘	0x02254
				2.
	Cancel	< Back	Next >	Finish

- 4. Configure the following parameters in the DMS EMMs Configuration step:
 - Bitrate
 - Reserved Bitrate for Control EMMs (50• 500 Kbps)
 - Reserved Bitrate for File Download (50-500Kbps)
 - PIDs Configuration box The UDP Ports and PIDs are the same for both connections. You can use the same PIDs for all EMMs but they must use different UDP Ports.
 - Commands EMM CMAT and CMT (Default PID is 100).
 - SW Files Download EMM File downloading (Default PID is 101)
 - Preset Files Download EMM Configuration files (Default PID is 102)
 - **Configuration EMM** Input and Processing profiles (Default PID is 103)
 - □ Authorization EMM DCT (Default PID is 104)
- 5. Click Next.

Steps 1. Connection to Multiplexers 2. DMS EMMs Configuration 3. CAS Configuration	CAS Configuration	
. DMS Redundancy Configuration	Vendor: IP Address: TCP Port: Super CAS ID (Hex):	VERIMATRIX V 127.0.0.2 11010 0x0005
	Cancel	Back Next > Finish

6. Configure the following parameters in the **CAS Configuration** step:

- **Enable CAS** This checkbox is marked if CAS is enabled.
- CAS Configuration box
 - Vendor Verimatrix is supported in this release.
 - □ IP Address The IP address of the CAS server.
 - **TCP Port** The TCP port for connection to the CAS server.
 - Super CAS ID The Super CAS ID of the CAS server.
- 7. Click Next.

Steps		
Connection to Multiplexers DMS EMMs Configuration CAS Configuration	Allow Redundancy Peer DMS	
4. DMS Redundancy Configuration	IP Address:	0.0.0.0
	Peer DMS Connection to Multiplexer —	
	Connection #1 Multicast Address:	224.0.0.0
	Connection #2 Multicast Address:	224.0.0.0
	Peer DMS CAS Configuration	
	IP Address:	0.0.0.0
	TCP Port:	0
	Super CAS ID (Hex):	0x0000

- 8. Configure the following parameters in the DMS Redundancy Configuration step:
 - a Allow Redundancy To allow redundancy with another DMS server.
 - Peer DMS box
 - □ IP Address The management IP address of the peer DMS server
 - Peer DMS Connection to Multiplexer box
 - Connection #1 Multicast Address The first Multicast IP to connect to a multiplexer. It must use the same NIC configuration as its peer DMS.
 - Connection #2 Multicast Address The second Multicast IP to connect to a multiplexer. It must use the same NIC configuration as its peer DMS.
 - Peer DMS CAS Configuration box
 - □ IP Address The IP address of the CAS server.
 - **TCP Port** The TCP port for connection to the CAS server.
 - **Super CAS ID** The Super CAS ID of the CAS server.
- 9. Click Finish.

Firmware Versions

The **Firmware File Management** panel displays device firmware files stored in the DMS server. Use this panel to load or remove firmware files.

You must load firmware files of the required version for the following:

- To add devices of a different firmware version than is loaded on the server
- To upgrade devices

The operations are:

- Uploading a Firmware Version
- Removing a Firmware Version

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Uploading a Firmware Version

To upload a firmware version:

- 1. Click Firmware Versions in the Settings group of the Setup tab.
- Click Select file to upload in the Firmware File Management panel. The Upload property sheet displays.
- 3. Browse to a firmware version and click Upload to upload it.

Removing a Firmware Version

You can remove firmware files one at a time.

NOTE: You cannot remove a firmware version that is used by devices.

To remove a firmware version:

- 1. Click Firmware Versions in the Settings group of the Setup tab.
- 2. Right-click a firmware version in the Firmware File Management panel.
- 3. Select Remove.

Configuring Alerts

Use the **Alert Notification** feature to configure the visual display, audio sounds, and types of alerts.

Alert Configuration		
🗱 General Configuration	* ^	Group title
🚭 Device	*	
Froup	*	
👙 Command	*	
🦪 Alarm	*	
W TS and Programs	*	
a Device Authorization	*	
V Uplink	*	
🚧 Input Profile	*	
🖑 Blackout/Spotlight	*	
🗞 User Roles	*	
Y Public Queries	*	
Biss Key	*	
Processing Profiles	*	
DPI Profile	*	
Custom Attribute	*	
S DMS Redundancy	*	
🐉 User Logins	*	
Affiliate Configuration	*	
V OK Cancel	\	

Figure 12-1: Alert Configuration property sheet

To configure the alerts:

1. Click Alert Notification in the Settings group of the Setup tab.

The Alert Configuration property sheet displays, see Figure 12-1.

- 2. Click on each group title to expand the group and configure the alerts for that group.
- 3. Click OK to activate the changes.

Sync Entitlements

Use the **Sync Entitlements** button to synchronize the CAS entitlements. This feature synchronizes entitlements on the server with the Verimatrix server and deletes any entitlements that are found on the Verimatrix server and not on the DMS server.

To synchronize CAS entitlements:

• Click the **Sync Entitlements** button in the **CAS** group on the **Setup** tab.

User Management

DMS uses user profiles to give multiple users different privileges. DMS has two user profiles built in but you can add and edit profiles:

- Administrator A user profile with full permissions.
- **Guest** A user profile with only view permissions.

The default username is admin with no password.

Each user profile provides user configurable roles. A user with the **User Management** privilege can configure these roles with specific privileges, see *Roles* for details.

The operations are:

- Adding a User Profile
- Editing a User Profile
- Removing a User Profile

Adding a User Profile

You can add user profiles with different privilege levels.

To add a user profile:

1. Click Users in the Users and Roles group of the Setup tab.

The User Management property sheet displays.

2. Click Add.

The Add User Profile property sheet displays.

- 3. Complete the fields.
- 4. Click OK.

The User Profile is added.

Editing a User Profile

You cannot change a username. You can change the password and the user level.

To edit a user profile:

1. Click Users in the Users and Roles group of the Setup tab.

The User Management property sheet displays.

2. Click Edit.

The Edit User Profile Properties property sheet displays.

- 3. Edit the profile.
- 4. Click OK.

Removing a User Profile

You can remove user profiles one at a time.

To remove a user profile:

1. Click Users in the Users and Roles group of the Setup tab.

The User Management property sheet displays.

2. Click **Remove**.

The confirmation dialog displays.

Roles

Each user profile provides user configurable roles. A user with the **User Management** privilege can configure these roles with specific privileges. Use the **Role Management** panel to define privileges for each role. You can define privileges for the current built-in role and you can add new roles and define privileges for them. The privileges comprise:

- Create Includes the Edit and View privileges.
- Delete Includes the Edit and View privileges.
- Edit Includes the View privilege.
- View

See the Privileges Categories table for privileges descriptions. By default the **Administrator** role has all privileges and the **Guest** role has all **View** privileges only. Roles are maintained after software upgrades. You cannot delete a role that has users assigned to it.

To display the Role Management panel:

Click Roles in the Users and Roles group on the Setup tab.

Category	Privileges
Audit Log	Privileges to manage: Enables you to add custom entries.
Affiliates	Privileges to manage: Affiliates management including Export and Import.
Blackouts	Privileges to manage: Blackout events according to the Create , Delete , Edit or View privileges.
Custom Attributes	Privileges to manage: Custom Device Attributes management
Roles Management	Privileges to manage user roles.
User Management	Privileges to manage user profiles.

Table 12–1: Privileges Categories

Category	Privileges	
Device Management	 Privileges to manage: Groups Adding / Removing devices and changing their configuration (not including authorization) Reboot Devices command Import / Export devices Activate / Upgrade firmware on individual devices (device configuration) CAS Sync Change Device State type for the Bulk Update command Affiliate / Affiliate City command configurations for the Affiliate Association type for the Bulk Update command Input Profile Replacement type for the Bulk Update command Change Device Property type for the Bulk Update command 	
Device Authorization	 Privileges to manage: De/Authorizing programs in device configurations CAS Sync Changing device state in device configurations Program Replacement type for the Bulk Update command Processing Profile Replacement type for the Bulk Update command New Program Authorization type for the Bulk Update command Program Authorization Re-Scheduling for the Bulk Update command 	
DMS Setup	Privileges to configure:Spoolers and Agents configurationCAS configuration	
Maintenance	 Privileges to manage: Firmware Versions Management Upgrade / Activate firmware on multiple devices Upgrade Licenses on devices Download / Activation / Rollback of configuration (presets) Set Model command 	
Service Plan	Privileges to manage: TS/Program management (including importing from NMX)	
Reception	Privileges to manage: Input Profiles Uplinks	
Redundancy Management	Redundancy Management application. (You must have Create or Edit rights in this category to launch the DMS Redundancy Management application.)	

Table 12–1: Privileges Categories

Table 12–1: Privileges Categories

Category	Privileges
Processing Profiles	Privileges to manage: Decoding TX DTA DPI

To add a role:

1. Click Add.

The Role property sheet displays.

Role Name				
Role Description				
Categories	Create	Delete	Edit	View
Audit Log				
Affiliates				
Blackouts				
Custom Attributes				
Roles Management				
User Management				
Device Management				
Device Authorization				
DMS Setup				
Maintenance				
Service Plan				
Reception				
Redundancy Management				
Processing Profiles				

- 2. Enter a role name (mandatory).
- 3. Enter a role description (optional).
- 4. Define the role using the checkboxes.
- 5. Click OK.
- To edit a role:
- 1. Select a role in the list.
- 2. Click Edit.
 - The **Role** properties sheet displays.
- 3. Define the role using the checkboxes.
- 4. Click OK.

To remove a role:

- 1. Select a role in the list.
- 2. Click Remove.
- 3. Click OK.

The following topics describe the **Help** tab items for accessing information about DMS and Harmonic:

- Displaying Help Topics
- Visiting Harmonic's Web Site
- DMS License
- Displaying the DMS Version Number

Displaying Help Topics

Help Topics displays the guide which you are currently viewing in Web help format. It contains step by step instructions on how to use DMS.

To display the Web help:

• Click Help Topics in the Help group on the Help tab.

Visiting Harmonic's Web Site

You can visit Harmonic's web site with the DMS link.

To visit Harmonic's web site:

Click Harmonic on the Web in the Harmonic group.

DMS License

You can display a summary of the license information.

To display the license information:

Click DMS License in the Harmonic group on the Help tab.

Displaying the DMS Version Number

You can verify the installed version number with the following procedure. To display the DMS version number:

Click About DMS in the Harmonic group on the Help tab.

Appendix A Contacting the Technical Assistance Center

Harmonic Global Service and Support has many Technical Assistance Centers (TAC) located globally, but virtually co-located where our customers can obtain technical assistance or request on-site visits from the Regional Field Service Management team. The TAC operates a Follow-The-Sun support model to provide Global Technical Support anytime, anywhere, through a single case management and virtual telephone system. Depending on time of day, anywhere in the world, we will receive and address your calls or emails in one of our global support centers. The Follow-the-Sun model greatly benefits our customers by providing continuous problem resolution and escalation of issues around the clock.

Region	Telephone Technical Support	E-mail
Americas	888.673.4896 (888.MPEG.TWO) or 408.490.6477	support@harmonicinc.com
EME	+44.1252.555.450	support.emea@harmonicinc.com
India	+44.1252.555.450	support.emea@harmonicinc.com
Russia	+7.495.926.4608	support.sm@harmonicinc.com
Africa	+44.1252.555.450	support.emea@harmonicinc.com
Mainland China	+86.10.6569.5580	chinasupport@harmonicinc.com
Japan	+81.3.5565.6737	japansupport@harmonicinc.com
Asia Pacific – Other Territories	+65.6542.0050	apacsupport@harmonicinc.com

Table A-1: For Distribution and Delivery (D&D, Legacy Harmonic) Products

Table A-2: For Production and Playout (P&P, Legacy Omneon and Rhozet) Products

Region	Telephone Technical Support	E-mail
Americas	888.673.4896 (888.MPEG.TWO) or 408.490.6477	omneon.support@harmonicinc.com
EMEA	+44.1252.555.450	omneonemeasupport@harmonicinc.com
Mainland China	+86.10.6569.5580	chinasupport@harmonicinc.com
Japan	+81.3.5565.6737	japansupport@harmonicinc.com
Asia Pacific – Other Territories	+65.6542.0050	apacsupport@harmonicinc.com

The Harmonic Inc. support website is:

http://www.harmonicinc.com/content/technical-support

The Harmonic Inc. Distribution and Delivery product software downloads site is:

ftp://ftp.harmonicinc.com

The Harmonic Inc. Playout and Production software downloads site is:

ftp://ftp.Omneon.com//Updates/Omneon/Current/

The Harmonic Inc. corporate address is:

Harmonic Inc. 4300 North First St. San Jose, CA 95134, U.S.A. Attn: Customer Support

The corporate telephone numbers for Harmonic Inc. are:

Tel. 1.800.788.1330 (from the U.S. and Canada) Tel. +1.408.542.2500 (outside the U.S. and Canada) Fax.+1.408.542.2511
Legal Disclaimer

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Information in this document is provided in connection with Harmonic products. Unless otherwise agreed in writing Harmonic products are not designed nor intended for any application in which the failure of the product could cause personal injury or death.

NOTE: The information in this appendix may apply to purchased products only.

Important Safety Instructions

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions are found throughout the guide where they apply, but may not appear here. Please read and follow the important safety information, noting especially those instructions related to risk of fire, electric shock or injury to persons. You must adhere to the guidelines in this document to ensure and maintain compliance with existing product certifications and approvals. In this document, we use "product," "equipment," and "unit" interchangeably.

This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if it is not installed and used in accordance with the instructions in this manual. Operation of this equipment in a residential area is likely to cause harmful interference If this occurs, the user will be required to correct the interference at his or her own expense.

In event of conflict between the information in this document and information provided with the product or on our website for a particular product, this product documentation takes precedence.

Safety Symbols & Translated Safety, Warning & Caution Instructions (English)

To avoid personal injury or property damage, before you begin installing or replacing the product, read, observe, and adhere to all the following safety instructions and information. Harmonic products and/or product packaging may be marked with the safety symbols used throughout this document, when it is necessary to alert operators, users, and service providers to pertinent safety instructions in the manuals.

Mark	Notes					
Warning	 Installing or Replacing the Product Unit Warning Only trained and qualified service personnel should be allowed to install, replace, or service this unit (refer AS/NZS 3260 Clause 1.2.14.3 Service Personnel). Read the installation instructions before connecting the system to the power source. When installing or replacing the unit, always make the ground connection first and disconnect it last. 					
	 Installation of the unit must comply with local and hational electrical codes. This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of special tool, lock and key or other means of security. Use only specified replacement parts. Do not use this unit in or near water. Disconnect all AC power before installing any options or servicing the unit unless instructed to do so by this manual. 					
Warning	 Rack Mount Warning To prevent bodily injury when mounting or servicing this unit in a rack, special precautions must be taken to ensure your safety and stability of system: Conform to local occupational health and safety requirements when moving and lifting the equipment. Ensure that mounting of the unit by mechanical loading tools should not induce hazardous conditions. To avoid risk of potential electric shock, a proper safety ground must be implemented for the rack and each piece of equipment installed on it. 					
Warning	 Chassis Warning Before connecting or disconnecting ground or power wires to the chassis, ensure that power is removed from the DC circuit. To prevent personal injury or damage to the chassis, lift the unit only by using handles that are an integral part of the chassis, or by holding the chassis underneath its lower edge. Any instructions in this guide that require opening the chassis or removing a board should be performed by qualified service personnel only. Slots and openings in the chassis are provided for ventilation. Do not block them. Leave the back of the frame clear for air exhaust cooling and to allow room for cabling - a minimum of 6 inches (15.24 cm) of clearance is recommended. 					

Mark	Notes					
Warring	 Electric Shock Warning This unit might have more than one power cord. To reduce the risk of electric shock, disconnect the two power supply cords before servicing the unit. Before working on a chassis or working near power supplies, unplug the power cord on AC units. Do not work on the system or connect or disconnect cables during 					
Warning	 periods of lightning activity. This unit is grounded through the power cord grounding conductor. To avoid electric shock, plug the power cord into a properly wired receptacle before connecting the product input or outputs. Route power cords and other cables so that they are not likely to be damaged. Disconnect power input to unit before cleaning. Do not use liquid or aerosol cleaners; use only a damp cloth to clean chassis. Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on. Do not insert anything into either of the system's two power supply cavities with power connected Never install an AC power module and a DC power module in the same chassis. Do not wear hand jewelry or watch when troubleshooting high current circuits, such as the power supplies. To avoid fire hazard, use only the specified correct type voltage and current ratings as referenced in the appropriate parts list for this unit. Always refer fuse replacement to qualified service personnel. This unit relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors). To avoid electrocution ensure that the rack has been correctly grounded before switching on the unit. When removing the unit remove the grounding connection only after the unit is switched off and unplugged. 					
Caution	 Electrostatic Discharge (ESD) Caution Follow static precaution at all times when handling this unit. Always wear an ESD-preventive wrist or ankle strap when handling electronic components. Connect one end of the strap to an ESD jack or an unpainted metal component on the system Handle cards by the faceplates and edges only; avoid touching the printed circuit board and connector pins. Place any removed component on an antistatic surface or in a static shielding bag. Avoid contact between the cards and clothing. Periodically check the resistance value of the antistatic strap. Recommended value is between 1 and 10 mega-ohms (Mohms). 					

Mark	Notes
	Laser Radiation Warning Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Never operate a unit with a broken fibre or with a separated fiber connector.
Warning	
Warning	 Lithium Battery Handling Safety Instructions CALIFORNIA PERCHLORATE ADVISORY: Some lithium batteries may contain perchlorate material. The following advisory is provided: "Perchlorate Material - special handling may apply, see: www.dtsc.ca.gov/hazardous waste/perchlorate/ for information".
	 Risk of explosion if battery is replaced incorrectly or with an incorrect type
	 Dispose of used batteries according to the manufacturer's instructions There are no user-serviceable batteries inside Harmonic products. Refer to Harmonic qualified personnel only to service the replaceable batteries
Caution	

Symboles de sécurité et traduits de sécurité, d'avertissement et Attention Instructions (français)

Pour éviter des blessures ou des dommages matériels, avant de commencer l'installation ou le remplacement du produit, lire, observer, et de respecter toutes les instructions et informations de sécurité suivantes. Produits harmoniques et / ou l'emballage du produit peuvent être marqués avec les symboles de sécurité utilisés dans le présent document, lorsque cela est nécessaire pour alerter les opérateurs, les utilisateurs et les fournisseurs de services de consignes de sécurité pertinentes dans les manuels.

Mark	Notes					
Avertissement	 Installation ou remplacement de l'unité de produit Avertissement Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés. (voir AS / NZS 3260 article 1.2.14.3 du personnel de service). Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation. Lors de l'installation ou le remplacement de l'appareil, la mise à la terre doit toujours être connectée en premier et déconnectée en dernier. L'équipement doit être installé conformément aux normes électriques nationales et locales. Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité. Utilisez uniquement des pièces de rechange spécifiées. Ne pas utiliser ce produit dans l'eau ni à proximité de l'eau. Débrancher toutes les prises d'alimentation secteur avant d'installer des options ou d'effectuer l'entretien de l'unité, à moins d'instructions contraires dans le présent manuel. 					
Avertissement	 Rack Monture Avertissement Pour éviter les blessures corporelles lors du montage ou l'entretien de cet appareil dans un rack, des précautions particulières doivent être prises pour assurer votre sécurité et la stabilité du système: Conformez-vous aux exigences de médecine du travail et de sécurité lorsque vous déplacez et soulevez le matériel. Assurez-vous que le montage de l'appareil par des outils de chargement mécaniques ne doit pas induire des conditions dangereuses. Pour éviter tout risque d'électrocution, le rack et chaque élément de l'équipement installé dans le rack doivent être correctement reliés à la terre. 					
Avertissement	 Châssis Avertissement Avant de connecter ou de déconnecter les câbles d'alimentation (pôles et terre) du châssis, vérifiez que le circuit de courant continu est hors tension. Pour éviter toute blessure ou des dommages au châssis, soulevez l'unité uniquement par les poignées du châssis lui-même ou en portant celui-ci par le bord inférieur. Toutes les opérations du présent guide nécessitant l'ouverture du châssis ou le retrait d'une carte doivent être uniquement effectuées par du personnel d'entretien qualifié. Le châssis est muni de fentes et d'ouvertures d'aération. Ne pas les bloquer. Dégager l'arrière du cadre pour permettre le refroidissement de l'évacuation d'air et laisser de la place au câblage; un dégagement d'au moins 15.24 cm (6 po) est recommandé. 					

Mark	Notes				
Avertissement	 Choc électrique Avertissement Il est possible que cette unité soit munie de plusieurs cordons d'alimentation. Pour éviter les risques d'électrocution, débrancher les deux cordons d'alimentation avant de réparer l'unité. Avant de travailler sur un châssis ou à proximité d'une alimentation électrique, débrancher le cordon d'alimentation des unités en courant alternatif. Ne pas travailler sur un châssis ou à protection intégré au cordon d'alimentation. Pour éviter les chocs électriques, brancher le cordon d'alimentation des unités en courant alternatif. Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage. Ce unité est mis à la terre par le conducteur de protection intégré au cordon d'alimentation dans une prise correctement cable avant de raccorder les entrées ou sorties du unité. Installer les cordons d'alimentation et autres cables de sorte qu'ils ne risquent pas d'être endommagés. Couper l'alimentation avant nettoyage. Ne pas utilizer de nettoyant liquide ou en aérosol; utiliser seulement un linge humide. Des courants électriques dangereux circulent dans cet appareil. Afin d'éviter les lessures, ne pas toucher les connexions et composants exposés lorsque l'appareil est sous tension. Ne rien insérer dans l'une ou l'autre des cavités des prises de courant du système lorsque l'appareil est sous tension. N'installez jamais un module d'alimentation AC et un module d'alimentation DC dans le même châssis. Ne pas porter de bijoux aux mains ni de montre durant le dépannage des circuits à haute tension, comme les transformateurs. Pour prévenir les risques d'incendie, n'utiliser que le type, la tension et le courant nominal spécifiés dans la nomenclature des pièces de ce unité. Toujours confier le remplacement des fusibles à du personnel d'entretien qualifié. Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du				

Mark	Notes					
Attention	 Les décharges électrostatiques (ESD) Attention Respecter systématiquement les precautions relatives aux charges électrostatiques durant la manipulation de cet unité. Portez toujours un poignet ou la cheville bracelet antistatique préventive lors de la manipulation des composants électroniques. Branchez une extrémité de la sangle à une prise ESD ou d'un composant métallique non peinte sur le système. Manipulez les cartes en les faces avant et les bords seulement; éviter de toucher la carte de circuit imprimé et les broches du connecteur. Placer un composant retiré sur une surface antistatique ou dans un sac de protection statique. Éviter tout contact entre les cartes et les vêtements. Vérifier périodiquement la valeur de résistance de la sangle antistatique. Valeur recommandée est comprise entre 1 et 10 méga-ohms (Mohms). 					
Avertissement	 Rayonnement laser Attention Rayonnement laser invisible peut être émis à partir de fibres ou les connecteurs débranchés. Ne pas regarder en faisceaux ou regarder directement avec des instruments optiques. Ne jamais faire fonctionner une unité en cas de bris d'une fibre ou de séparation d'un connecteur de fibre. 					
Avertissement	 Batterie au lithium Manipulation instructions de sécurité Perchlorate pour la Californie Consultatif: Certaines batteries au lithium, peuvent contenir du perchlorate. le texte qui suit consultatif est prévu: "Présence de perchlorate - une manipulation spéciale peut s'appliquer, voir: www.dtsc.ca.gov/hazardous waste/perchlorate/ for information". 					
Attention	 Il y a danger d'explosion si la batterie est remplacée de manière incorrecte ou par une batterie de type incorrect. Mettre au rebut les batteries usagees conformement aux instructions du fabricant. Les batteries des produits Harmonic ne peuvent pas être réparées ni entretenues par l'utilisateur. Ne confier l'entretien des batteries remplaçables qu'à du personnel compétent de Harmonic. 					

Sicherheit Symbole und übersetzt Sicherheit, Achtung & Vorsicht Anleitung (Deutsch)

Um Verletzungen oder Sachschäden zu vermeiden, bevor Sie mit der Installation oder Austausch des Produkts zu beginnen, zu lesen, zu beobachten, und sich an all den folgenden Sicherheitshinweise und Informationen. Harmonic Produkte und / oder Produktverpackungen können mit den Sicherheitssymbole in diesem Dokument verwendet werden, markiert, wenn es notwendig ist für die Betreiber, Anwender und Dienstleister, um relevante Sicherheitsanweisungen in den Handbüchern zu alarmieren.

Mark	Notes					
Warnung	 Installation oder den Austausch des Produkts Einheit Warnung Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet warden (siehe AS / NZS 3260 Clause 1.2. 14.3 Servicepersonal) Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen. Der Erdanschluß muß bei der Installation der Einheit immer zuerst hergestellt und zuletzt abgetrennt werden. Die Installation der Geräte muss den Sicherheitsstandards entspreche Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu d nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüs oder anderer Sicherheitsvorkehrungen Zugang. Verwenden Sie nur die angegebenen Ersatzteile Das Gerät in oder in der Nähe von Wasser verwenden. Trennen Sie vor der Installation von Optionen oder Wartung des Gerätes, es sei denn, owurde von diesem Handbuch alle Netz. 					
Warnung	 Rack-Montage-Warnung Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt: Entsprechen den lokalen Arbeitsschutzanforderungen beim Bewegen und Heben der Ausrüstung. Stellen Sie sicher, dass die Montage des Gerätes durch mechanische Belastung Werkzeuge sollten nicht gefährlichen Bedingungen zu induzieren. Um das Risiko von möglichen elektrischen Schlag zu vermeiden, muss mit einer angemessenen Erdung für Rack und jedes Gerät installiert ist implementiert werden. 					
Warnung	 Chassis Warnung Gleichstrom-Unterbrechung Bevor Sie Erdungs- oder Stromkabel an das Chassis anschließen oder von ihm abtrennen, ist sicherzustellen, daß der Gleichstrom-Stromkreis unterbrochen ist. Um Verletzungen und Beschädigung des Chassis zu vermeiden, sollten Sie das Chassis nicht an den Henkeln auf den Elementen (wie z.B. Stromanschlüsse, Kühlungen oder Karten) heben oder kippen; oder indem Sie es unterhalb der Unterkante packen. Alle Hinweise in diesem Handbuch, die das Öffnen benötigen Sie das Gehäuse oder das Entfernen eines Board sollte nur von qualifiziertem Fachpersonal durchgeführt werden. Für Schlitze und Öffnungen im Chassis vorgesehen. Blockieren Sie sie nicht. Lassen Sie die Rückseite des Rahmens frei für Abluftkühlung und um Platz für die Verkabelung ermöglichen - ein Minimum von 6 Zoll (15,24 cm) Abstand wird empfohlen 					

Mark	Notes				
Warnung	 Elektroschock-Warnung Diese Einheit hat möglicherweise mehr als ein Netzkabel. Zur Verringerung der Stromschlaggefahr trennen Sie beide Netzgerätekabel ab, bevor Sie die Einheit warten. Vor der Arbeit an einem Chassis für Arbeiten in der Nähe Stromversorgung, ziehen Sie das Netzkabel mit Netzeinheiten. Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert. Dieses Gerät ist über das Netzkabel Erdungsleiter geerdet. Um einen Stromschlag zu vermeiden, stecken Sie das Netzkabel in eine Steckdose richtig verdrahtet, bevor Sie das Produkt Eingang oder Ausgänge. Verlegen Sie Netzkabel und andere Kabel, so dass sie wahrscheinlich nicht beschädigt werden. Trennen Eingangsleistung Einheit vor der Reinigung. Verwenden Sie keine flüssigen oder Aerosolreiniger; nur mit einem feuchten Tuch zu reinigen Chassis. Gefährliche Spannungen vorhanden sind an mehreren Stellen in diesem Produkt. Um Verletzungen zu vermeiden, berühren Sie nicht freiliegenden Anschlüsse und Komponenten während schaltet ist. Sie keine Gegenstände in einem der beiden Stromversorgungs Hohlräume des Systems mit Strom verbunden einführen. Ein Wechelstromsmodul und ein Gleichstrommodul dürfen niemals in demselben Chassis installiert werden. Tragen Sie keine Hand Schmuck oder schauen Sie bei der Fehlersuche hohen Stromkreise, wie beispielsweise die Stromversorgung. Um die Brandgefahr zu vermeiden, verwenden Sie nur den genannten richtige Art von Spannung und Strom Ratings als in der entsprechenden Stückliste für diese Einheit verwiesen. Beziehen sich immer auf Austausch der Sicherung von qualifiziertem Fachpersonal. Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 10 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Le				

IVIALK	Notes					
Vorsich	 Elektrostatische Entladung (ESD) Vorsicht Folgen Sie statische vorsorglich zu jeder Zeit beim Umgang mit dieser Gerät. Tragen Sie immer einen ESD-präventive Handgelenk oder Knöchel-Riemen beim Umgang mit elektronischen Komponenten. Schließen Sien Ende des Bandes an einem ESD-Buchse oder ein unlackiertes Metallteil auf dem System. Hand Karten nur durch die Faceplates und Kanten; Berühren Sie die bedruckte Leiterplatte und Steckerstifte. Legen Sie alle entfernten Komponenten auf eine antistatische Oberflär oder in einem Statik-Beutel. Kontakt zwischen den Karten und Kleidung vermeiden. Den Widerstandswert der gegen statische Gurt in regelmäßigen Abständen überprüfen. Empfohlener Wert ist zwischen 1 und 10 Meg Ohm (MOhm). 					
Warnung	Laserstrahlungen Warnung. Unsichtbare Laserstrahlung kann von getrennten Fasern oder Stecker emittiert werden. Nicht in die Strahlen blicken oder direkt mit optischen Instrumenten. Niemals ein Gerät mit einem gebrochenen Faser oder mit einem Glasfaseranschluss getrennt.					
Warnung	Lithium-Batterie Handhabung Sicherheitshinweise CALIFORNIA PERCHLORATE ADVISORY: Einige Lithium-Batterien kann Perchlorat enthalten. Die folgende Beratungs gesetzt: "Perchlorat - Sonderbehandlung kann erforderlich sein, finden Sie unter: www.dtsc.ca.gov/ hazardous waste/perchlorate/ for information".					
Vorsich	 Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers. Es gibt keine zu wartenden Akkus im Harmonic Produkte. Siehe Harmonic qualifiziertes Personal, um die austauschbare Batterien Service 					

Site Preparation Instructions

NOTE: Only trained and qualified service personnel (as defined in IEC 60950 and AS/NZS 3260) should install, replace, or service the equipment. Install the system in accordance with the U.S. National Electric Code if you are in the United States.

- 1. Preparing & Choosing a Site for Installation
 - To ensure normal system operation, plan your site configuration and prepare the site before installation.
 - Install the unit in a restricted access area.

- Choose a site with a dry, clean, well-ventilated and air-conditioned area.
- □ Choose a site that maintains an ambient temperature of 32 to 104°F (0 to 40°C)
- 2. Creating a Safe Environment
 - Connect AC-powered systems to grounded power outlets or as per local regulations.
 - Do not move or ship equipment unless it is correctly packed in its original wrapping and shipping containers.
 - Only allow Harmonic trained personnel to undertake equipment service and maintenance. Do not permit unqualified personnel to operate the unit.
 - Wear ear protection when working near an NSG Pro platform for a longer period of time.
- 3. Rack Mounting the Unit
 - □ Install the system in an open rack whenever possible. If installation in an enclosed rack is unavoidable, ensure that the rack has adequate ventilation.
 - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips). This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
 - When mounting this unit in the partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
 - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
 - The rack must be anchored to an immovable support to prevent it from tipping when the unit is mounted on it. The rack must be installed accoring to the rack maufacturer's instructions.
 - Disconnect all power and external cables before lifting the unit. Depending on the weight of the unit, more than one person might be required to lift it.
- 4. Power Considerations
 - a. AC Power
 - Adding to the system a UPS (Uninterrupted Power Supply) and an AVR (Automated Voltage Regulator) is highly recommended.
 - Installing the main power supply by a qualified electrician, according to power authority regulations. Make sure all powering are wired with an earth leakage, according to local regulations.
 - □ It is recommended to install the encoder within 1.5m (approximately 5 feet) from an easily accessible grounded AC outlet.
 - When the encoder is rack-mounted, ensure that the rack is correctly grounded.
 - b. DC Power
 - Ensure a suitable overcurrent device is in-line between the equipment and the power source.
 - Connect DC-input power supplies only to a DC power source that complies with the safety extra-low voltage (SELV) requirements in the UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, AS/NZS 60950-1, EN/IEC 60825-1, 21 CFR 1040, EN 60950-1, and IEC 60950-1 standards.
 - Ensure that power is removed from the DC circuit before installing or removing power supplies
- 5. Handling Fiber Channel Cables
 - a Always read and comply with the handling instructions on the shipping container.
 - Follow all ESD precautions and approved fiber cleaning procedures.

- The fiber is made of a very pure, expensive glass and should be treated with great care. Handle fibers only in areas that are very clean and do not contain sharp objects.
- Wear finger cots or gloves as dirt and oils can damage the fiber and contaminate connectors.
- Do not allow kinks or knots to develop in the fiber. If tangles occur, carefully work out the tangles avoiding pulling or bending the fibre beyond its bend radius.
- Always use the correct tools for stripping and cleaving the fiber. It will save time and reduce breakage caused by scratches.
- If you must secure a bundle of fiber cables together, avoid plastic and metal tie wraps; secure with velcro instead.
- 6. Disposing of the Unit
 - Dispose of the unit and its components (including batteries) as specified by all national laws and regulations.

Product End-of-Life Disassembly Instructions

For disassembly instructions, please call the technical support in order to remove components requiring selective treatment, as defined by the EU WEEE Directive (2012/19/EU). See Contacting the *Technical Assistance Center*.

Product Disassembly Process

- 1. Disassemble equipment at a dedicated area only, gather the needed tools for disassembly.
- 2. Remove covers, housing, etc.
- 3. Remove and separate sub-assemblies (i.e. cables, metals, displays, fans, etc.).
- 4. Separate hazardous materials from the remainder of the material.
 - a. Sort hazardous materials into their different types (i.e., batteries, hazardous liquids, hazardous solids, fiberglass, etc.).
 - b. Proceed with hazardous waste management processes only.
- 5. Identify re-usable materials/sub-assemblies and separate these from the rest of the material.
- 6. Identify and separate recyclable materials as per below examples:
 - a. Scrap material to be sent to smelter(s).
 - b. E-waste such as displays, CPU's, cables and wires, hard drives, keyboards, etc.
 - c. Metals such as steel, brass, and aluminum.
 - d. Plastics such as fan casings, housings, covers, etc.
 - e. Fiber optics and plastic tubing not containing electrical or data wiring.

Safety Rules (English)

Recycler personnel are to wear personal protective equipment including proper eye protection, proper hand protection, and proper breathing protection if needed.

Recycler personnel shall be experienced with using the proper tools required for disassembling equipment. Untrained personnel shall not disassemble Harmonic products. Unfamiliarity with tools can cause damage and injury.

Règles de sécurité (French)

Le personnel du recycleur doit porter de l'équipement de protection individuelle, y compris des lunettes, des gants et un masque de protection appropriés au besoin.

Le personnel du recycleur doit avoir de l'expérience des outils de démontage de l'appareil. Les produits Harmonic ne doivent pas être démontés par du personnel non qualifié. Une mauvaise connaissance des outils peut causer des dommages et des blessures.

EU Manufacturer's Declaration of Conformity

This equipment is in compliance with the essential requirements and other provisions of Directives 73/23/EEC and 89/336/EEC as amended by Directive 93/68/EEC.

NOTE: For specifics, about which standards have been applied, refer to the Declaration of Conformity of the product on Harmonic website at *Product Regulatory Compliance* or contact Harmonic Compliance Team at *regulatory.compliance@harmonicinc.com*

Electromagnetic Compatibility Notices – Class A

a. FCC Verification Statement (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Connections between the Harmonic equipment and other equipment must be made in a manner that is consistent with maintaining compliance with FCC radio frequency emission limits. Modifications to this equipment not expressly approved by Harmonic may void the authority granted to the user by the FCC to operate this equipment and you may be required to correct any interference to radio or television communications at your own expense.

b. ICES-003 Statement (Canada)

English: This Class A digital apparatus complies with Canadian ICES-003.

French: Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

c. CE Declaration of Conformity (European Union)

This product has been tested in accordance too, and complies with the Low Voltage Directive (2014/30/EU) and EMC Directive (2014/35/EU). The product has been marked with the CE Mark to illustrate its compliance.

d. VCCI Class A Warning (Japan)

この装置は、情報処理装置等電波障害白主規制協議会(VCCI)の基準 に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波 妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ず るよう要求されることがあります。

English translation of the notice above:

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) from Information Technology Equipment. If this equipment is used in a domestic environment, it may cause radio interference. When such trouble occurs, the user may be required to take corrective actions.

e. BSMI EMC Notice (Taiwan)



English translation of the notice above:

This is a Class A Information Product, when used in residential environment, it may cause radio frequency interference, under such circumstances, the user may be requested to take appropriate counter measures.

- f. Class A Warning (Korea)
- 주의 A급 기기 이 기기는 업무용으로 전자파 적합 등록을 한 기기이 오니 판매자 또는 사용자는 이 점을 주의하시기 바라며 만약 잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

English translation of the notice above:

This is a Class A device and is registered for EMC requirements for industrial use. The seller or buyer should be aware of this. If this was sold or purchased by mistake, it should be replaced with a residential-use type.

g. Class A Statement (China)

中华人民共和国"A类"警告声明

声 明 此为A级产品,在生活环境中,该产品可能会造成无线电干扰。在这种情况下, 可能需要用户对其干扰采取切实可行的措施。

English translation of the notice above:

When labeled with the CCC marking, the product meets the applicable safety and EMC requirements for China. This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

h. Class A Warning - CISPR 22 (AS/NZS)

Warning (English)

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

Attention (French)

Il s'agit d'un produit de classe A. Dans un environnement local, ce produit peut entraîner des perturbations radioélectriques, auquel cas l'utilisateur devra éventuellement prendre des mesures adéquates.

Product Regulatory Compliance

Harmonic products are typically tested to the latest safety and electromagnetic compatibility (EMC) specifications and test methods, and are marked with one or more of the following regulatory/certification markings. Some of the certification markings will vary depending on what certifier was used to obtain a certification.

Please visit Harmonic *Product Regulatory Compliance* page to view information on applied safety & EMC standards and regulatory marks on Harmonic products. You can also email us at *regulatory.compliance@harmonicinc.com* for assistance on regulatory compliance for Harmonic products.

Product Regulatory Compliance Markings

Country/ Region	Testing Standard/ Specification	Certification Type	Regulatory Mark Name	Product Marketing
USA/ Canada	EN 60950- 1:2006+A11:2009+A 1:2010+A12:2011; CAN/CSA C22.2 No. 60950-1- 07+A1:2011/UL 60950-1:2011	Safety	NRTL (National Recognized Test Laboratory)	
USA/ Canada	FCC CFR 47 Part 15, Class A ICES-003: Issue 5, 2012; Class A	EMC	FCC Class A Statement	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Table 13-1: Regulatory Compliance Markings

Country/ Region	Testing Standard/ Specification	Certification Type	Regulatory Mark Name	Product Marketing
European Union	RoHS: EN 50581:2012; EN55022:2010/ CISPR 22:2008; EN55024:2010/ CISPR 24:2010; EN61000-3- 2:2006+A1:2009+A 2:2009; EN61000-3-3:2008; Class A	Safety and EMC	CE / Low Voltage Directive	CE
Germany	EN 60950-1; EN60825-1 (for laser)	Safety	GS	TUVEhenand CERTIFIED
Mexico	NOM-019-SCFI-1998	Safety	NOM	NOM
Taiwan	CNS 14336-1:2010 CNS 13438:2006; Class A	Safety and EMC	BSMI Certification (RPC) Number & Class A Warning	客告使用者: 協是甲類的資訊產品,在居住的環境中使用時,可能會強成射頻干擾,在這種情況下, 使用者會被要求採取某些處當的對策。
Japan	VCCI V-3/2013.04; CISPR 22:2008, Class A	EMC	VCCI	I ∕€I
Australia and New Zealand	AS/NZS CISPR22:2009+A1:2 010; Class A	Safety	C-Tick	NXXXXX
Korea	KN22 Class A and KN 24	EMC	КС	

Table 13–1: Regulator	y Compliance	Markings
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Country/ Region	Testing Standard/ Specification	Certification Type	Regulatory Mark Name	Product Marketing	
China	GB4943.1-2011 GB9254-2008 GB17625.1-2012	Safety and EMC	ССС		
India	IS 13252 (Part 1): 2010	Safety	BIS Compulsory Registration	"Self Declaration - Conforming to IS 13252 (Part 1):2010, R- XXXXXXX	

Table 13–1: Regulatory Compliance Markings

Product Environmental Compliance

Harmonic manufactures high quality and innovative IT and telecommunications equipment, video delivery infrastructure solutions and services for its customers worldwide. Harmonic is committed to providing our customers with safe and environmentally friendly products that are compliant with all relevant regulations, customer specifications, and environmental legislation, including the directives described below.

EU RoHS

In July 2006, the European Union's (EU) Directive (2002/95/EC) on the Restriction of the use of certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment (EEE) went into effect, and in July, 2011, the European Union's RoHS Recast Directive (2011/65/EU) also known as RoHS II entered into force.

Harmonic understands the environmental risks associated with the substances covered by the RoHS Directive and has committed to eliminating or reducing the use of these, as well as other environmentally sensitive substances in our products. Harmonic also continues to comply with the requirements under RoHS II.

For more information, please visit EU RoHS directive page at official EU website.

http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm

Restricted Substance Statement

Harmonic products contain less than the permitted limits for the six restricted substances except where exemptions published in the RoHS2 Directive are applicable. This statement is based on vendor-supplied analysis or material certifications, and/or lab test results of the component raw materials used in the manufacture of Harmonic products.

Table '	13-2:	Restricted	Substances
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Restricted Substance	Permitted Limit*		
Cadmium (Cd)	<u><</u> 0.01%		
Lead (Pb)	<u><</u> 0.1%		
Chromium (VI) (Cr (VI))	<u>≤</u> 0.1%		
Mercury (Hg)	<u>≤</u> 0.1%		

Table 13–2: Restricted Substances

Restricted Substance	Permitted Limit*		
Polybrominated biphenyls (PBBs)	<u><</u> 0.1%		
Polybrominated diphenyl ether (PBDE)	≤0.1%		
*Homogeneous material definition as per the EU Directive.			

EU REACH

REACH (Registration, Evaluation, Authorization and restriction of Chemicals) (EC 1907/2006) is a European Union's regulation on chemicals and their safe use which came into force in June, 2007.

Harmonic supports the basic aim of REACH in improving the protection of human health and environment through the better and earlier identification of intrinsic properties of chemical substances. Harmonic products are considered "articles" under REACH; therefore, we are required to provide recipients of our products with information on Substance of Very High Concern (SVHC) present in concentration above 0.1% (w/w).

Substances in our products are not intended to be released under normal or reasonably foreseeable conditions of use; therefore, the registration requirement in REACH Article 7(1) does not apply to our products.

For more information, please visit REACH regulation page at official EU website.

http://ec.europa.eu/environment/chemicals/reach/reach_en.htm

China RoHS

China's regulation on restriction of the use of certain hazardous substances commonly (China RoHS), is applicable to all Electronic and Information Products (EIPs) and parts sold in China after March 01, 2007. China RoHS regulation restricts the use of the same six substances as the European Union's ROHS, but has requirements for product labeling and regulated substance information disclosure.

Harmonic complies with China RoHS Phase I for labeling and information disclosure requirements and continues to monitor new developments in China RoHS Phase II towards substance restriction and certification program.

For more information, please visit China RoHS regulation page at official US export website.

http://www.export.gov/china/doingbizinchina/

China RoHS Disclosure Report

Below table shows the presence of hazardous substances, or elements in Harmonic products, if the part is present.

该表显示哈雷公司产品中可能含有的有毒有害物质元配件的信息,除了来源于元配件供应商的物料成 分资料,亦来自其它相关的机构与资料。哈雷产品不一定使用这些元配件。

This table shows those components where hazardous substances may be found in Harmonic products based on, among other things, material content information provided by third party suppliers. These components may or may not be part of the product.

除非特殊注明,哈雷公司产品的环保使用期限 均为 20 年。该环保使用期限的有效条件为:必须遵循 该产品使用手 册的规定,对该产品进行使用或存储。

The Environmental Protective Use Period for Harmonic products is 20 years unless displayed otherwise on the product. The EPUP period is valid only when the products are operated or stored as per the conditions specified in the product manual.

部件名称 (Part name)		有毒有害物质或元素 (Hazardous Substance)					
		汞 (Hg)	镉 (Cd)	六价铬 (CrVI)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
印刷线路板 (Printed Circuit Assemblies)	х	0	0	0	0	0	
机械组件 (Mechanical Subassemblies)	х	0	0	0	0	0	
光学组件 (Optical Subassemblies)	х	Ο	0	0	Ο	Ο	
电源 (Power Supplies)	х	0	0	Ο	0	0	
缆线 / 线束 (Cables, harnesses)	х	0	0	0	0	0	
屏幕 / 显示器 (Screens, Monitors)	х	0	0	0	0	Ο	
金属零件 (Metal Parts)	х	0	0	0	О	Ο	
塑料 / 发泡材料 (Plastics, foams)	0	0	0	0	0	0	
电池 (Batteries)	Ο	Ο	0	0	0	0	

O: 表示在该部件的所有均质材料中,此类有毒有害物质的含量均小于 SJ/T11363-2006 标准所规定的限量。

O: Indicates the content of the toxic and hazardous substances at the homogeneous material level of the parts is below the limit defined in SJ/T11363 2006 standard.

X: 表示至少在该部件的某一均质材料中,此类有毒有害物质的含量超出 SJ/T11363-2006 标准规定的限量。

X: Indicates that the content of the toxic and hazardous substances in at least one of the homogeneous materials of the parts is above the limit defined in SJ/ T11363 2006 standard.

Other RoHS and REACH type Regulations

Harmonic will comply with RoHS and REACH type regulations evolving in other countries, if they become relevant to our products or in markets where we sell our products.

Waste Electrical and Electronic Equipment (WEEE)

European Parliament and the Council of the European Union's WEEE Directive (2002/96/EC) came into force on August, 2005 and, were more recently amended in July, 202. This directive encourages the reuse, recycling, and recovery of WEEE and to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment, especially those dealing with WEEE. Harmonic ensures that all requirements for registration, reporting, design and data tracking are complied with to meet the objectives of the WEEE directive.

For more information, please visit WEEE directive page at official EU website.

http://ec.europa.eu/environment/waste/weee/legis_en.htm

Battery Directive

In September 2006, the European Union's Directive 2006/66/EC (Battery Directive) came into force with an aim to prohibit the sale of batteries and accumulators containing hazardous substances and to set rules and promote collection, treatment, recycling and disposal of waste batteries and accumulators. This directive applies to spent batteries collected together with WEEE and requires their removal and separate collection. Once removed from WEEE, spent batteries are governed by the Battery Directive. Harmonic uses lithium batteries in its products and our responsibility under the Battery Directive is taken care of under our WEEE Take-Back program.

For more information, please visit Batteries and Accumulators directive page at official EU website.

http://ec.europa.eu/environment/waste/batteries/

Harmonic is committed to manufacturing environmentally safe products for the community, and will make reasonable efforts and required adjustments to its practices, if necessary, to comply with various environmental directives and industry initiatives on the elimination of hazardous substances, labeling, marking, certification and registration as required in markets where we sell our products.

Download Harmonic's Environmental Compliance Statement at the following location:

http://www.harmonicinc.com/sites/default/filesEnvironmental%20Compliance%20Statement.pdf

WEEE Take-Back Request Program

In order to assist EU member states to preserve, protect and improve the quality of the environment, protect human health and utilize natural resources prudently and rationally, Harmonic strives to recycle in compliance with the WEEE Directive any of its products that cannot be re-used.

Harmonic's customers should:

- Not discard equipment in household or office garbage
- Arrange proper recycling of unneeded equipment. For the take-back of Harmonic equipment, customers must:
 - Collect the information required to complete Harmonic's WEEE Take-Back Request form

- Complete and submit the online WEEE Take-Back Request form. Please note that forms must be fully completed in order to prevent process delays
- Receive instant online confirmation indicating the reference number
- Receive the End of Life (EOL) asset return authorization number and instruction for EOL asset return
- Not ship EOL product to Harmonic without a Harmonic-provided EOL asset return authorization number

The crossed-out wheeled bin symbol on a Harmonic-branded commercial product indicates that the product should not be disposed of along with municipal waste, but invites our customers to return the product to us under Harmonic's WEEE Take-Back program for product disposal.



Harmonic will pay for the cost of shipping and will provide a Certificate of Recycling or a Certificate of Destruction upon request. For more information on collection, reuse and recycling or to initiate the WEEE take-back process, please complete the form at *http://www.harmonicinc.com/webform/weee-takeback-request* or contact *Harmonic Technical Assistance Center (TAC)* or email RMA team at rma.emea@harmonicinc.com.

Compliance with additional country specific environmental, safety and EMC standards:

In addition to above listed standards and compliance regulations, Harmonic products may also be compliant with other country specific environmental, safety and EMC requirements. Please contact Harmonic Compliance Team at *regulatory.compliance@harmonicinc.com* or your local sales representative for more information about compliance with particular country or standard.



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