Disclaimer

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Compliance and Approval

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. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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.

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.

WEEE/RoHS Compliance Policy

Harmonic Inc. intends to comply fully with the European Union’s Directive 2002/96/EC as amended, on Waste Electrical and Electronic Equipment, also known as “WEEE,” and Directive 2002/95/EC, as amended, on the Restriction of use of Hazardous Substances, also known as “RoHS.” Harmonic will ensure that product which cannot be reused will be recycled in compliance with the WEEE Directive. To that end, users are advised that (1) Harmonic equipment is not to be discarded in household or office garbage, (2) Harmonic Inc. will pay the freight for shipment of equipment to be disposed of if it is returned to Harmonic, (3) customers should call the normal RMA telephone numbers to arrange for such shipment, and (4) for additional and updated information on this process customers may consult the Harmonic website: http://harmonicinc.com/pa_weee_recycle.cfm.

Harmonic will ensure that its products will be either reused or recycled in compliance with the WEEE Directive. For the latest information concerning Harmonic’s WEEE/RoHS Compliance Policy and its Recycling and Take-Back process, please visit our website.
Names and Contents of the Toxic and Hazardous Substances or Elements in the Products if the Part is Present

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.

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

<table>
<thead>
<tr>
<th>部件名称 (Part name)</th>
<th>有毒有害物质或元素 (Hazardous Substance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>钾 (PB)</td>
</tr>
<tr>
<td>印刷线路板 (Printed Circuit Assemblies)</td>
<td>X</td>
</tr>
<tr>
<td>机械组件 (Mechanical Subassemblies)</td>
<td>X</td>
</tr>
<tr>
<td>光学组件 (Optical Subassemblies)</td>
<td>X</td>
</tr>
<tr>
<td>电源 (Power Supplies)</td>
<td>X</td>
</tr>
<tr>
<td>缆线 / 线束 (Cables, harnesses)</td>
<td>X</td>
</tr>
<tr>
<td>屏幕 / 显示器 (Screens, Monitors)</td>
<td>X</td>
</tr>
<tr>
<td>金属零件 (Metal Parts)</td>
<td>O</td>
</tr>
<tr>
<td>塑料 / 发泡材料 (Plastics, foams)</td>
<td>O</td>
</tr>
<tr>
<td>电池 (Batteries)</td>
<td>O</td>
</tr>
</tbody>
</table>

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.
Standards and Agency Approval

The following tables list regulatory standards and agency approvals:

**North America**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Agency Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI: FCC Part 15, Subpart B, ICES-003, Issue 2, Class A</td>
<td>FCC</td>
</tr>
<tr>
<td>Safety: UL 60950-1, CSA 60950-1</td>
<td>cTUV-us Mark</td>
</tr>
</tbody>
</table>

**Europe**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Agency Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI/EMC: EN55022, Class A, EN55024</td>
<td>CE</td>
</tr>
<tr>
<td>Safety: EN 60950-1, EN60825-1</td>
<td>TUV-GS or T-Mark, CE</td>
</tr>
</tbody>
</table>

**Japan**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Agency Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI: VCCI V-3 2009</td>
<td>VCCI</td>
</tr>
</tbody>
</table>

**Australia and New Zealand**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Agency Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI: AS/NZS CISPR22:2006</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**Documentation Conventions**

This manual uses some special symbols and fonts to call your attention to important information. The following symbols appear throughout this manual:

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

- **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.

- **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 manual uses the following text conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typed Command</td>
<td>Indicates the text that you type in at the keyboard prompt.</td>
</tr>
<tr>
<td>Buttons and Menus</td>
<td>Indicates a button to click, or a menu item to select.</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;, &lt;Ctrl&gt;+&lt;Shift&gt;</td>
<td>A key or key sequence to press.</td>
</tr>
<tr>
<td>Links</td>
<td>The <em>italics in blue</em> text to indicate Cross-references, and hyperlinked cross-references in online documents.</td>
</tr>
<tr>
<td>Bold</td>
<td>Indicates a new term. For example: <strong>SpanWindow</strong> - the transmission frequency along the 1GHz spectrum allocated for each RF Port. It spans across 384MHz.</td>
</tr>
<tr>
<td>LCD Screen Output</td>
<td>The text that is displayed on an LCD console output.</td>
</tr>
<tr>
<td>ScreenOutput</td>
<td>The text that is displayed on a computer screen.</td>
</tr>
<tr>
<td>Emphasis</td>
<td>The <em>italics</em> text used for emphasis and document references.</td>
</tr>
</tbody>
</table>

**NOTE:** You require Adobe Reader or Adobe Acrobat version 6.0 or later to open the PDF files. You can download Adobe Reader free of charge from www.adobe.com.
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1.2.2 Power Supply .......................................................... 9  
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## Chapter 4  Maintenance and Troubleshooting
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Harmonic ProStream™ 2000 is a multi-service HD and SD MPEG-4 AVC (H.264) digital splicer. It supports real-time and seamless splicing of multiple compressed video and audio services for ad insertion applications.

Based on open standards, the IP-based ProStream 2000 is fully integrated with Harmonic’s DiviCom® Electra™ encoders, ProStream 1000™ stream processing platform, DiviTrack IP™ distributed statistical multiplexer, and the NMX Digital Service Manager™, as well as the CLEARcut™ ad pre-conditioning solution and the StreamLiner® ad server.

The ProStream 2000 is the industry’s first splicer to feature multi-channel and multi-service capabilities within a compact 1-RU chassis, and support multiple SD or HD streams. Unlike other splicing solutions, the ProStream 2000 does not degrade video quality. As a result, operators can more effectively insert national or local ads in the digital stream.

The ProStream 2000’s density and versatility make it possible for operators to reduce cost per channel with a scalable and distributed architecture, and to better take advantage of incremental opportunities with digital ad insertion as they launch new SD and HD services.

Highlights of the ProStream 2000 are:

- Compact modular 1-RU system based on a Sun SPARC™ Enterprise server
- GbE (Gigabit Ethernet) I/O module, with 4 GbE ports
- Simultaneous, seamless splicing of up to 750 Mbps total throughput
- Support of SCTE35 in band cue triggers
- Support of SCTE30
- MPEG-2 TS over UDP or RTP
- Maintains all VBI and data PID information from input to output
- Controlled via NMX Digital Service Manager
1.1 Control Modes

ProStream 2000 is controlled by NMX, Harmonic’s NMX Digital Service Manager. NMX offers comprehensive management of networks, including automatic device redundancy, source switching and automation. ProStream 2000 is managed as an integral part of a broadcasting system.

1.1.1 System Requirements of the Managing PC

System requirements of the managing computer vary according to the control mode:
- NMX control mode: NMX runs on Harmonic-approved Dell™ computer.

1.2 ProStream 2000 Device Features

The ProStream platform is based on a Sun Fire™ server. This server has the UltraSPARC T1 and supports Solaris 10 Operating System. Sun’s Advanced Lights Out Manager (ALOM) is the standard System Controller (SC) for remote out-of-band management for many current and future Sun servers.

1.2.1 ProStream 2000 Back Panel

The back panel of the ProStream 2000 has the following ports:

1. Power supply 0.
3. Locator LED Button.
4. Service Required LED.
5. Power OK LED.
7. Service processor network management port, an ethernet connector.
8. MPEG data tracking NET 0, primary.
9. MPEG data tracking NET 1, backup.
10. Gbit Enet port NET 2, reserved for future use.
11. NMX Management port (NET 3).
12. USB port 0.
13. USB port 1.
14. TTYA serial port.
15. PCIe/XAUI slot 0.
16. PCIe/XAUI slot 1.
17. PCIe slot 2.

Figure 1–2: ProStream 2000 back panel. USB ports 2 and 3 are located on the front panel.
1.2.2 Power Supply

ProStream 2000 power supply supports 85-264 VAC range. The required voltage is automatically selected according to the wall outlet. AC power is 100-240 VAC, 50-60 Hz 2.2A @ 100 to 120 VAC, 1.1A @ 200 to 240 VAC.

1.2.3 ProStream 2000 Front Panel

The front panel has the following indicators:

![Figure 1–3: Front panel LEDs and features](image)

1. System status indicators. Top to bottom:
   1. Locator LED button
   2. Service Required LED
   3. Power OK LED
   4. Power button
   5. Hard drive HDD3.
   6. Hard drive HDD0.

1.2.4 ProStream 2000 LEDs

The Sun Fire server front and back panels have LEDs to show system status and help locate the server in the rack.

These LEDs are regulated by the ALOM CMT™, a component in the server. Most situations are handled directly by NMX and ProStream 2000, but certain commands can be issued directly. Follow these steps if you need to issue a command:

1. Use the system `telnet` or `ssh` command to connect to the ALOM CMT through an Ethernet connection on the network management port. (The ALOM CMT can be configured for either telnet or ssh, but not for both.)
2. Switch from the console output to the ALOM CMT `sc>` prompt by typing `#` (Hash-Period).
3. Enter the command. Alternate keywords are indicated in brackets, such as `[on | off]`, meaning enter either the word on or the word off.
### 1.2.4.1 Front Panel

The front panel has the following indicators. See *Figure 1–3*.

<table>
<thead>
<tr>
<th>Front Panel Indicators and Buttons</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
</table>
| Locator LED/button                | White  | This LED is normally off. Its white light can blink rapidly to help you locate it, and to indicate it is operational. Use one of these methods:  
  - Press the button to toggle the indicator on/off.  
  - Set locator on or off using the ALOM CMT command: setlocator [on | off]. (See 1.2.4 ProStream 2000 LEDs on page 9) |
| Service Required LED              | Yellow | If on, service is required. The ALOM CMT™ showfaults command will indicate faults that caused the indicator to light up. ALOM CMT is the Fujitsu Advanced Lights Out Manager, which is preinstalled on your server. It monitors fans, CPU, power supply, system enclosure temperature, system load, current, voltages, and the LEDs on the server front panel. |
| Power OK LED                      | Green  |  
  - Off – The system is unavailable. Either it has no power or ALOM CMT is not running.  
  - Steady on – The system is powered on and is running in its normal operating state. No service actions are required.  
  - Standby blink – The system is running at a minimum level in standby and is ready to be quickly returned to full function. The service processor is running.  
  - Slow blink – A normal transitory activity is taking place. Server diagnostics could be running, or the system might be powering on. |
### 1.2.4.2 Back Panel

The back panel has the following indicators and buttons. See Figure 1–2.

<table>
<thead>
<tr>
<th>Back Panel Indicators and Buttons</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
</table>
| Locator LED/button                | White | This LED is normally off. Its white light can blink rapidly to help you locate it, and to indicate it is operational. Use one of these methods:  
- Issue the command: `set locator [on | off]`. See 1.2.4 ProStream 2000 LEDs on page 9  
- Press the button to toggle the indicator on/off |
| Service Required LED              | Yellow| If on, service is required. ALOM CMT is the Fujitsu Advanced Lights Out Manager, which is preinstalled on your server. It monitors fans, CPU, power supply, system enclosure temperature, system load, current, voltages, and the LEDs on the server front panel. The ALOM CMT `showfaults` command will indicate faults that caused the indicator to light up. (See 1.2.4 ProStream 2000 LEDs on page 9.) |
| Power OK LED                      | Green |  
- Off – The system is unavailable. Either it has no power or ALOM CMT is not running.  
- Steady on – The system is powered on and is running in its normal operating state. No service actions are required.  
- Standby blink – The system is running at a minimum level in standby and is ready to be quickly returned to full function. The service processor is running.  
- Slow blink – A normal transitory activity is taking place. Server diagnostics could be running, or the system might be powering on. |
| Power On/Off Button               | Button| Press this button to turn the server on or off. |
| Ethernet Link Activity LEDs       | Green | These LEDs indicate that there is activity on the associated nets. |
| Ethernet Link LEDs                | Yellow| The server is linked to the associated nets. |
| SC Network Management Activity LED| Yellow| There is activity on the SC Network Management port. |
| SC Network Management Link LED    | Green | The server is linked to the SC network management port. |
1.2.4.3 Power Supply LEDs

The power supply has three LEDs on the back:

<table>
<thead>
<tr>
<th>Name</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault</td>
<td>Amber</td>
<td>On — The power supply has detected a failure. Off — Normal operation.</td>
</tr>
<tr>
<td>AC OK</td>
<td>Green</td>
<td>On — Normal operation. Input power is within normal limits. Off — No input voltage, or input voltage is below limit.</td>
</tr>
<tr>
<td>DO OK</td>
<td>White</td>
<td>On — White light can blink rapidly to help you locate it, and to indicate it is operational. Off — Normal operation.</td>
</tr>
</tbody>
</table>

1.2.4.4 Gbe Port LEDs

Each GbE port features two LEDs: Tx and Rx.

<table>
<thead>
<tr>
<th>LED Status</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Green</td>
<td>On, steady — A live fiber is connected to the port, and a network link is detected. On, blinking — Traffic is flowing through the link.</td>
</tr>
<tr>
<td>Link</td>
<td>Red</td>
<td>On — Indicates an error in the GbE port.</td>
</tr>
</tbody>
</table>
Chapter 2
Installing the ProStream 2000 Unit

This chapter describes installation and cabling of the ProStream 2000 device in a standard EIA 19-inch computer rack.

2.1 Preparation

Mount the ProStream 2000 device in a standard 19-inch computer rack. For installation and cabling, you need the following:

- Phillips screwdriver
- ESD mat and grounding strap
- Rack mount kit and installation directions, delivered with the server

2.2 Unpacking

The ProStream 2000 device comes in a specially designed shipping container that ensures the integrity of the unit. When you unpack the ProStream 2000 device, you should find the following items:

- Device
- Standard power cord
- Slide rails and kit for installing server
- Installation manual

**NOTE:** The AC power input cable must comply with national electrical code and 18 AWG minimum.

2.3 Installing the Device in a Rack

This section describes how to mount the device in a standard 19-inch rack. The recommended rack setup is a 30-inch-deep rack, using a spacer or chimney between racks with multiple devices.

2.3.1 Chassis Warnings for Rack Mounting and Servicing

To prevent bodily injury when mounting or servicing this unit in a rack, take special precautions to make sure that the system remains stable. The following guidelines are provided to assure your safety:

- 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 a 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.
2.3.1.1 Airflow

The airflow through the device is critical for maintaining the proper temperature range. Fans in the chassis draw air in through the front bezel and through the device.

⚠️ **CAUTION:** Do not obstruct the airflow of the device.

2.3.1.2 Mounting the device

To mount the device in your rack, follow the instructions included with the device. Instructions can also be found on the Sun website.

⚠️ **CAUTION:** Deploy the antitilt feature for your equipment rack before beginning installation.

2.4 Cabling the ProStream 2000 Device

Cabling the ProStream 2000 device is very straightforward. All input and output ports, as well as Ethernet ports, are clearly marked. For a detailed description of the back panel, see [1.2.1 ProStream 2000 Back Panel](#) on page 8.

For the ethernet ports, you need a shielded and grounded CAT-5E cable and and RJ-45 connectors.

2.4.1 Connecting the Ethernet Cables

The Ethernet ports, labeled NET0 and NET1, provide access to two independent networks. Use the NET3 port to connect to the management network.

To connect the Ethernet ports:

- Connect a shielded and grounded CAT-5E cable from the ETH1/ETH2 port on the ProStream 2000 device to your network hub or switch.

2.4.2 Connecting the AC Power Supply

The ProStream 2000 unit installation kit includes the AC power cable. Using the cable provided in the installation kit, connect the power plug on the ProStream 2000 back panel and to the power outlet.

The power supply automatically senses the input voltage.

💡 **TIP:** The serial terminal or a terminal emulator should be connected before you connect the power cables. As soon as the AC power is connected to the system, the system controller immediately powers on and runs diagnostics.
This chapter describes how to set initial configuration parameters to the ProStream 2000 device, depending on the control mode of the device.

3.1 Initial Configuration in NMX control mode

The ProStream 2000 unit ships with the BOOT program pre-configured as follows for operation under NMX:
- BOOTP enable — allows NMX to automatically assign a valid IP address by NMX.
- BOOTP time-out — 5 seconds, the period of time during which the device sends BOOTP requests.

**NOTE:** Your device's MAC address is on the Sun Fire server, typically on a sticker, or included with the system documentation. Use this system address when setting up your system in NMX.

Follow these steps to configure a ProStream 2000 device in an NMX managed network:
1. Power-down your ProStream server.
2. Launch NMX.
3. Activate a map. Right-click on the map area, choose Create Physical Device > Prostream.
4. Click on the map to drop the device onto it.
5. The Create Object window automatically opens. At the top, click the down button to open the drop-down list, and choose ProStream 2000 – Splicer.
6. Complete the list of properties. (The bold-faced items are read-only, or are set by NMX.)
   - Specify a **name**, **description**, and **identification number** that will help you identify this device. The Prostream name that is configured on NMX must match the splicer name configured on the ad server. The Identification number is what will appear in the Device Inventory Report.
   - **In Service** is always True if the device is discovered by NMX.
   - Under **Physical Addresses**, specify the IP and MAC addresses, subnet mask, and default gateway.

   **NOTE**: Your device's MAC address and the ALOM MAC address must match the addresses that the Sun Fire server gives you. They are specified on stickers on the device, or included with the system documentation. Use this system address when setting up your system in NMX.

   - **Advanced properties**: Choose the desired software version.

   **NOTE**: If you are configuring your first ProStream 2000 device, you could get an NMX error message here:

   "You do not have the necessary ProStream 2000 packages installed for the selected software version. Insert the ProStream 2000 Companion CD. If it does not start and install automatically, run the ps2k.bat file." After you do install, refresh the software version and continue with the install process.

   - Under **ALOM Address**, be sure to fill in IP and MAC addresses, subnet mask, and default gateway. These will be essential for troubleshooting later.
NOTE: Your device's MAC address and the ALOM MAC address must match the addresses that the Sun Fire server gives you. They are specified on stickers on the device, or included with the system documentation. Use this system address when setting up your system in NMX.

For a more complete description of properties, see the online help.

7. To add NTP, start with the NMX Service Manager client.
   - Select Tools from the NMX menu, then select Options.
   - Click to open the NTP tab, and enter the NTP server properties.

![Figure 3–2: Enter properties for NTP server](image)

The ad server and ProStream 2000 should be pointing to a common NTP server. When NTP is configured in the NMX GUI, the ProStream 2000 will synchronize correctly with the ad server.
8. Configure the data port. Double-click the ProStream 2000 icon in the map. This brings up a graphic of the back panel view. See Figure 1–2.
   - Right-click the NET0 or the NET1 port to open their properties page:

   ![Properties of Site - 1] (Image of properties page)

   - In the properties page, configure the primary channel network address. Only one port is active at a given time. During a redundancy switch, the primary data port IP address will be carried over to the backup data port.

   For more information about fields on the site property page, see the online help.

   **NOTE:** For more details about using NMX, refer to the NMX Installation and Startup Guide or the NMX Online help.

9. Reboot the ProStream 2000 unit, using the button on the front of the device. See Figure 1–3.

   ProStream 2000 broadcasts a BOOTP request. NMX recognizes the ProStream 2000 device according to its physical address and assigns it the following:
   - IP properties, as configured
   - Firmware file path

   If the required firmware version matches the version that is currently stored on the hard disk of the device, the device uses the locally stored version to complete the boot process.

   If the required firmware version does not match the version that is currently stored on the hard disk of the device, the device downloads the updated version and completes the boot process.

   If ProStream 2000 does not receive a BOOTP response from NMX after the first attempt, it will send additional requests, up to 4 BOOTP requests. The following table lists faults that may occur during initial configuration and the ensuing consequences:

<table>
<thead>
<tr>
<th>Fault</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>No BOOTP response</td>
<td>ProStream 2000 reboots with its previous IP settings and firmware version. In case of a new device, it boots up with the factory settings.</td>
</tr>
</tbody>
</table>
3.2 Start Using the Device - NMX Control Mode

Once ProStream boots up successfully, use NMX to further configure the device and provision streams through it. For more information, refer to the NMX online help.

### Table: Fault and Consequence

<table>
<thead>
<tr>
<th>Fault</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOTP response received, software file not found, or no HTTP response</td>
<td>ProStream 2000 is idle.</td>
</tr>
<tr>
<td>BOOTP response received, HTTP download starts but failed to complete successfully</td>
<td>ProStream 2000 boots up with the version residing on its hard disk. In case of firmware mismatch, an alarm is issued.</td>
</tr>
</tbody>
</table>

**NOTE**: During the boot-up process, various messages appear on the control panel. While working in NMX control mode, use the control panel for viewing purposes only. Any attempt to set device properties using the control panel may adversely affect the ProStream 2000 operation.

10. When the connection is complete, the icon turns green.
    One style of NMX map, shown below, takes IP input SPTS transport coming into the GbE port of the splicer, and sends to an SPTS output. On the map, a green background indicates it is configured, it is communicating with NMX, and BOOTP worked correctly.

![](image)

**Figure 3–4**: NMX map shows a ProStream splicer, TSSplicer-188, installed and connected
Chapter 4
Maintenance and Troubleshooting

This chapter directs you to information about device maintenance, monitoring the ProStream 2000, and recovery of your ProStream 2000 server, as well as providing contact information for Harmonic support.

4.1 Device Maintenance

For maintenance of your Sun server, consult the documents that were included in the package with your Sun hardware.

4.2 Monitoring

When the ProStream 2000 device issues an alarm, it turns on the alarm LED on the front panel. The alarms are dispatched to NMX and displayed in the NMX Alarm Manager in NMX online help. See the NMX online help for descriptions of the alarms.

To see system logs:
1. Open a web browser.
2. Enter http://\(\text{device_ip_address}\):8080.
   
   To find the value of \(\text{device_ip_address}\):
   
   - Right-click the device on the map.
   - Select Properties from the drop-down menu.
   - Copy the Physical Address/IP Address.
4.3 Contacting Harmonic Support

The Harmonic Customer and Technical Support groups are available to help you with any questions or problems you may have regarding Harmonic products.

For assistance, refer to the following table for contact information in your region:

<table>
<thead>
<tr>
<th>Region</th>
<th>Telephone Technical Support</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>888-673-4896 (888-MPEG-TWO) or 408-490-6477</td>
<td><a href="mailto:techhelp@harmonicinc.com">techhelp@harmonicinc.com</a></td>
</tr>
<tr>
<td>Europe, Middle East</td>
<td>+44 7699 391552</td>
<td><a href="mailto:support.emea@harmonicinc.com">support.emea@harmonicinc.com</a></td>
</tr>
<tr>
<td>Asia (excluding India and Russia)</td>
<td>+852-2116-1119</td>
<td><a href="mailto:hongkongtechsupport@harmonicinc.com">hongkongtechsupport@harmonicinc.com</a></td>
</tr>
<tr>
<td>India</td>
<td>+91 22 6793 9291</td>
<td><a href="mailto:support.sm@harmonicinc.com">support.sm@harmonicinc.com</a></td>
</tr>
<tr>
<td>Russia</td>
<td>+7 495 926 4608</td>
<td><a href="mailto:support.sm@harmonicinc.com">support.sm@harmonicinc.com</a></td>
</tr>
<tr>
<td>Africa</td>
<td>+972-54-900-7740</td>
<td><a href="mailto:support.sm@harmonicinc.com">support.sm@harmonicinc.com</a></td>
</tr>
<tr>
<td>China</td>
<td>+852-2116-1119</td>
<td><a href="mailto:dlchinatechsupport@harmonicinc.com">dlchinatechsupport@harmonicinc.com</a></td>
</tr>
</tbody>
</table>

The corporate address for Harmonic Inc. 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.+1.408.490.6770

The web address for Harmonic Inc. is www.harmonicinc.com.