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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 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 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.

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<table>
<thead>
<tr>
<th>部件名称 (Part name)</th>
<th>有毒有害物质或元素 (Hazardous Substance)</th>
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<tr>
<td></td>
<td>铅 (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>
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<tr>
<td>金属零件 (Metal Parts)</td>
<td>O</td>
</tr>
<tr>
<td>塑料 / 发泡材料 (Plastics, foams)</td>
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</tr>
<tr>
<td>电池 (Batteries)</td>
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</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>
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<tr>
<td>EMI: FCC Part 15, Subpart B, ICES-003, Issue 2, Class A</td>
<td>FCC</td>
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<tr>
<td>Safety: UL 60950, CSA 60950</td>
<td>cTUV-us Mark</td>
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<tr>
<td>EMI/EMC: EN55022, Class A, EN55024</td>
<td>CE</td>
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<td>Safety: EN 60950</td>
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### Japan

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### Australia and New Zealand

<table>
<thead>
<tr>
<th>Standards</th>
<th>Agency Approval</th>
</tr>
</thead>
</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:

- **Data Entry:** indicates text you enter at the keyboard.
- **User Interface:** indicates a button to click, a menu item to select, or a key or key sequence to press.
- **Screen Output:** shows console output or other text that is displayed to you on a computer screen.
- **Bold:** indicates the definition of a new term.
- **Italics:** used for emphasis, cross-references, and hyperlinked cross-references in online documents.
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1.1 About This Manual

This manual covers the following topics:
- Setting up the CLEARcut workstation
- Installing the software
- Performing configuration tasks
- Starting the CLEARcut server
- Contacting Harmonic Support
- Using keyboard shortcuts
- Using a ShuttlePRO device

For information and instructions regarding tasks performed within the CLEARcut application, refer to the CLEARcut Studio online help.

1.2 About CLEARcut Storage Encoding Solution

Harmonic CLEARcut™ Storage Encoding Solution provides an end-to-end solution for compression, storage, and management of stream captures. CLEARcut Studio 3.8 provides the following features:
- PCR resetting and null packet stripping for capture and concatenation jobs
- Stream capture from VTR, DVD, and live feed sources
- Support using VDCP server as input source
- Streamlined, easy-to-use interface
- Asset database and management tools
- Capture of encoder-multicast UDP/IP output streams
- Video encode parameter controls for optimal video quality settings
- NTSC and PAL video stream capture, playback, and looping
- Video and audio stream capture and playback for MPEG-2 and MPEG-4 AVC (H.264) formats. The capture bit rate can be up to 20 Mbps.
- As of v3.2.1, CLEARcut can capture and playback MPEG2 SD and HD content, as well as H.264 SD and HD content
- Easy switching between multiple encoders
- Clip concatenation for MPEG-2 and MPEG-4 AVC (H.264) formats
- Frame-accurate stream capture with I frame at the beginning of each stream capture
- Full VTR and DVD player control, and VDR control via VDCP
- Multiple interface options for easily controlling VTRs, VDRs, and DVD players and producing captures: USB ShuttlePro2 controller, graphical user interface control, and keyboard “hot key” controls
- SCTE-104 compliant support of messaging between the workstation and any Harmonic broadcast encoder for accurate closed GOP control
- Video and audio decoding for captured asset quality verification with external TV or an onscreen display
- File transfer GUI to allow ease of uploading files to remote servers (manual or automatic)
- Batch processing to allow a list of predefined captures to be automatically captured from multiple tapes or DVDs
- Parallel capture of multiple IP output streams originating from multiple encoders or a multichannel encoder
- LRV/PIP stream support
- Simultaneous creation of multiple captures from a single source
- Creation of external viewing clips for quality assurance and verification
- Metadata creation based on CableLabs ADI 1.0 and ADI 1.1 or Microsoft TV
- Support for importing external XML-formatted job listings for capture on CLEARcut
- Content re-encoding (high bit rate MPEG-2 to lower bit rate MPEG-2), SD to HD up-conversion, and HD to SD down-conversion
- Content transcoding between formats; for example, from MPEG-2 to iPod® format, or mobile phone format to MPEG-2. This feature requires a separate license.
- Ability to view the clip while it is being recorded
- Asset encryption using a DRM server
- Support for VBI and data PIDs passthrough and capture
- Automated Xcode integration with Entone IDP

The following table shows the encoders that support several features of CLEARcut 3.8.

<table>
<thead>
<tr>
<th>Encoder</th>
<th>RFD</th>
<th>Capped VBR</th>
<th>Frame-accurate DPI *</th>
<th>PAL</th>
<th>1080PsF</th>
<th>NTSC</th>
<th>VBV Management at splice point</th>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>RFD off</td>
<td>RFD on</td>
<td>CBR</td>
<td>Capped VBR</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

*For ELC-5000 and MV100, frame-accurate DPI is not supported in H.264 mode.

- When using the default profiles settings on these encoders, CLEARcut 3.8 can capture MPEG-2 assets that comply with the CableLabs Video-on-Demand Content Encoding Profiles, Specification v1.1 and v2.0 if you are using the default profiles settings.
1.3 Operating Environment

CLEARcut Studio software runs on the same computer as the NMX™ Digital Service Manager Server. NMX manages the encoders. You can hook up multiple encoders to the CLEARcut workstation via a network switch. If resources are available, CLEARcut records multiple clips in parallel.

CLEARcut Studio communicates with the encoder using the SCTE104 and SCTE-35 protocols, which are used by digital program insertion (DPI) messages. The MPEG output from the encoder is sent to the CLEARcut workstation over a multicast IP address.

CLEARcut Storage Encoding Solution supports one VTR, VDR, or DVD player at a time.

CLEARcut allows the creation of a metadata package through the CLEARcut MetaData Editor. A graphical user interface guides you through the process of creating the related asset packages as defined in either CableLabs Video-on-Demand (VOD) Metadata Content Specification 1.0 and 1.1 or Microsoft IPTV VOD Metadata Specification 1.1.

The following figure shows the components of a typical CLEARcut Storage Encoding Solution network.

![CLEARcut Storage Encoding Solution network diagram]

Figure 1-1: A typical CLEARcut Storage Encoding Solution network

Your CLEARcut workstation comes with the following software installed:

- CLEARcut Studio
- NMX Digital Service Manager
- Microsoft® SQL Server

NOTE: For information about how to upgrade to CLEARcut Studio 3.8 from an earlier version, see 2.4 Upgrading CLEARcut Studio from a Previous Version on page 19.
1.4 System Requirements

Setting up a CLEARcut network requires the following equipment:

- CLEARcut workstation computer
- VTR with Sony 9-pin RS-422 protocol, or VDR with VDCP support, or a Pioneer DVD player (PRV-LX1/DVD-V5000/DVD-V8000)
- At least one of the following encoders: Harmonic Electra 5000, Electra 5400, or Electra 7000; or Harmonic MV100 or Harmonic MV500 with an IPA module

**NOTE:** If you plan to hook up multiple encoders, make sure you have all the necessary cables. If you plan to use SD and HD encoders, you need SD and HD source devices, too.

- A network switch capable of multicasting with IGMP snooping for setups with multiple encoders
- 1 RS-232-to-RS-422 serial cable (Harmonic provides)
- 1 multi I/O audio/video breakout cable
- 1 coaxial cable to connect the VTR, VDR, or DVD player to the monitor
- 1 serial digital video cable or analog video and audio cables to connect the VTR or DVD player to the encoder
- 1 audio cable to connect an external TV monitor
- 1 ASI jumper cable (Harmonic provides with IPA)
- 1 crossover Ethernet cable (single encoder setups only)
- 1 or more regular Ethernet cables
This chapter guides you through the steps for setting up the CLEARcut Studio system. Which tasks you perform depend on whether you’re migrating data from one system to another, upgrading the software on an existing system, or receiving CLEARcut for the first time. Refer to the following table for information about the steps you need to take.

Table 2–1: Installation, Migration, and Upgrade Scenarios

<table>
<thead>
<tr>
<th>Situation</th>
<th>Background Information</th>
<th>Relevant Sections in This Chapter</th>
</tr>
</thead>
</table>
| Setting up CLEARcut for the first time | NMX and CLEARcut Studio software is already installed on the workstation you received from Harmonic. You must connect and configure the equipment. | ■ 2.1 Connecting Equipment on page 12  
■ 2.2 Configuring Network Information on page 14  
■ 2.3 NMX Configuration on page 15 |
| Migrating data to a new CLEARcut workstation | NMX and CLEARcut Studio software is already installed on the workstation you received from Harmonic. You must connect and configure the equipment and transfer the assets from your old workstation to the new one. | ■ 2.4.1 Migrating to Another CLEARcut Workstation on page 20  
■ 2.2 Configuring Network Information on page 14 |
| Upgrading software on an existing CLEARcut workstation | Back up the CLEARcut and NMX catalogs and assets to another machine, then perform clean installation of the entire system, then restore the catalogs. | ■ 2.4 Upgrading CLEARcut Studio from a Previous Version on page 19 |
| Adding or switching encoders to your CLEARcut setup | Whenever you change the encoders in your CLEARcut setup, you must connect and configure the equipment. | ■ 2.2 Configuring Network Information on page 14  
■ 2.3.2 Configuring the Encoder in NMX on page 17 |

2.1 Connecting Equipment

To begin using CLEARcut Storage Encoding Solution, first connect the equipment in the network.

2.1.1 Connecting Source Devices

You can capture streams from video tape players, DVD players, live broadcast sources, or files on disk (transcoding). Depending on your CLEARcut system, you may have multiple source devices set up.

This section explains how to connect VTRs, VDRs, DVD players, and live source devices. For instructions for connecting equipment for transcoding (available only on Dell 2RU or IBM CLEARcut platforms), see 2.1.4 Connecting Equipment for Transcoding on page 14.

To connect a VTR, VDR, or DVD player, or live source device:

1. Connect the female end of the provided RS-232-to-RS-422 cable to the COM 1 port on the CLEARcut workstation and the male end to the serial input port on the source device.
NOTE: If you are using SD and HD source devices, remember to connect the appropriate source device to the CLEARcut workstation depending on the type of capturing you’re doing.

2. If you are using serial digital input, connect an SDI cable from the source device to the serial digital input port on the encoder.

   If you are using both SD and HD source devices and encoders, connect the SD source device to the MV100, Electra 5000, or Electra 5400 encoder, and connect the HD source device to the MV500 or the Electra 7000 encoder.

   If you are using analog video (the VTR), connect a cable from the VTR to the composite-video-in port on the encoder, and connect the analog audio cables to the audio ports on the encoder.

   For more information about the encoder audio and video ports, see the following encoder manuals:

   - DiviCom Electra 5000 Multichannel Encoder guide
   - DiviCom Electra 5400 MPEG-4 AVC Standard Definition Multi-Service Encoder guide
   - DiviCom Electra 7000 MPEG-4 AVC High Definition Multi-Service Encoder guide
   - Standard Definition DiviCom MPEG-2 Encoder guide
   - High Definition DiviCom MPEG-2 Encoder guide

3. Use a coaxial cable to connect the source device to a monitor.

2.1.2 Connecting the Encoders

This section includes instructions for connecting Electra and MV encoders.

NOTE: If you have multiple encoders, connect them to the CLEARcut workstation by a common network switch.

2.1.2.1 Connecting Electra Encoders

To connect an Electra encoder:

1. Connect the primary IP output port, labeled “Pri,” as appropriate for your network.
   - For single encoder networks, connect a crossover Ethernet cable from the primary IP output port to the second Ethernet port (NIC 2) on the CLEARcut workstation.
   - For multiple encoder networks, connect a regular Ethernet cable from the primary IP output port to a port on a network switch.

   NOTE: You must use different networks for IP output and encoder management. Do not connect the IP output port to the same switch you connect the Ethernet management port.

2. Connect the Ethernet management port, labeled “Eth,” to a network switch.

3. Configure the Ethernet switch to support autonegotiation by setting each port to “set speed auto” or “set duplex auto.”

2.1.2.2 Connecting the MV100 and MV500 Encoders

To connect the encoders:

1. Connect the IPA output port as appropriate for your network.
   - For single encoder networks, connect a crossover Ethernet cable from the IPA Ethernet output port to the second Ethernet port (NIC 2) on the CLEARcut workstation.
For multiple encoder networks, connect a regular Ethernet cable from the IPA Ethernet output port to a port on a network switch.

**NOTE:** You must use different networks for IP output and encoder management. Do not connect the IPA Ethernet output port to the same switch you connect the Ethernet management port.

2. Connect the ASI jumper cable from the first main board ASI output port to the ASI input port on the IPA module.

   See the *Standard Definition DiviCom MPEG-2 Encoder* guide or the *High Definition DiviCom MPEG-2 Encoder* guide for more information.

3. Connect a regular Ethernet cable from the encoder management Ethernet port to a network switch.

### 2.1.3 Connecting the CLEARcut Workstation

To connect the CLEARcut workstation:

1. Connect the first Ethernet port (NIC 1) on the CLEARcut workstation to the network switch to which you connected the encoder management ports.

2. For *Dell PowerEdge 2950* server, connect the VGA monitor to the VGA output of the on-board display card. For *IBM x3650 M2* server, connect to VGA output of ASUS graphics card.

3. Connect the video/audio output of the Vela decoder card to an external TV monitor using the multi I/O audio/video breakout cable.

### 2.1.4 Connecting Equipment for Transcoding

If you are using a *Dell 2RU* or *IBM CLEARcut* platform, you can use transcoding on MPEG-2 files to reduce the transport bit rate of asset files. With the Electra encoder, you can also change the video codec to H.264 if you want. For transcoding, CLEARcut plays the MPEG-2 file through the decoder, and the encoder receives the decoder output as input. Audio streams are embedded. CLEARcut captures streams from the encoder output.

To connect the encoder and CLEARcut workstation for transcoding:

- Connect an SDI cable from the SDI HD or SD output port of the Vela decoder card on the CLEARcut workstation to the serial digital input port on the encoder.

**NOTE:** For transcoding, the source input type in the encoding profile should be set to digital video. For information, see the CLEARcut Studio online help.

### 2.2 Configuring Network Information

The CLEARcut workstation communicates with the encoder over an Ethernet network. Additionally, the CLEARcut workstation may need Ethernet connectivity to VOD servers or advertisement servers.

You need to set several IP addresses: one for each encoder and two for the CLEARcut workstation. You do not need to set the IP address on the encoder right now, but set the IP addresses on the CLEARcut workstation.

**NOTE:** When you configure IP addresses for the CLEARcut workstation, you can change the default host name. If you need to change the host name after CLEARcut Studio is running, some additional configuration is required. See the CLEARcut Studio online help for additional information.

Choose IP addresses as follows:
Encoder Ethernet management port. Choose a unique IP address on the corporate network. You set the IP address on the encoder when you set up the NMX map. You do not need to set the IP address from the encoder front panel.

CLEARcut workstation NIC 1. The computer uses NIC 1 for encoder management and control, and for file transfers to advertisement servers or VOD servers. Use a unique IP address on the corporate network for this IP address.

CLEARcut workstation NIC 2. The computer uses NIC 2 for video streaming and capture. This NIC is connected directly to the IP output port on the encoder in single encoder networks, or to a network switch in multiple encoder networks. In single encoder networks, NIC 2 does not need access to the corporate network. Harmonic recommends setting this IP address to 10.10.10.10 and the subnet mask to 255.255.255.0. If you have multiple encoders, you connect NIC 2 to a network switch. Use a unique IP address on a separate network for this IP address when you have multiple encoders. Do not use the same network for encoder management and video streaming.

NOTE: Do not set the default gateway for NIC 2 when you have a single encoder. The default gateway is not required.

You need to know the MAC address when you configure encoders in NMX.

To find the encoder MAC address on an Electra encoder:
1. On the encoder front panel, press the STAT button.
   The Status menu appears on the front panel LCD screen.
   Press the up arrow button to navigate to STAT: Serial Number.
   The MAC address appears beneath the parameter name.
2. Note the last four digits of the MAC address.

To find the encoder MAC address on an MV100 or MV500 encoder:
1. On the encoder front panel, press the STAT button.
   The Status menu appears on the front panel LCD screen.
2. Press the right arrow button on the front panel to scroll through the menu items.
   MAC Address is the sixth parameter in the list.
3. Note the last four digits of the MAC address.

### 2.3 NMX Configuration

If this is the first time you are using CLEARcut Studio, or if you are adding a new encoder to your setup, you must perform some NMX configuration tasks. NMX Digital Service Manager provides encoder management, PSI generation, and DPI messaging for CLEARcut Storage Encoding Solution. CLEARcut Studio comes with most NMX settings preconfigured for the CLEARcut network. You need to configure only a few network settings that are specific to your environment.

NMX includes two main software components:

- Domain Manager. Use Domain Manager to start the NMX server and system processes. If you shut the system down for any reason, be sure to use Domain Manager to restart the NMX server before starting CLEARcut Studio.
- Digital Service Manager. Use Digital Service Manager to set the encoder network properties.
2.3.1 Starting the NMX Server

Use Domain Manager to start the NMX server and system processes.

To start the NMX server:
1. On the CLEARcut Studio workstation, double-click the Domain Manager icon.

   ![Domain Manager icon](image)

   Figure 2-1: Domain Manager icon

2. Enter the user name (and password, if required).
   If you did not change the default login, use the following name; no password is required:
   User name: Administrator
   The Domain Manager dialog box opens.

3. In Domain Manager, right-click the Local PC icon, and select Properties from the shortcut menu.
   The PC Properties dialog box opens.

   ![Setting the workstation IP address](image)

   Figure 2-2: Setting the workstation IP address

4. Click the ... button to the right of the IP Address field.
5. Select the management IP address from the list.
6. Click OK.
   The PC Properties dialog box closes, and the IP address you selected appears in parentheses beside the Local PC icon.
7. Click the Start Server button (a green arrow) in the toolbar to start the NMX server.
   The icons beside the server processes turn yellow while the processes initialize, then turn green when the processes have started. The toolbar shows a green bullet and Server Running when all the processes have started.
   After the server is running, you can close or minimize Domain Manager. The server does not stop when you close Domain Manager. You must click the Stop Server button in the toolbar to stop the NMX server.
CAUTION: The NMX server must be running for you to perform normal monitoring and management of your network devices. Leave the server running even after you have finished hardware and service configuration.

2.3.2 Configuring the Encoder in NMX

You must tell NMX how to recognize the encoders in your CLEARcut Studio network. To do so, follow the steps in this section to open NMX Digital Service Manager and configure encoder properties.

To open NMX Digital Service Manager:
1. Double-click the Digital Service Manager icon.

![NMX Digital Service Manager icon](image)

Figure 2-3: NMX Digital Service Manager icon

The Login dialog box opens.
2. In the Server field, enter the address of the management IP port.
3. Enter the user name (and password, if required).
   - If you did not change the default login, use the following name; no password is required: User name: Administrator
4. Click OK.

NMX opens and shows Tree and Map View. The Tree View pane contains an icon for the site at the top of the tree, and the Map View pane contains a network group icon.

![NMX Digital Service Manager window](image)

Figure 2-4: NMX Digital Service Manager window

To configure the network group:
1. Double-click the network group icon in the map.

   The map now shows the items in the network group:

   - An input icon for each of the encoders in the network group. Each input device icon represents the source of the audio and video streams flowing to the encoder. In the CLEARcut Studio network, the input source is the VTR, VDR, or DVD player, and you do not manage it through NMX. However, NMX requires an input icon for proper provisioning.

   - An encoder icon representing each encoder in the network group. NMX manages and monitors the encoders. The red background on the encoder icons means there is a major alarm asserted against it, but the alarm should clear and the background turn green when you set network properties for the encoder, enabling NMX to recognize it.

   - An output icon for each of the encoders in the network group. Each output device icon represents the output flowing from the encoder IP or IPA output port. This icon tells NMX the output transport type. The yellow background on this icon means there is a warning alarm asserted against this object. It should clear and turn green when services begin flowing.

   - A PSI input device icon. NMX creates PSI for the video clip. When NMX generates PSI/SI, there is no external PSI/SI input source. However, NMX requires a PSI/SI input device in the network group to represent the flow of PSI/SI.

![Figure 2-5: The CLEARcut network group map in NMX Digital Service Manager](image)

2. Right-click an encoder icon in the map, and select Properties from the shortcut menu.

   The Properties dialog box opens.
3. Enter the encoder IP address, MAC address, subnet mask, and default gateway in the appropriate fields.

![Encoder properties dialog box in NMX Digital Service Manager](image)

**Figure 2-6: An encoder properties dialog box in NMX Digital Service Manager**

4. Make sure the In Service field is set to True.
5. Click OK.
6. Power-cycle the encoder.
   The encoder begins using these network settings when it restarts. The encoder icon background should turn green, and the output icon should turn green.
7. Repeat steps 2–6 for each encoder in the network group.

You can now close NMX Digital Service Manager. You are ready to begin using CLEARcut Studio. Proceed to Chapter 3, **Getting Started in CLEARcut Studio**.

### 2.4 Upgrading CLEARcut Studio from a Previous Version

Unlike previous versions, CLEARcut Studio 3.8 runs only on the Windows 2003 platform with SQL 2008. If you are upgrading from another platform, you must back up all assets and configurations, and do a full system update.

1. You must back up NMX and you CCS catalogs. Refer to the NMX Guide for instructions about backing up your catalogs. Copy the backup files from c:\databasebkup to a remote location.
2. Back up all your asset files from c:\assets to a remote location.
3. Follow the system recovery process in Appendix C, **Restoring CLEARcut Studio** on page 29.
4. After the recovery, copy all the assets and backup catalogs files back to the system. Restore the catalogs.
5. Download the latest embedded software to the encoders in your CLEARcut setup. See **2.4.2 Updating Embedded Encoder Software** on page 20.

**NOTE:** If you have a Dell 1RU CLEARcut workstation and want to upgrade to CLEARcut 3.8, you must order a Dell 2RU or IBM server from Harmonic, then migrate your data to the new workstation as described in **2.4.1 Migrating to Another CLEARcut Workstation** on page 20.
2.4.1 Migrating to Another CLEARcut Workstation

If you are migrating from one CLEARcut workstation to another, you need to perform the following tasks:

- Transfer your assets from the old CLEARcut workstation to the new one.
- Connect your equipment. See Table 2-1: Installation, Migration, and Upgrade Scenarios on page 12.
- Assign IP addresses. See 2.2 Configuring Network Information on page 14.
- Enter encoder information in NMX Digital Service Manager.
- Download the latest embedded software to the encoders in your CLEARcut setup. See 2.4.2 Updating Embedded Encoder Software on page 20.

**NOTE:** Rather than using your existing NMX and CLEARcut catalogs, Harmonic recommends that you use the default catalogs installed on the new CLEARcut workstation. The new NMX catalog includes a network group and stream map that allow you to switch easily between encoders.

To transfer CLEARcut assets to the new workstation:

- Copy the files from the c:\Assets directory on the old workstation to the c:\Assets directory on the new workstation.

2.4.2 Updating Embedded Encoder Software

If you are upgrading from a previous release of CLEARcut Studio, you must update the embedded software on your encoders. You do this using NMX Digital Service Manager.

**NOTE:** Upgrading encoder software affects service. Do not attempt to run CLEARcut Studio while upgrading the embedded encoder software.

To upgrade an encoder’s embedded software:

1. If the NMX server is stopped, start it by opening Domain Manager and clicking the Start Server button (a green arrow) on the toolbar.
2. When the server has started, double-click the Digital Service Manager icon on the desktop.

![Digital Service Manager icon](image)

**Figure 2–7: Digital Service Manager icon**

The Login dialog box opens.
3. In the Server field, enter the address of the management IP port.
4. Enter the user name (and password, if required).
   - If you did not change the default login, use the following name; no password is required:
     User name: Administrator
5. Click OK.
6. Double-click the network group icon in Map View to open the network group map.
7. Right-click the encoder, and select Properties from the shortcut menu. The Properties dialog box opens.

![Encoder properties dialog box](image)

Figure 2-8: Encoder properties dialog box

8. In the Desired Software Version drop-down list, select the version of embedded software supported by CLEARcut Studio.
   Check your CLEARcut Studio release notes to find the software version supported by this release of CLEARcut Studio.

9. Click OK.
   The encoder downloads the new software and resets itself. This process may take some time.

10. Repeat steps 7–9 for each encoder in the network group.
    This completes the upgrade process. You are now ready to begin using CLEARcut Studio.
Chapter 3
Getting Started in CLEARcut Studio

To begin using CLEARcut Studio, open the application, set the active catalog, and start the server. These tasks are described in this chapter.

You must set the active catalog the first time you use CLEARcut Studio, but you do not need to do this every time. After the initial setup, you only need to open the application and start the server.

3.1 Opening CLEARcut Studio

The NMX server must be running before you start CLEARcut Studio. If you restart this workstation or any applications, always open Domain Manager and click the green arrow to start the NMX server before opening CLEARcut Studio.

To open CLEARcut Studio:
1. Double-click the CLEARcut Studio icon on the desktop.

   Figure 3–1: CLEARcut Studio icon

The CLEARcut Studio Login dialog box opens.

   Figure 3–2: CLEARcut Studio login dialog box

2. If you have not set an administrator password, click OK.
   There is no password the first time you log in, because the default Administrator login does not have a password. Harmonic recommends setting a password and creating individual user logins. See the CLEARcut Studio online help for instructions.

3. You may see the message, A valid active database catalog has not been set. Please use database administration to create and specify an active catalog. Click OK.

   Figure 3–3 on page 23 shows CLEARcut Studio.
Next, you set the active catalog and start the CLEARcut Studio server.

### 3.2 Setting the Active Catalog

CLEARcut Studio comes with one database catalog. You may need to create other catalogs in the future, but you can use this catalog to start.

To set the active catalog:

1. Select **Database > Active Catalog**.
   
   The Active Catalog dialog box opens.

2. Enter the host name of the CLEARcut workstation in the SQL Server field.

3. If you are upgrading to the 3.8 release, and your catalogs were created in an older version, you will be prompted to upgrade the preconfigured NMX catalogs when you first start CLEARcut.

4. In the Catalog drop-down list, select the catalog **CCSDB**.

A red status bullet indicates that the CLEARcut Studio server is stopped. A green status bullet indicates that the server is running.

Figure 3-3: CLEARcut Studio main window

Figure 3-4: Activating the CLEARcut Studio catalog
5. Click the ... button beside the Server field, and select the management IP address of the CLEARcut workstation, or enter the IP address.

6. Click OK.

3.3 Starting the CLEARcut Studio Server

To start the CLEARcut Studio server:

- Select File > Start Server.

When the server starts, the status bullet in the bottom right corner turns green.

3.4 Where to Go Next

To begin using CLEARcut Studio, complete some initial configuration that you will use later when creating capture jobs. See the CLEARcut Studio online help for information about the following CLEARcut configuration tasks:

- Configure the source device, the servers to which you upload captures, the CLEARcut host, and your encoding profiles.
- Set preferences—default properties for the CLEARcut server, video captures, source device operation, and decoder output.
- Create a list of the providers that supply the video tapes or DVDs from which you record clips.
- Create a list of the sources—the video tapes and DVDs from which you record clips.

After you finish the initial configuration, you can begin to capture, certify, upload, and manage video clips and create metadata packages.
4.1 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 from within the U.S. and Canada, call toll free:
1.888.MPEGTWO (673.4896)

For assistance from outside the U.S. and Canada, call:
1.408.490.6477
The fax number is 408.490.6770
The email address is techhelp@harmonicinc.com

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.+1.408.490.6708

The web address for Harmonic Inc. is www.harmonicinc.com.
CLEARcut Studio supports the following keystroke commands:

Table A-1: CLEARcut Studio Keystroke Commands

<table>
<thead>
<tr>
<th>Key Strokes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+Spacebar</td>
<td>Activates and deactivates keyboard mode</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Stop</td>
</tr>
<tr>
<td>Down Arrow</td>
<td>Stop</td>
</tr>
<tr>
<td>Up Arrow</td>
<td>Play</td>
</tr>
<tr>
<td>Alt+Up Arrow</td>
<td>Eject</td>
</tr>
<tr>
<td>Left Arrow</td>
<td>Decrease speed if shuttling forward</td>
</tr>
<tr>
<td></td>
<td>Increase speed if shuttling backward</td>
</tr>
<tr>
<td>Right Arrow</td>
<td>Increase speed if shuttling forward</td>
</tr>
<tr>
<td></td>
<td>Decrease speed if shuttling backward</td>
</tr>
<tr>
<td>Alt+Left Arrow</td>
<td>Seek to in-point</td>
</tr>
<tr>
<td>Alt+Right Arrow</td>
<td>Seek to out-point</td>
</tr>
<tr>
<td>Ctrl+Left Arrow</td>
<td>Skip n frames backward</td>
</tr>
<tr>
<td>Ctrl+Right Arrow</td>
<td>Skip n frames forward</td>
</tr>
<tr>
<td>Ctrl+Enter</td>
<td>Record</td>
</tr>
<tr>
<td>Shift+Left Arrow</td>
<td>Set in-point</td>
</tr>
<tr>
<td>Shift+Right Arrow</td>
<td>Set out-point</td>
</tr>
<tr>
<td>Shift+Enter</td>
<td>Review</td>
</tr>
</tbody>
</table>

**TIP:** The keystroke commands do not work until you activate keyboard mode. Press Ctrl+Spacebar to activate keyboard mode.
Appendix B

Using a Contour ShuttlePRO Device

CLEARcut Studio supports using the Contour ShuttlePRO device instead of the CLEARcut Studio graphical user interface to send most commands. Harmonic provides a configuration file that maps CLEARcut Studio commands to specific ShuttlePRO buttons.

NOTE: The VTR, VDR, or DVD player might not respond to a quick succession of commands from the ShuttlePro device. For example, if you turn the wheel to its maximum right or left position and release the wheel so it quickly returns to the center position, the VTR or DVD player might continue playing in the direction you were going. For best results, maintain contact with the wheel.

To use the ShuttlePRO device with CLEARcut Studio:
1. Connect the ShuttlePRO device to the CLEARcut workstation.
2. Open the ShuttlePRO Shuttle Configuration application.
3. Click the Options button, and select Import settings from the menu.
4. Navigate to the CLEARcut Studio software installation directory:
   c:\Program Files\Harmonic\CLEARcut Studio\Resources\Configuration
5. Select the file CLEARcutStudio.pref, and click OK.
   CLEARcutStudio.pref now appears in the Target Application menu.
6. Click Apply.

The following figure shows the buttons on the ShuttlePRO device and their functions.

![ShuttlePRO buttons](image)

Figure B-1: ShuttlePRO buttons
The following table describes the jog wheel functions.

**Table B-1: ShuttlePRO Jog Wheel Functions**

<table>
<thead>
<tr>
<th>Jog Wheel Direction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>Skip ( n ) frames backward</td>
</tr>
<tr>
<td>Right</td>
<td>Skip ( n ) frames forward</td>
</tr>
</tbody>
</table>

The following table describes the shuttle ring positions.

**Table B-2: ShuttlePRO Shuttle Ring Positions**

<table>
<thead>
<tr>
<th>Shuttle Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left 7</td>
<td>(-50) seconds</td>
</tr>
<tr>
<td>Left 6</td>
<td>(-24) seconds</td>
</tr>
<tr>
<td>Left 5</td>
<td>(-10) seconds</td>
</tr>
<tr>
<td>Left 4</td>
<td>(-1) second</td>
</tr>
<tr>
<td>Left 3</td>
<td>(-0.6) second</td>
</tr>
<tr>
<td>Left 2</td>
<td>(-0.24) second</td>
</tr>
<tr>
<td>Left 1</td>
<td>(-0.1) second</td>
</tr>
<tr>
<td>0</td>
<td>Still</td>
</tr>
<tr>
<td>Right 1</td>
<td>(+0.1) second</td>
</tr>
<tr>
<td>Right 2</td>
<td>(+0.25) second</td>
</tr>
<tr>
<td>Right 3</td>
<td>(+0.6) second</td>
</tr>
<tr>
<td>Right 4</td>
<td>(+1) second</td>
</tr>
<tr>
<td>Right 5</td>
<td>(+10) seconds</td>
</tr>
<tr>
<td>Right 6</td>
<td>(+24) seconds</td>
</tr>
<tr>
<td>Right 7</td>
<td>(+60) seconds</td>
</tr>
</tbody>
</table>
Appendix C

Restoring CLEARcut Studio

The CLEARcut workstation comes with CLEARcut Studio software installed. In most situations, you need to restore CLEARcut Studio software only in the event of a failure on the workstation.

Harmonic provides recovery CDs so you can restore the computer in the event of a disk crash or other failure on an NMX server or client computer. If you do need to rebuild the computer, you’ll need to perform the following tasks as described in this appendix:

- Restoring Windows Server 2003 and SQL 2008 for IBM x3650 M2 server
- Restoring Windows Server 2003 and SQL 2008 for Dell PowerEdge 2950 server
- Creating an NMX Catalog
- Setting the Active Catalog in NMX
- Installing the Vela Decoder Card Software
- Installing CLEARcut Studio

C.1 Restoring Windows Server 2003 and SQL 2008 for IBM x3650 M2 server

The PC server is a IBM x3650 M2 with three slots which include Audigy Audio, Vela hardware decoder card and ASUS graphics card respectively.

You need the following DVD for recovery:

- Australia Platform DVD
- CLEARcut Studio application DVD

C.1.1 Recovery Steps for IBM x3650 M2

The following installation procedures apply to the IBM x3650 M2 Server.

C.1.1.1 Hardware configuration

The IBM x3650 M2 server is required to setup a hardware RAID volume for OS installation.

To initiate the LSI Configuration Utility program, complete the following steps:

1. Turn on the server.

   **NOTE:** Approximately 3 minutes after the server is connected to ac power, the power-control button becomes active.

2. When the prompt <F1> Setup is displayed, press F1 to enter BIOS setup utility.
3. Select System Settings > Adapters and UEFI drivers.
4. Select Please press ENTER to compile the list of drivers.
5. Select the LSI Logic Fusion MPT SAS Driver.

To create a RAID array of hard disk drives, complete the following steps:

1. From the list of adapters, select the SAS controller “SAS1068E”.
2. Select RAID Properties.
3. Select Create IM Volume.
4. In the RAID Disk column, use the Spacebar or Minus (-) key to select [Yes] (select) to select a drive from a RAID disk.
5. Continue to select drives, using the Spacebar or Minus (-) key, until you have selected all the drives for your array.
6. Press C to create the disk array.
7. Select Save changes then exit this menu to create the array.
8. Exit the Setup utility.
9. Select Exit the Configuration Utility and Restart.
10. When prompt for ‘Stop Controller’, press Enter to continue.
11. Exit the BIOS Setup utility.

C.1.1.2 Using the Platform Recovery Disk
1. Power on the server, insert the Australia Platform DVD to the DVD rom drive.
2. You will see the following message during server bootup “Press any key to boot from CD …”. When you see this, press a key on the keyboard. (You only have a few seconds to do this).
3. The first Windows setup screen appears for 30 minutes approximately and then the system reboots.
4. The second Windows setup screen appears (displaying a count-down timer that starts around 39 minutes). The system will reboot automatically at the end of setup.
5. Remove Australia Platform disc when reboot is started.
7. MS SQL Server installation will be started. It takes 45 minutes approximately to complete the installation.
8. Windows will login automatically to the Windows desktop and launch “Windows Server Post-Setup Security Updates” page. Click Finish and then Yes to close the page.
9. In the text field type “c:\windows\system32\oobe\msosobe /a” and then click OK.
10. Click OK after a message appears stating that the Windows is already activated (if the BIOS loaded correctly). If it did not load correctly you may need to update your BIOS with a valid SLP key.
11. Insert the CLEARcut Studio application DVD. A message pops up requiring user’s confirmation to continue. Input “YES” in capital letters to continue, then the device driver and hotfix will be installed. Afterwards, a menu interface will pop up for the selection of NMX or CLEARcut installation.

C.2 Restoring Windows Server 2003 and SQL 2008 for Dell PowerEdge 2950 server

The PC server is a Dell PowerEdge 2950 with two slots. One slot is for Audigy Audio and one is for the Vela hardware decoder card.

A packet of recovery media was included with your system. For server recovery, you need the following items:

- Windows 2003 OS disk
Appendix C Restoring CLEARcut Studio

Restoring Windows Server 2003 and SQL 2008 for Dell PowerEdge 2950 server

- SQL 2008 disk
- NMX Application Software
- Backups of your NMX server database catalog files and configuration settings, if available.

**NOTE:** Always read any README documents in the recovery media before beginning any restoration procedures.

### C.2.1 Recovery Steps for Dell 2950

The following recovery procedures apply to the 2950 PowerEdge workstation.

#### C.2.1.1 Using the Windows OS Disks

Table 4-1 lists the disks necessary to re-install your applications.

<table>
<thead>
<tr>
<th>Disk Title</th>
<th># of Disks</th>
<th>Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 2003 OS Setup</td>
<td>3 CD</td>
<td>SW-BU-SRV2K3-RCVRY-CD1-xx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SW-BU-SRV2K3-RCVRY-CD2-xx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SW-BU-SRV2K3-RCVRY-CD3-xx</td>
</tr>
<tr>
<td>SQL 2008</td>
<td>1 DVD</td>
<td>SW-BU-SQL2K8-RCVRY-03</td>
</tr>
</tbody>
</table>

Install CD, disk 1 of the OS recovery disks, and follow these steps.
1. Just before jumping to Windows a text line will read “Press any key to boot from CD …”. When you see this, press a key on the keyboard. (You only have a few seconds to do this.)
2. The first Windows setup screen appears for 8-10 minutes and the system reboots.
3. The second Windows setup screen appears (displaying a countdown timer that starts around 39 minutes). Your PC will reboot automatically.
4. When the Ctrl-Alt-Del screen appears logon to the PC (there is no password)
5. The system will be prompting for the second OS disk. Remove the first disk, insert the second disk, and click **OK**.

**When the CD, disk 2 of the OS recovery disks is inserted, follow these steps.**
1. Click **Next** when the Windows Server 2003 R2 Setup Wizard appears.
2. Click **Next** when the Setup Summary dialog box appears.
3. Click **Next** when the Completing Windows Server 2003 R2 Setup dialog box appears.
4. Click **Finish** when the Windows Server Post-Setup Security Updates dialog box appears.
5. Click **Yes** when you are asked “if you want to close this page?”
6. Click the **Do not display this page at logon** check box at the bottom of the Manage Your Servers dialog box.
7. Reboot the server and log back into the PC.
8. Click **Start** and select **Run**.
9. In the text field type *oobe/msoobe/a* and click **OK**.
10. Click **OK** after a message appears stating that the Windows is already activated (if the BIOS loaded correctly). If it did not load correctly you may need to update your BIOS.
11. Click **OK** to exit the installation process.
Insert the CD, disk 3 of the OS recovery disks, and follow these steps.
1. When prompted, enter 1 to start the installation process.
2. Click Finish and wait a moment while the PC reboots. You can also remove the CD.

C.2.1.2 Setting the IP Addresses
If you are restoring CLEARcut workstation, you must set the IP addresses for the NIC 1 and NIC 2 cards before you install the software. Setting the IP address of the management NIC card (NIC 1) makes sure that the workstation operates in your network.

Before changing the IP and subnet mask addresses, be sure that your network is connected to a hub.

C.2.1.3 Using the SQL 2008 Recovery Media for Windows 2003
This sections describes how to install the SQL 2008 Recovery Media.
1. Insert DVD, and enter the SQL option. When prompted to enter the SQL option that you want to start loading, choose: **3 CLEARcut Server**.
2. SQL installer loads various drivers. If the installer asks **Do you want to reboot?** click the **OK** to reboot.
3. The Server will reboot once again. At the next opportunity, log in to the PC. When the system asks for **OS disk number 1**, install that disk and click **OK**.
4. The system will reboot twice more, you need to logon both times. Next, the screen will ask you to press any key, do this and the unit will reboot one more time.
5. The next step is to log on to the PC. You are now ready to load the NMX application software.

C.2.2 Data Execution Prevention (before NMX installs)
1. Navigate to: **my computer -> Properties -> Advanced -> Performance -> Setting -> Data Execution Prevention**.
2. There is a radio button that says: Turn on DEP for all programs and services except those I select. Click that button and add the following:
   - C:\Windows\System32\msiexec.exe
   - C: Windows\System32\regsvr32.exe
3. Click **Apply**.
4. Click **OK**.
5. Click **OK** to close the System Properties dialog box.
6. When you finish setting up the driver, install the NMX server software. You do not need to restart the computer to install NMX.

C.3 Installing NMX Server Application
1. Have your NMX License Token and License Key handy. If you’re not sure where this information is located, keep in mind the following:
   - For new NMX installations, the License Token and Key are provided to the department that places the order (for example, the purchasing department).
   - For upgrades to an existing NMX installation, the License Token and Key are provided to the person that places the upgrade request.
   - The information could be in a .pdf file that was e-mailed to your customer e-mail address.
The information could be on papers sent to your customer shipping address.

2. **For IBM x3650 M2 server**: select NMX option on the menu interface of CLEARcut Studio application DVD.

   **For Dell PowerEdge 2950 server**: use Windows Explorer, navigate to the NMX Application Media root directory and double-click the file Setup.exe.

3. If you do not have the correct OS service pack, click Yes when the NMX installation program asks if you want to install the appropriate service pack.

   When the OS service pack installation completes:
   - Reboot the computer and start the NMX installation program again (see Step 2).

4. Click **Next** in the Setup window.

5. Read the License Agreement. If you accept the terms, click **Next**.

6. In the NMX Registration dialog box, enter your user name and company name, and click **Next**.

7. In the NMX License Registration dialog box, enter the License Token and License Key that you received with your software package, and click **Next**.

8. In the Information dialog box, click **Next**.

9. In the Setup Type dialog box, select Typical Client and Server, and click **Next**.

   **NOTE:** Server installation must be on the C: drive. Client can be installed on any drive.

10. In the Site Information dialog box, enter a unique identifier for the site, and click **Next**.

    **If you are installing for the first time:** You can enter any number from 11–2000.

11. In the SQL Server Information dialog box Server field, confirm or edit the host name of the computer where the SQL Server database is installed, and click **Next**.

    **CAUTION:** Do not change the default values for User ID and Password. The default values are the correct values to access the NMX database.

12. In the SQL Server Catalog Information dialog box, enter the name of the SQL Server catalog used by NMX. The name must start with an alphabetic character.

    **If you are installing for the first time:** In this step, you’re just naming the catalog. You must create the catalog after you finish installing NMX. The default catalog name is NMXDB.

13. In the Backup Directory Path dialog box, enter the full path to a directory on the SQL Server computer where you want to save NMX database backups.

    **NOTE:** The default backup directory in the Full Path field is C:\databasebkup. NMX automatically creates this directory and populates this field. Harmonic strongly recommends that you use the default backup directory.

14. In the Start Copying Files dialog box, click **Next**.

    The software installation begins. When the NMX software installation finishes, the MG-Soft MIB Browser installation begins.

15. Follow the MG-SOFT MIB Browser installation through the onscreen instructions.

    When the MG-SOFT MIB Browser installation finishes, the browser opens. Close the window. (If the readme file opens, close it, too.)

16. NMX documentation requires Acrobat Reader. Follow the onscreen steps to install Acrobat Reader. If asked to reboot, select **No**.
17. If you are installing a Typical Client and Server, the Wizard will prompt you to install NetTime. If you require an NTP Server, follow the installation instructions in the NetTime Setup Wizard.

If you are installing for the first time: You must configure at least one server name in the NetTime Options dialog box before you can proceed.

**NOTE:** Harmonic recommends using the default settings for all other NetTime options. When the NetTime Options dialog box appears, enter the server addresses, accept the defaults, and click OK. If you change the NetTime settings, the service can lock up, requiring you to restart the computer.

18. When the installation finishes, you are prompted to restart the computer. Select *Yes*, I want to restart my computer now, and click *Finish*.

**NOTE:** Restarting the computer is essential to the proper performance of the following steps.

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**C.4 Post-installation NMX Configurations**

**C.4.1 Data Execution Prevention after NMX is installed (for Dell PowerEdge 2950 server only)**

After the NMX installation, navigate to: *My Computer -> Properties -> Advanced -> Performance-> Setting -> Data Execution Prevention.*

There is a radio button that says: Turn on DEP for all programs and services except those I select. Click that button, and add the following:

c:\Program Files\harmonic\NMX\GUI\NMXGUI.exe

**C.4.2 Creating an NMX Catalog**

If you are not using an NMX catalog from a previous version, you must create one.

Before installing CLEARcut Studio, create a database catalog for NMX, and start the server. The CLEARcut Studio installation requires an existing catalog in NMX. The CLEARcut Studio installation will overwrite the catalog you create here.

To create a new NMX database catalog:

1. On the CLEARcut workstation, double-click the Domain Manager icon. The Domain Manager login dialog box opens.
2. Enter the user name (and password, if required).
   
   If you did not change the default login, use the following name; no password is required:
   
   **User name:** Administrator

**NOTE:** NMX provides user administration tools to create user logins with specific permissions. Harmonic recommends changing the Administrator password and setting up individual user accounts.

The first time you install NMX, Domain Manager opens but tells you that it could not connect to the database. This is because the database catalog does not exist yet.
3. In Domain Manager, select **Database > Catalog Administrator.**
   The Database User Login dialog box opens.
4. In the login dialog box, enter the SQL system administrator user name and password, and
   click **OK.**
   - **User Name:** sa
   - **Password:** harmonic
5. The Catalog dialog box opens, showing Automation, NMX, and Other catalogs. You must
   first add the NMX database:
   - Click the **New** button.
   - Select NMX from the Catalog Type drop-down list.
   - Enter **NMXCCS** in the Catalog Name field, and click **OK.**
     A DOS window opens, and text scrolls as the catalog is created. The catalog creation
     has finished when you can see a command prompt in the DOS window. Then the
     DOS window closes automatically.
6. Close the Catalog Administration dialog box.

Now configure Domain Manager to use the catalog you just created, and start and stop the
server. These tasks are described in the following section.

### C.4.3 Setting the Active Catalog in NMX

After you create the catalog, you must tell NMX which catalog to use. This is called setting the
catalog. After you set the catalog, you can start the NMX server.

To set the catalog in NMX:
1. In the Domain Manager window, right-click the Domain icon, and select **Properties** from
   the shortcut menu.
2. In the NMX Database section, click the ... button beside the **DB Catalog** field, and select
   the catalog you created.

![Figure C-1: Setting the active catalog in NMX](image-url)
3. Click **OK**.
4. Right-click the Local PC icon, and select **Properties** from the shortcut menu.
5. Click the .... **button** beside the IP Address field, and select the management IP address.

6. Click **OK**.
7. Click the **green arrow** button to start the server.
   The status bullets beside each element manager turn yellow, then green when the server starts.
8. After the server starts, click the **red hand** to shut it down.
   The server should not be running when you install CLEARcut Studio.
9. Close Domain Manager.

### C.5 Installing the Vela Decoder Card Software

To install the Vela software:

1. **For IBM x3650 M2 server**: Insert the CLEARcut Studio application DVD.
   **For Dell PowerEdge 2950 server**: Insert the CLEARcut Studio installation CD.
2. **For IBM x3650 M2 server**: Navigate to the directory `Software\<CCS path>\Support_Software\VelaSystemSoftware` on the DVD.
   **For Dell PowerEdge 2950 server**: Navigate to the directory `Support_Software\VelaSystemSoftware` on the CD.
3. Locate and run Setup.exe. Select **Install Vela System Software**.
4. Follow the onscreen instructions to install the Vela software.
5. During installation, the installer may prompt for installing the CineView HD Pro Decoder or CineView HD Pro Decoder G10 driver. Simply press **Continue Anyway** to proceed with installation.
6. When installation is complete, restart the computer.

**NOTE**: During the restart, some warnings may show during the Windows startup. Click **OK** to close those warnings.

The CLEARcut Studio application DVD or CLEARcut installation CD includes Vela documentation.
C.6 Installing CLEARcut Studio

After starting and stopping the NMX server and updating the decoder card, install CLEARcut Studio. DirectX is installed automatically with CLEARcut Studio.

To install CLEARcut Studio:

1. **For IBM x3650 M2 server**: Select CLEARcut option on the menu interface of CLEARcut Studio application DVD.

2. **For Dell PowerEdge 2950 server**: Insert the CLEARcut Studio installation CD in the CD drive of the CLEARcut workstation. Navigate to the CD drive, and double-click the file Setup.exe.

3. An WinPcap Setup dialog box is prompted for the installation of WinPcap. Click Next to proceed the installation procedures.

4. At the Welcome screen, click Next.

5. A window is prompted to ask whether to reinstall .NET framework. Click No.

6. In the Select Encoder Models screen, select the check boxes next to the encoder models that correspond to the encoders in your CLEARcut setup.

7. Specify whether you want to create preconfigured NMX catalogs, and click Next.

   **NOTE:** Harmonic recommends that you let the installation program create preconfigured NMX catalogs if you are upgrading from a CLEARcut Studio release earlier than 3.2. This allows you to switch easily between encoders. You do not need to create preconfigured catalogs if you are upgrading from CLEARcut 3.2 or later, or if you are reinstalling this release of CLEARcut Studio due to disk recovery and have backup copies of your catalogs.

   If you don’t already have the catalogs created by this release of CLEARcut Studio, select Yes to create them. This catalog creation updates the NMX catalog you created earlier (see C.4.2 Creating an NMX Catalog on page 34) and creates the Automation catalog.

   If you select Yes, click Next, and proceed to step 7.

   If you select No, skip to step 10. The catalogs that you already have will be used.

8. Accept the default names for the NMX and Automation catalogs, and click Next.

9. If the installation asks if you want to overwrite the existing catalog NMXCCS, select Yes, and click Next.

   The installation asks you to make sure that NMX is not currently running.

10. Select Yes to continue, and click Next.

    If you chose to create preconfigured catalogs, they are created now.

11. To continue with installation, click Install.

12. When installation is complete, you can choose to restart the computer now or later.

    Select the option to restart the computer now, remove the CLEARcut installation CD from the CD drive, and click Finish.

   **NOTE:** While updating Microsoft DirectX Runtimes, the installer may prompt, saying that one or more DirectX components are disabled. Simply press OK to continue.
C.7 Data Execution Prevention (for Dell PowerEdge 2950 server only)

After the CLEARcut Studio installation, navigate to:

My Computer -> Properties -> Advanced -> Performance -> Setting -> Data Execution Prevention.

There is a radio button that says: Turn on DEP for all programs and services except those I select. Click that button, then add the following:

c:\Program Files\Harmonic\CLEARcut Studio\CLEARcutStudio.exe