CHAPTER 1

# Installing the Cisco Digital Media Encoder 1100

**Revised: November 18, 2008, OL-17939-01**

This chapter includes the following sections:



## Foreword

Congratulations on the purchase of your Cisco Digital Media Encoder 1100! You are the fortunate owner of a state-of-the-art streaming media system. Now you can capture and stream your audio and video content over the Internet or any local or wide area IP network. All you need is your audio and video source, such as a camera or deck, a streaming media server or hosting provider, and an IP connection to your viewing audience.

Throughout this document, Cisco Digital Media Encoder 1100 will be referred to generically as an encoder or device.

For a complete overview on streaming audio and video over an IP network, go to the "Streaming Infrastructure" section on page 2-2. This section will explain how streaming media works.

Cisco Digital Media Encoder 1100 is an easy-to-use streaming device. You simply connect your audio and video source to the encoder, select your target playback device, enter your streaming server information, and press the **Stream** button. You're streaming live!

Cisco Digital Media Encoder 1100 can be configured and used straight out of the box for most streaming uses. For more advanced settings or controlling your encoder from another networked computer, you will use ***Niagara SCX Web Interface***.

The front panel of your encoder can be customized by using the ***Configuration Web Browser Interface***. This configuration tool also provides the ability to set many other system parameters for your device.

We hope you enjoy your Cisco Digital Media Encoder 1100!

**Warning** **Read the installation instructions before connecting the system to the power source.**

**Warning** **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.**

# Safety Instructions

This section includes the following topics:



## Warnings

Before installing the Cisco Digital Media Encoder 1100, read and comply with the following safety warnings to ensure that you do not damage the equipment or cause personal injury.

**Warning** **Installation of the equipment must comply with local and national electrical codes.**

**Warning** **Read the installation instructions before connecting the system to the power source.**

**Warning** **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.**

**Warning** **This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations.**

**Warning** **The power supply must be placed indoors.**

**Warning** **The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.**

**Warning** **Do not work on the system or connect or disconnect cables during periods of lightning activity.**

**Warning** **To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.**

## Warranty

For complete warranty details, refer to the specific warranty included with each product.

# Package Contents

Completely unpack all of the contents from the box, inspect each item for damage, and ensure that you have all of the following components:

- Cisco Digital Media Encoder 1100
- Power Cable
- BNC-to-RCA Converter, Male-to-Female
- Cisco Digital Media Encoder 1100 Documentation CD

If any of these components are missing or damaged, do not continue with the installation. Contact the Cisco reseller from which you purchased your encoder system for assistance in obtaining any missing parts or for parts replacement.

The encoder's serial number is located on the bottom of the chassis.

**Warning** **Installation of the equipment must comply with local and national electrical codes.**

# Installation

This section will guide you through the physical connection and setup of your Cisco Digital Media Encoder 1100 system.

There are two parts to the complete installation of the encoder, as follows:

1. Connecting the Cisco Digital Media Encoder 1100
2. Configuring the Cisco Digital Media Encoder 1100

Most of the basic operations you will routinely use are performed from the front panel of the encoder, shown in Figure 1-1.

*Figure 1-1 Front Panel*


There are advanced setup and operations you may wish to access and to do so you will need to access the ***SCX Web Interface*** from a computer that resides on the same network as the encoder.

Although these advanced operations are not required for most streaming applications, you may want to customize your encoding settings and assign specific encoding profiles to the ***EZStream® ABC*** buttons on the front panel. The ***SCX Web Interface*** provides the ability to remote control your encoder from a computer that could be rooms or continents away from the system provided that both your encoder and the computer have Internet access to communicate with each other.

First, you need to connect the encoder. See the "Connecting the Cisco Digital Media Encoder 1100" section for connection information.

# Connecting the Cisco Digital Media Encoder 1100

Although it has many features and capabilities, the encoder at its most basic function takes analog audio and video input and processes the signals and then encodes them into digital IP video formats. Then, the encoder delivers the IP audio and video content to a storage device or streams it over an IP network.

There are four requirements for setting up the encoder for streaming or capturing video, as follows:

- AC power source (100-240v)
- Audio/Video source (camera, video player, or other A/V output device)
- IP network and/or Internet connection
- A streaming media server for streaming your content to many viewers

## Connecting to an Electrical Power Source

The appropriate power cable is specified when your unit is ordered. Attach the block end to the power input located on the left side on the rear panel of the encoder (Figure 1-2).

Plug the other end into a wall outlet or surge protection enabled power strip that is connected to wall outlet or other common power source.

**Warning** **The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.**

**Warning** **Do not work on the system or connect or disconnect cables during periods of lightning activity.**

## Rear Panel Diagram

The diagram in Figure 1-2 and Table 1-1 illustrate all of the connectors and other components of the encoder rear panel.

*Figure 1-2 Rear Panel Diagram*

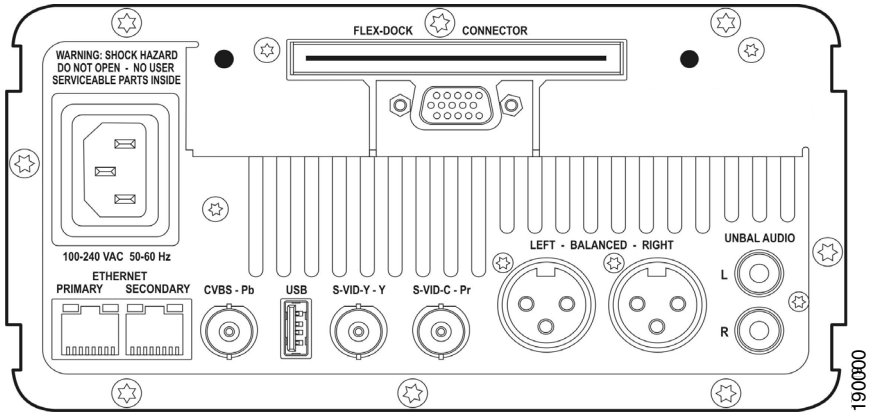



Figure 1-2 shows the rear panel of the encoder. Using the reference chart and images in Table 1-1, you can connect the appropriate device and power to the encoder.

*Table 1-1 Rear Panel Connectors and Components*

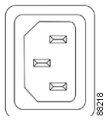
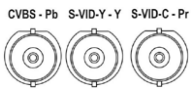
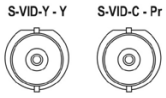
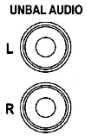
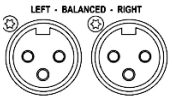
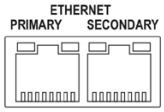
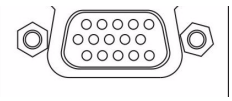
| Connection | Description |
|---|---|
| **Power Connection** | |
| **AC Power connector for 100-240 volts, AC, 50-60 Hz**  | Plug the power cable that was include with your encoder to this connector and plug the opposite end into an AC power source or electrical wall outlet. |
| **Analog Inputs—Video** | |
| **Component BNC Input**   | The encoder includes inputs for Component video input and includes BNC-to-RCA adapter. |
| **Composite BNC Input**   | The encoder includes a BNC-to-RCA adapter so that you can connect a composite RCA video cable to this BNC connector. Composite RCA connectors are found on most video playback equipment, such as video players and video cameras. Composite BNC connectors are found on professional video playback equipment. |

*Table 1-1 Rear Panel Connectors and Components (continued)*

| | |
|---|---|
| **S-Video Input**<br>  | This is a standard consumer video connector found on most video players and video cameras. The S-Video (Y/C) connection is via two BNC connectors. RCA adapters are included. |
| **Analog Inputs—Audio** | |
| **Unbalanced Audio Input**<br>  | These RCA connectors provide left and right stereo input. RCA connectors are a standard consumer stereo audio connection found on most video players and video cameras. |
| **Balanced Audio Input**<br>  | These XLR connectors provide left and right balanced stereo input. XLR connectors are used by professional audio engineers and are found on high-end audio and video playback equipment.<br>**Note** A microphone preamplifier or mixer with XLR preamp functions is required to connect a XLR microphone to the Balanced Audio Input. |
| **Output/Network Connection** | |
| **RJ-45 Connector**<br>  | The encoder provides two network connections. These connectors are also referred to as output connectors because the encoder sends video and audio over an IP network, which these connections provide. |
| **Maintenance Connectors** | |
| **VGA Connector**<br>  | The mouse, keyboard, and VGA connections are used only for service and maintenance by a qualified Cisco field technician. Keyboard and mouse connection is via USB.<br>**Note** Using a mouse, keyboard and VGA monitor for operation is not recommended. Third-party software installation or hardware modifications will void warranty. |
| **Other Connectors and Controls** | |
| **USB Port**<br>  | The USB port is used to connect external storage devices, such as a USB drive for transferring files from the encoder to another system. |
| **Flex-Dock Connector**<br>  | The Flex-Dock connector is used to connect encoder accessories. |

## Front Panel Diagram

You should familiarize yourself with the front panel controls for the Cisco Digital Media Encoder 1100. Besides the basic buttons for power, start/stop, up/down and menu access, there are many indicator lights that are hidden until illuminated. Figure 1-3 and Table 1-2 illustrate all buttons and lights, so you can review the front panel functions and interface.

*Figure 1-3 Front Panel Diagram*

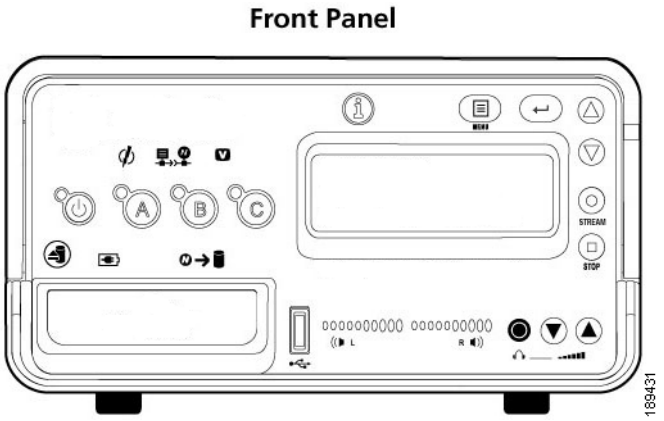
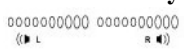



*Table 1-2 Front Panel Buttons and Lights*

| Item | Description |
|---|---|
| **Control Buttons** | |
| **Power** | Pressing this button once will power up the encoder. When the encoder is powered up, pressing this button once will power down the system. |
| **EZStream Buttons** | When an encoder profile is assigned to one of these buttons, pressing the assigned button and then the Stream button will start the encoder. Pressing the assigned button and then the Stop button will stop the encoder. |
| **Alarm Information** | When the Alarm Light indicator is lit, pressing this button will provide a log of the most recent alarms recorded. Pressing the Enter button will clear these alarms from the log. |
| **Menu** | Pressing this button will activate the encoder menu on the LCD display. |
| **Enter** | Pressing this button will enter or accept the menu choice highlighted on the LCD display. It is used for menu operations. |
| **Up/Down** | These buttons are used for menu navigation on the LCD display. |
| **Stream** | Pressing this button when an encoder profile is highlighted in the LCD display will start the encoder. |

*Table 1-2 Front Panel Buttons and Lights*

| | |
|---|---|
| **Stop**  | Pressing this button when an encoder profile is highlighted in the LCD display will stop the encoder. |
| **Unmount**  | Pressing this button will activate the process in the encoder menu for un-mounting a USB device from the encoder. |
| **Indicator Lights** | |
| **Alarm**  | This light indicates that an application alert has occurred. |
| **Remote Control**  | This light indicates that another user is accessing the encoder across the network from a computer. |
| **Video Sync**  | This light indicates when the encoder detects that a video source is connected to one of its video inputs.<br>**Note** This light will only illuminate when an encoder has been started. |
| **Battery Charging**  | This light indicates that an attached USB device's battery is being charged. |
| **Disk Activity**  | This light indicates when the encoder's hard drive is active. |
| **Audio Activity**  | These lights indicate audio input presence. |
| **Connectors** | |
| **USB Port**  | The USB port is used to connect external storage devices such as a USB drive for transferring files from the encoder to another system. |
| **Headphone Jack and Volume Buttons**  | The jack allows headphones to be connected to the encoder for audio monitoring. The Volume Buttons control the audio level on the headphones. |

# Configuring the Cisco Digital Media Encoder 1100

This section includes the following topics:



## Completing First Start Setup

The first time the encoder is powered, the LCD display will present a series of menus that will assist in setting up the system clock, date, and video input format (NTSC [North America/Japan] or PAL).

1. To start the encoder, press the **<POWER>** button located on the front panel.

2. During the power up process, the encoder LCD readout displays the following message:


3. After the encoder powers up the first time, it displays the following message:


4. Press the **<ENTER>** button to begin the initial setup.

5. The encoder will now ask you to set the date.


6. To set the date, use the **<UP>** and **<DOWN>** arrow keys to increment the numerical value of the month.

7. Once you set the numerical value for the month, press the **<STREAM>** button to move to the day field.

8. Again, use the **<UP>** and **<DOWN>** arrow keys to increment the numerical value of the day.
9. Press **<STREAM>** to enter the value and move to the year field.
10. Use the same process for setting the month and day so that you may set the year.
11. If you want to change a previous setting, you can continue pressing the **<STREAM>** button until the cursor cycles around to the month.
12. Once you are satisfied with your settings, you then press the **<ENTER>** button to accept the settings and move to the next screen to set the system clock.
13. The encoder uses Military Time, which is a 24-hour clock format, for its system clock entries.


14. Use the **<UP>**, **<DOWN>**, **<STREAM>**, and **<ENTER>** buttons to set the hour and minute of the system clock.
15. The last setting is the selection of the video input format that you will enter into the encoder.
16. You will see the following prompt message:


17. Press the **<ENTER>** button to continue.
18. Select your video source format from either NTSC or PAL.


19. Press the **<ENTER>** button to set the format, and the final screen will appear confirming that you have successfully set up your encoder.


20. Press the **<ENTER>** button to exit the setup menu and begin using your encoder.

## Configuring the Cisco Digital Media Encoder 1100 to Connect to an IP Network

**Note** If you are not familiar with network protocols, please contact your network administrator for assistance.

The Cisco Digital Media Encoder 1100 network settings for its network interfaces default to dynamically obtain an IP address from a DHCP server on the network.

If a DHCP server is not available or cannot be found on the network, then the encoder will assign its own IP address.

For most network environments, it will not be necessary to modify these default settings. However, if you wish to assign a static IP address to the encoder's Network Interface Cards (NICs), then you can change the network setting using the encoder front panel menu.

## Changing the Cisco Digital Media Encoder 1100 Network Settings

1. Press the **Menu** button to access the encoder's **EASE** menu.

2. The ***EASE Menu*** options are the following:


3. Use the **<UP>** and **<DOWN>** buttons to move the select arrow in the menu until the arrow points to **Setup System** option.

4. Now, press the **<ENTER>** button.

5. The encoder LCD readout will display the Setup menu. Using the **<UP>** and **<DOWN>** buttons, select **Network**, and press the **<ENTER>** button.


6. Select the network interface you wish to modify, and then press **<ENTER>**.


7. Select **Change Settings**, and press the **<ENTER>** button.


The next menu presents the various network settings. Selecting one of these menu items allows you to change these individual settings.

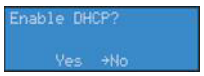
**Note** Once you modify these settings, the changes will be saved until you modify the settings again or you restore the encoder back to its original factory settings.

8. Selec**t DHCP On/Off**, and then press the **<ENTER>** button. If you wish to cancel this process, press the **<MENU>** button to return to the main menu.


9. The following buttons and their respective actions represent your choices:

- Press the **<ENTER>** button to select and continue.
- Press the **Menu** button to cancel and exit.

10. The next menu offers you the choice to enable DHCP for the network interface.




11. Using the **<UP>** and **<DOWN>** buttons, you can toggle the selection from the **No** to the **Yes** option. After you make your selection, press the **<ENTER>** button to input the change. The encoder will confirm that you wish to change this setting.


12. Press **<ENTER>** to confirm your choice. The encoder will return to the menu to select another individual setting to modify.

13. To input a static address for the IP address and/or Gateway, select either from the menu, and press the **<ENTER>** button.



14. Using the **<UP>** and **<DOWN>** arrow keys to increment numerical value, enter a static IP address.
15. Press the **<STREAM>** button to move to the next field.

16. When you have correctly entered the IP address or Gateway address, press **<ENTER>** to input the data into the encoder. When setting a static IP address, a screen will appear that will allow you to set the subnet address.


17. If you wish to remove a static IP address and/or Gateway previously set on the encoder, simply enable DHCP by using the method described in Step 10. Any previously entered static address will be removed.

# Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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