**IMPORTANT SAFETY INSTRUCTIONS**

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturers instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**IMPORTANT SAFETY CONSIDERATIONS**

The DCX3400 set-top requires careful handling to avoid potential damage to its internal hard disk drive or the loss of recorded data. Be sure to follow these requirements during transportation and installation.

The plug is the main disconnect device. It shall remain readily accessible and operable.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

**During Transportation to the Subscriber Home**

Transport the cable terminal in its shipping box or an equally padded container.

Do not expose the terminal to rain or moisture.
During Installation

- Do not place the terminal in an enclosed area where the cooling vents are blocked or impede the flow of air through the ventilation openings.
- Install the terminal so that its position does not interfere with its proper ventilation. For example, do not place the terminal on a bed, sofa, rug, or similar surface that could block the ventilation openings.
- Install the terminal away from heat sources such as radiators, heat registers and stoves. Installation of the terminal near consumer electronics devices, such as stereo receiver/amplifiers and televisions, is permitted as long as the air surrounding the terminal does not exceed 40º C (104º F).
- Place the terminal on a flat surface not prone to vibration or impact.
- Do not install the terminal in an area where condensation occurs.
- To prevent the temporary loss of guide data and cause a temporarily non-responding terminal, do not plug the AC power cord into a switched power outlet.
- To avoid shock and vibration damage to the internal hard drive, do not move the terminal while it is plugged in.
- To allow the hard drive to spin down and park its heads, wait at least 10 seconds after disconnecting power before moving the terminal.

FCC COMPLIANCE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and set-top.
- Connect the equipment into an outlet on a circuit different from that to which the set-top is connected.
- Consult the dealer or an experienced radio/TV technician for help.
Caution: Changes or modifications not expressly approved by Motorola for compliance could void the user’s authority to operate the equipment.

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.

FCC DECLARATION OF CONFORMITY
Motorola Inc., Home & Networks Mobility, 101 Tournament Drive, Horsham, PA 19044, 1-215-323-1000, declares that the DCX 3400 set-top complies with 47 CFR Parts 2 and 15 of the FCC rules as a Class B digital device.

Canada Industry Canada (IC)
This Class B digital device complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CARING FOR THE ENVIRONMENT BY RECYCLING
When you see this symbol on a Motorola product, do not dispose of the product with residential or commercial waste.

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# Contents

| Introduction | 2 |
| Features | 2 |
| Front Panel | 3 |
| Rear Panel | 4 |

**Operation** | 5 |
| Turning Power On and Off | 5 |
| Changing Channels | 5 |
| Adjusting the Volume | 5 |
| Interactive Program Guide | 6 |
| Front Panel Format Button | 6 |
| Operation | 6 |
| Video Format Indicators (Front Panel Display) | 6 |
| M-Card™ | 6 |

**Digital Video Recorder (DVR)** | 7 |

**Connecting Your DCX Set-top** | 9 |
| Video Connection Options | 9 |
| Connecting HDTV — Single Connection for Video/Audio | 11 |
| Connecting Your DCX Set-top to an HDTV — Single Connection for Video/Audio | 12 |
| Connecting HDTV — Separate Video/Audio Connections | 13 |
| Connecting Your DCX Set-top to an HDTV — Separate Video/Audio | 14 |
| Connecting Your DCX Set-top to an HDTV — Alternate Audio | 15 |
| Connecting an A/V Receiver — Audio | 16 |
| Connecting Your DCX Set-top to an A/V Receiver — Audio | 17 |
| Connecting an SDTV | 18 |
| Connecting Your DCX Set-top to an SDTV | 19 |
| Connecting an SDTV and VCR/DVD Recorder | 20 |
| Connecting Your DCX Set-top to an SDTV and VCR/DVD Recorder | 21 |
| Connecting an A/V Receiver, SDTV, and VCR/DVD Recorder | 22 |
| Connecting Your DCX Set-top to an A/V Receiver, SDTV, and VCR/DVD Recorder | 23 |

**Recording Your Connections** | 24 |
| Data Devices | 25 |

**On-Screen Graphics** | 26 |

**Configuring the Settings Menu** | 27 |

**Troubleshooting** | 31 |

**Appendix A** | 34 |
| Open Source Software Attribution | 34 |
Congratulations on receiving a Motorola DCX3400 Series High-Definition All-Digital Dual-Tuner Cable Set-top with OCAP™ software, one of the most advanced interactive digital cable set-tops available today. Motorola has merged the extraordinary features of digital cable—the seemingly endless programming options, interactive program guides, Video on Demand (VOD), and commercial-free, CD quality music—with the flexibility of a dual-tuner digital video recorder (DVR) and the incredible picture quality and sound of High-Definition TV (HDTV).

This set-top includes an “Entertainment Package” that enables a direct digital connection to consumer audio and video devices through IEEE-1394 and HDMI™ interfaces. Dolby® Digital Plus is supported by the HDMI interface and provides 7.1 channels and beyond of enhanced-quality audio. The set-top is fully equipped with a factory-installed hard drive for hours of DVR functionality, which includes the capability of recording two High-Definition programs, or watching one while recording another.

This User Guide introduces you to the basic features, outlines important safeguards, and provides several options for integrating this component into your current entertainment system. Please take a few moments to read through this User Guide; the configuration diagrams, on-screen menu description, and troubleshooting section will help you make the most of your home entertainment experience.

To determine which features of digital cable are provided in your service area, please check with your local cable operator.

### Features

- All-Digital Dual-Tuner High-Definition DVR M-Card Host
  - Dual tuners support watch and record mode
- Integrated MoCA™ networking (Only available with the DCX3400-M model)
- HDMI, Component, IEEE-1394, S-Video, Composite, RF remodulation, Digital Audio (S/PDIF), Audio L/R, Ethernet, USB, eSATA
- 1080p 24/30 video decode & output support
## Front Panel

![Front Panel](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USB 2.0 High-Speed connector*</td>
</tr>
</tbody>
</table>
| 2    | Cursor — Menu navigation  
Select — Selects menu options |
| 3    | Power — Turns the set-top on and off (standby) |
| 4    | Menu — Displays the menu |
| 5    | Guide — Displays the program guide |
| 6    | Info — Displays current channel and program information |
| 7    | Format * — Changes the video output format |
| 8    | Channel — Changes channel up or down |

* Availability of certain features is dependent upon application support.
## Rear Panel

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>YPbPr — Component video output (HDTV)</td>
</tr>
<tr>
<td>2</td>
<td>Audio Out — Analog L/R (Fixed) audio (SDTV)</td>
</tr>
<tr>
<td>3</td>
<td>Audio Out — Analog L/R (Variable) audio (SDTV)</td>
</tr>
</tbody>
</table>
| 4    | Digital Audio (Coaxial S/PDIF) — Provides Dolby® Digital or PCM output  
        Digital Audio (Optical S/PDIF) — Provides Dolby® Digital or PCM output |
| 5    | M-Card — Inserted M-Card |
| 6    | Cable In — Connects to cable signal from your service provider |
| 7    | RF Out — Ch 3/4 modulated audio/video (SDTV) to TV or VCR |
| 8    | IEEE-1394 — Audio and video device connection |
| 9    | Video Out — Composite Video (SDTV) |
| 10   | S-Video — Connects to S-Video (SDTV) input of TV or VCR |
| 11   | HDMI — High-Definition TV (HDTV) connector |
| 12   | eSATA* — External Serial ATA disk interface |
| 13   | USB 2.0* — High-Speed peripheral device connection |
| 14   | External IR Input* — Connects to a remote control set-top accessory cable  
        Data test connector (service personnel only) |
| 15   | Ethernet* — Network connection |
| 16   | Power connector |

* Availability of certain features is dependent upon application support.
Turning Power On and Off

Press \textit{POWER} on the front panel or remote control to turn the DCX set-top on or off (standby). When using the remote control, be sure it is in cable mode by pressing \textit{CABLE} before pressing \textit{POWER}. When using the front panel please note that the front panel buttons are touch-sensitive, so simply touch the \textit{POWER} button to turn on the set-top.

\textbf{Note:} On initial power-up of the DCX set-top please wait for at least 2 seconds before touching the front panel controls.

Changing Channels

You can change channels in three ways:

\begin{itemize}
  \item Press \textit{CHANNEL +} or \textit{–} on the front panel of the DCX set-top or the remote control to step through the channel selection.
  \item Enter the number of the channel you wish to view using the number keys on the remote control.
  \item Select the channel in the Interactive Program Guide.
\end{itemize}

Adjusting the Volume

Press \textit{VOLUME +} or \textit{–} on the remote control to adjust the volume. When you adjust the volume, the volume scale is displayed on the screen. Press \textit{MUTE} on the remote control to toggle the sound on and off.

For best audio quality when using the analog L/R (variable) volume controlled audio outputs, use the remote control to set the DCX set-top to approximately three quarters of the maximum volume level and then adjust the audio levels on external devices such as your TV or A/V receiver.

When using the analog L/R (fixed) audio outputs or any of the digital audio outputs (HDMI, IEEE-1394, optical or coaxial digital audio) adjust the audio levels on your external device such as your TV or A/V receiver. You may also be able to program your remote to control the volume of your TV or A/V receiver directly (refer to the remote control instruction manual).
Interactive Program Guide

The Interactive Program Guide (IPG) displays information about TV programs and enables you to access features such as Parental Control or Pay-Per-View. Interactive program guides can vary with each cable service provider. Refer to the Interactive Program Guide’s instruction manual for detailed instructions.

Front Panel Format Button

When the Interactive Program Guide (IPG) is active, the Format button located on the front panel of the DCX3400 set-top allows you to quickly change how video is processed by the Component Video (YPbPr) and HDMI outputs. Pressing the Format button will toggle the output between the normal, stretch, and zoom functions.

Operation

The Format button complements the Settings menu. It does not replace the Settings menu. Additional settings for display and audio configuration are set via the IPG.

Video Format Indicators (Front Panel Display)

The front panel display of the DCX3400 set-top is equipped with indicators to the right side of the display that are used to indicate the currently-selected video output format on the component video (YPbPr) and HDMI outputs.

Note: There are some scenarios where the DCX set-top does not change the video output format if the Format button is depressed.

M-Card™

The M-Card is required to view cable television programs, previously recorded programs on the DVR, or interactive on-demand programs. The M-Card should not be removed.
Digital Video Recorder (DVR)

The DCX3400 set-top is equipped with an internal hard drive for DVR (Digital Video Recorder) functionality, which provides the ability to record both Standard-Definition TV (SDTV) and High-Definition TV (HDTV) programs. Storage time varies based on the video format and specific channel.

DVR offers the ability to control your viewing experience by pausing (time shifting) live TV and providing trick playback modes (pause, fast forward, slow forward, fast rewind, slow rewind). You may experience a slight delay when switching between time-shifted and live TV.

The DCX3400-M model also includes integrated MoCA™ networking which supports whole-home DVR capabilities. This feature extends the DVR experience to DCX3200-M or other compatible non-DVR set-tops with integrated MoCA, when enabled by application software. On your non-DVR set-top you can now view your DVR recordings, playback content, and set future recordings all from another room in your home.

With the DCX3400 set-top, you can:

**Record Programming.** The total hours of recorded content will vary based on the storage capacity of your specific DCX model and type of content (digital SD or HD) being recorded.

<table>
<thead>
<tr>
<th>Model</th>
<th>Drive Size</th>
<th>Standard Digital Channels</th>
<th>HDTV Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCX3400</td>
<td>160 GB</td>
<td>55 to 100</td>
<td>14 to 21</td>
</tr>
<tr>
<td></td>
<td>250 GB</td>
<td>80 to 150</td>
<td>20 to 30</td>
</tr>
<tr>
<td></td>
<td>320 GB</td>
<td>110 to 210</td>
<td>30 to 45</td>
</tr>
</tbody>
</table>

*These capacities are based on recording digital MPEG-2 video. A recording of a video program that is broadcast in digital MPEG-4 format requires approximately half the disk space.

**Maintain a Personal Program Library.** Accessed by using the Interactive Program Guide (IPG).

**Control Live TV.** Pause, rewind, replay and fast forward live TV.

**Simultaneously Watch Two Programs.** Watch two programs and easily switch between them using the swap key on your remote control (Dependent upon program guide support and provided remote control).

**Simultaneous Watch and Record.** Record one program in the background while viewing another live broadcast at the same time.

**Simultaneously Record Two Shows.** Record two programs from two different channels at the same time.
Simultaneously Record Two Shows and Watch a Recorded Program. Watch a program recorded on your DVR while recording up to two other programs at the same time. You can also easily switch from viewing the prerecorded program to either of the programs you’re recording.

Play Recorded Programming On Networked Set-tops In Your Home. Using integrated MoCA networking, DCX3400-M recorded entertainment can be accessed by other compatible non-DVR set-tops with integrated MoCA, when enabled by application software.
Connecting Your DCX Set-top

Instructions and diagrams are included for the following connections:

- High-Definition Television (HDTV)
- A/V receiver — Audio
- Standard-Definition TV (SDTV)
- Standard-Definition TV (SDTV) and VCR/DVD Recorder
- A/V receiver, Standard-Definition TV (SDTV), and VCR/DVD Recorder

Before you move or change components on your entertainment system, review the following:

- For basic cable connections, use 75 ohm coaxial cables equipped with F-type connectors
- Disconnect power from your equipment before connecting or changing cable connections

For information on connecting to an HDTV, see Video Connection Options below.

**WARNING:** Do not place anything on top of your DCX set-top, especially other home entertainment components. Be sure to provide adequate ventilation to prevent overheating.

**Video Connection Options**

The DCX set-top offers several different video connection options. Component video, HDMI, and IEEE-1394 allow you to view both High-Definition and Standard-Definition TV programming. Composite video, S-Video, and RF coaxial connections allow you to view only Standard-Definition TV programming. HD programming will be down-converted to SD format for SD outputs.

To determine whether your TV features component video, HDMI, IEEE-1394, S-Video, or composite video, check the manual supplied with your TV.

Use the guidelines below to determine the best video connection for your home entertainment system.

*Note:* Only (1) video connection to the TV is required. HD video can only be viewed with HDMI, IEEE-1394, or component video connections.

- **HDMI or IEEE-1394 — HDTV and SDTV**
  
  HDMI and IEEE-1394 offer higher quality HD video than component video.
If your TV has an HDMI input, this is for both audio and video. Connect a Standard HDMI cable to the TV and to the HDMI connector on your DCX set-top.

HDMI and IEEE-1394 outputs provide video and audio, so no separate audio connections are required if you plan to use your TV’s speakers as the primary audio source.

On-screen graphics will not be displayed when you are using the IEEE-1394 connection on the rear panel of the DCX set-top. Refer to Section 6, On-Screen Graphics, for more information.

If your TV has a DVI input, connect a HDMI-to-DVI adapter or cable to the HDMI out connector on the DCX set-top and the DVI HDTV connector on your TV. 

*Note: DVI does not provide audio. A separate audio connection must be made.*

- **Component Video (YPbPr) — HDTV and SDTV**
  The YPbPr connectors on your DCX set-top provide HDTV and SDTV component video.
  
  *Note: Component video does not provide audio. A separate audio connection must be made.*

- **S-Video — SDTV**
  If a component video input is not available on your TV, use the S-Video connection.
  
  *Note: S-Video does not provide audio. A separate audio connection must be made.*

- **Composite Video — SDTV**
  If an S-Video input is not available on your TV, use the composite video (video) connection.
  
  *Note: Composite video does not provide audio. A separate audio connection must be made.*

- **RF Output — SDTV**
  If no other input is available on your TV, the RF Output of the DCX3400 set-top can be connected to the Antenna or Cable Input on your TV. The RF Output carries both video and audio. Set your TV to channel 3 or 4.
Connecting HDTV — Single Connection for Video/Audio

**Cable In**
Connect an RF coaxial cable to the cable wall outlet and the CABLE IN connector on the DCX set-top.

**HDMI**
If your TV has an HDMI input, this is for both audio and video if you are using the TV speakers. Connect a Standard HDMI cable to the TV and to the HDMI connector on your DCX set-top.

**IEEE-1394**
If your HDTV has an IEEE-1394 connector, you can use the IEEE-1394 for both your video and audio connection. Connect an IEEE-1394 cable to the IEEE-1394 connector on your HDTV and DCX set-top.

*Note: On-screen graphics will not be displayed when you are using the IEEE-1394 connection on the rear panel of the DCX set-top. Refer to Section 6 for more information.*

If you have an audio/video receiver and are not using your TV’s speakers, go to *Connecting Your DCX Set-top to an A/V Receiver – Audio.*
Connecting Your DCX Set-top to an HDTV —
Single Connection for Video/Audio

Note: Only (1) HDTV video/audio connection needs to be made to an HDTV.
Note: On-screen graphics will not be displayed when using IEEE-1394 connection. Refer to Section 6 for more information.
Note: Solid lines indicate optimum connections.
Note: Optional HDMI connection to A/V Receiver shown but not required.
Connecting HDTV — Separate Video/Audio Connections

Cable In
Connect an RF coaxial cable to the cable wall outlet and the CABLE IN connector on the DCX set-top.

DVI
If your TV has a DVI input, use the DVI connection for your video, connect a HDMI-to-DVI adapter or cable to the HDMI out connector on the DCX set-top, and the DVI HDTV connector on your TV.
*Note: A DVI connection supports only the video connection between the DCX set-top and the HDTV.*
- To connect your audio connections with your TV speakers, go to the Audio section below.
- To connect your audio connections for an A/V receiver, go to Connecting Your DCX Set-top to an A/V Receiver — Audio.

Component Video (YPbPr)
Connect the component video cables to the Y, Pb, and Pr connectors on your HDTV and DCX set-top.
*Note: This connection supports only the high-definition video connection between the DCX set-top and the HDTV.*
*Note: Be sure to match up each signal to the same connection on the TV, otherwise the colors will not appear correctly on your TV.*
- To connect your audio connections with your TV speakers, go to Audio section below.
- To connect your audio connections for an A/V receiver, go to Connecting Your DCX Set-top to an A/V Receiver — Audio.

Audio
- If your TV does not have digital audio inputs, connect the stereo audio cable to the AUDIO L/R connectors on the DCX3400 set-top and the AUDIO L/R connectors on the HDTV.
- If your TV supports digital audio inputs, use the digital audio OPTICAL S/PDIF or COAXIAL S/PDIF outputs instead of the AUDIO L/R outputs. S/PDIF offers better audio quality, including support for Dolby® Digital audio.
For information on configuring your DCX set-top settings, go to Configuring the Audio, Video, and Closed Caption Settings.
Connecting Your DCX Set-top to an HDTV — Separate Video/Audio

Note: Only (1) video connection and (1) audio connection needs to be made to an HDTV.
Note: HDMI-to-DVI adapter is not included with the set-top.
Note: Solid lines indicate optimum connections.
Connecting Your DCX Set-top to an HDTV — Alternate Audio

Note: Only (1) audio connection needs to be made to an HDTV.
Note: Solid lines indicate optimum connections.
Connecting an A/V Receiver — Audio

There are several options available for audio connections to your A/V receiver:

- Digital audio (OPTICAL S/PDIF)
- Digital audio (COAXIAL S/PDIF)
- Stereo audio (AUDIO L/R)

If your A/V receiver supports it, the optical (S/PDIF) or coaxial (S/PDIF) digital audio outputs may be used in place of the stereo audio outputs (AUDIO L/R). These outputs offer a higher level of audio quality, including support for Dolby Digital audio.

- Digital audio optical (S/PDIF) — Connect the digital optical audio cable to the digital audio optical connector on the DCX set-top and the optical connector on the A/V receiver.
- Digital audio coaxial (S/PDIF) — Connect the digital audio cable to the digital audio coaxial connector on the DCX set-top and the DIGITAL INPUT COAX connector on the A/V receiver.
- Stereo audio — Connect the stereo audio cable to the AUDIO L/R connectors on the DCX set-top and the AUDIO L/R connectors on the A/V receiver.

For information on configuring your DCX set-top settings, see Configuring the User Settings Menu.
Connecting Your DCX Set-top to an A/V Receiver — Audio

Note: Only (1) audio connection needs to be made to an A/V Receiver.
Note: Solid lines indicate optimum connections.
Connecting an SDTV

1. Connect the stereo audio cable to the AUDIO L/R connectors on the DCX set-top and the AUDIO L/R connectors on the Standard-Definition TV (SDTV).

2. Connect an S-Video cable to the S-VIDEO OUT connector on the DCX set-top and the INPUT S-VIDEO on the TV.

   Note: If the TV does not support S-Video connections, composite video connections may be used in place of S-Video connection.

   Note: If the TV does not support S-Video or composite video connections, use the RF out connector on the DCX set-top. The RF connection carries video and audio.

   These video connection methods do not support HD video. If you have an HDTV, see Connecting HDTV — Single Connection for Video/Audio.
Connecting Your DCX Set-top to an SDTV

Note: S-Video and Composite video require separate audio connections.
Note: Only (1) video connection and (1) audio connection is required.
Note: Solid lines indicate optimum connections.
Connecting an SDTV and VCR/DVD Recorder

1. Connect a stereo audio cable to the AUDIO OUT L/R connectors on the DCX3400 set-top and the INPUT AUDIO L/R connectors on the stereo VCR.

2. Connect a composite video cable to the VIDEO OUT connector on the DCX3400 set-top and the INPUT VIDEO connector on the stereo VCR.

3. Connect a stereo audio cable to the OUTPUT AUDIO L/R connectors on the Stereo VCR and the INPUT AUDIO L/R connectors on the Standard-Definition TV (SDTV).

4. Connect a composite video cable to the output video connector on the stereo VCR and the input video connector on the Standard-Definition TV (SDTV).

Note: You can also connect using the S-Video connectors if supported by your VCR/DVD recorder and SDTV.

These video connection methods do not support HD video. If you have an HDTV, see Connecting HDTV — Single Connection for Video/Audio.
Connecting Your DCX Set-top to an SDTV and VCR/DVD Recorder

If degraded picture quality is observed while viewing copy-protected limited view programs, do not connect through a VCR. Instead, connect the set-top directly to the TV.
Connecting an A/V Receiver, SDTV, and VCR/DVD Recorder

1. Connect a stereo audio cable to the AUDIO OUT L/R connectors on the DCX set-top and the INPUT L/R connectors on the A/V receiver.

2. Connect an S-Video cable to the S-Video out connector on the DCX set-top and the S-Video connector on the A/V receiver.
   \textit{Note: If your A/V Receiver does not support S-Video connections, Composite video connections may be used.}

3. Connect a stereo audio cable to the VCR AUDIO OUT L/R connectors on the A/V receiver and the INPUT AUDIO L/R connectors on the stereo VCR.

4. Connect a stereo audio cable to the OUTPUT AUDIO OUT L/R connectors on the stereo VCR and the VCR AUDIO IN L/R connectors on the A/V receiver.

5. Connect a composite video cable to the input video connector on the stereo VCR and the video VCR OUT connector on the A/V receiver.

6. Connect a composite video cable to the output video connector on the stereo VCR and the video VCR IN connector on the A/V receiver.

7. Connect an S-Video cable to the input S-Video connector on the Standard-Definition TV (SDTV) and the TV/monitor output S-Video connector on the A/V receiver.
   \textit{Note: If your TV or A/V receiver does not support S-Video connections, Composite connections may be used.}

\textit{Note: The digital audio optical (OPTICAL S/PDIF) or digital audio (COAXIAL S/PDIF) audio outputs may be used in place of the stereo audio outputs (AUDIO L/R). These outputs offer a higher level of audio quality, including support for Dolby Digital audio.}

These Video Connection Methods Do Not Support HD Video. If you have an HDTV, See \textit{Connecting HDTV — Single Connection for Video/Audio.}
Connecting Your DCX Set-top to an A/V Receiver, SDTV, and VCR/DVD Recorder

Note: Solid lines indicate optimum connections.
Note: Consult your A/V receiver manual for additional wiring options or constraints when including a VCR/DVD Recorder in your configuration.

If degraded picture quality is observed while viewing copy-protected limited view programs, do not connect through a VCR. Instead, connect the set-top directly to the TV.
5 Recording Your Connections

Use this diagram to record connections between your home entertainment components. You can use this diagram to reconnect your system if you move the equipment or add new equipment.

Disconnect the power from the DCX set-top before connecting or changing cable connections. Do not place another component or object on top of the DCX set-top.

DCX3400

VCR

HDTV / Standard-Definition TV

Audio receiver

DVD

A/V receiver
Data Devices

Do not attempt to connect data devices without contacting your service provider. Advanced data features require the proper application and network infrastructure to operate.
Your DCX set-top can generate graphics that overlay the video programming or fill the entire television screen. Common examples include on-screen menus (such as the User Settings menu), closed captioning, and interactive program guides. The DCX set-top overlays these graphics whenever you open a menu, enable closed captioning, or scroll through a program grid.

- On-screen graphics are not available on all video output combinations.
- On-screen graphics will not be displayed when you are using the IEEE-1394 connection on the rear panel of the DCX set-top.
7 Configuring the Settings Menu

The following describes how to configure the audio (for HDMI connections) and SD and HD video settings for the DCX3400.

Note: Additional user settings are configured through the Interactive Program Guide and not directly through the Settings Menu.

Before you adjust the output settings:
- Connect the DCX3400 to other home entertainment devices.
- Plug the DCX3400 into an AC power outlet.
- Turn the TV on.

When using an HDMI connection between the DCX3400 and the television, be sure to have the cable connected and the TV powered on before adjusting the video settings.

To optimize the output settings:
1. Ensure the DCX3400 is installed properly.
2. With the set-top in stand-by mode, press the MENU key on the front panel.
3. If the TV is on, the on-screen User Settings menu lists the DCX3400 settings that can be adjusted.

**Settings Menu**

<table>
<thead>
<tr>
<th>Audio Coding Format</th>
<th>HDMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Output Range</td>
<td>Narrow</td>
</tr>
<tr>
<td>Audio Output</td>
<td>Variable</td>
</tr>
<tr>
<td>Video Sharpness</td>
<td>3</td>
</tr>
<tr>
<td>RF Output Channel</td>
<td>Channel 3</td>
</tr>
<tr>
<td>Power ON Timer</td>
<td></td>
</tr>
<tr>
<td>Power OFF Timer</td>
<td></td>
</tr>
<tr>
<td>Sleep Timer</td>
<td>Off</td>
</tr>
</tbody>
</table>

Figure 3 – Settings Menu
4. Use the remote control or the cursor keys on the front panel to navigate the on-screen menus:
   - Press the ▲ and ▼ keys to highlight the setting you wish to change.
   - Press the ► key to select an option.
   - To exit the setting and move to another setting, press the ▲ or ▼ key.
   - To exit the menu and save your settings, press the B key on the remote control.

If the Settings Menu does not display on the HDTV screen, the TV may not support the default video output setting. Use the FORMAT button on the front panel to select a video output format that can be displayed by the TV, as described in “There is no video on the TV screen” in the Troubleshooting section.

5. To exit the menu and save your settings, press the B key on the remote control.
<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Audio Coding Format** | Selects the audio coding format on the digital output (HDMI and SPDIF) when tuned to a channel carrying compressed audio. The following formats are supported:  
  - PCM/Stereo – Send decoded audio in PCM format over the digital outputs.  
  - Dolby Digital – Send Dolby Digital audio over the digital outputs.  
  - HDMI – Send appropriate audio format, as per auto negotiation between STB and TV, when connected over HDMI. If the negotiation indicates:  
    - PCM – send decoded audio in PCM format over the digital outputs  
    - Dolby Digital – send Dolby Digital audio over the digital outputs  
    - Dolby Digital Plus – send Dolby Digital Plus over HDMI and Dolby Digital over SPDIF. |
| **Audio Output Range**  | Sets the preferred audio dynamic range when the input audio is decoded by the STB. Three options are allowed  
  - Narrow (default) – Enables minimum dynamic range and is most appropriate when the TV is connected to the STB over the RF output.  
  - Normal – Enables moderate dynamic range which is most appropriate when a receiver is connected to the STB over baseband or digital outputs.  
  - Wide – Enables the complete dynamic range to be reproduced on all outputs, which is most suitable for advanced users who have high quality speakers and audio equipment. |
| **Audio Output**         | Sets the audio output to a fixed or variable setting. The fixed setting produces a constant output level from the set-top (recommended when connected to an external receiver). This setting does not apply to the Audio Out (Fixed) connector. |
| **Video Sharpness**     | Adjusts the picture sharpness when viewing a standard-definition (SD) program. The Video Sharpness setting affects all of the video outputs. By default, the sharpness level of 3 is selected. The DCX3400 supports five distinct levels of video picture sharpness. A value of 1 corresponds to a “softer” picture while a value of 5 corresponds to a “sharper” picture. The best sharpness setting depends upon the video connection being used, the display quality of the TV, and personal preference. |
| **RF Output Channel**   | Channel 3 by default.                                                                                                                      |
| **Power ON Timer**      | Designated time for set-top to power on.                                                                                                    |
| **Status**              | Disabled/Enabled.                                                                                                                          |
| **Day Option**          | Weekends, Weekdays, Every Sunday, Every Monday, Every Tuesday, Every Wednesday, Every Thursday, Every Friday, Every Saturday.               |
| **Set Time**            |  
  - 12-hour clock  
  - AM/PM                                                                                                                                  |
<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power OFF Timer</strong></td>
<td>Designated time for set-top to power off.</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Disabled/Enabled</td>
</tr>
<tr>
<td><strong>Day Option</strong></td>
<td>Weekends, Weekdays, Every Sunday, Every Monday, Every Tuesday, Every Wednesday, Every Thursday, Every Friday, Every Saturday.</td>
</tr>
<tr>
<td><strong>Set Time</strong></td>
<td>• 12-hour clock</td>
</tr>
<tr>
<td></td>
<td>• AM/PM</td>
</tr>
<tr>
<td><strong>Sleep Timer</strong></td>
<td>Off/On</td>
</tr>
</tbody>
</table>
Before calling your service provider, review this troubleshooting guide. This information can help you quickly solve a problem. If your problem still exists, contact your service provider.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The DCX set-top will not power on</td>
<td>The DCX set-top may have received a software update and may not power on while the new software is being installed. Try again in a few minutes.</td>
</tr>
<tr>
<td></td>
<td>• Verify that the AC power cord is connected to the DCX set-top and an AC outlet. Unplug the DCX set-top from the AC outlet, plug it back in, and then press the POWER button.</td>
</tr>
<tr>
<td></td>
<td>• If the DCX set-top is connected to a switched outlet on another unit, verify that the unit is powered on. Unplug the power cord from the DCX set-top’s AC outlet, plug it back in, and then press the POWER button. It is recommended to use an unswitched outlet, if possible.</td>
</tr>
<tr>
<td></td>
<td>• Press the POWER button on the DCX set-top front panel instead of the remote control. The batteries in the remote control may be depleted.</td>
</tr>
<tr>
<td>The remote control does not work</td>
<td>Verify that the remote control is in “Cable” mode.</td>
</tr>
<tr>
<td></td>
<td>Verify that there are no obstructions between the remote control and the DCX set-top. Aim the remote control directly at the DCX set-top front panel, not the TV or VCR.</td>
</tr>
<tr>
<td></td>
<td>The angle between the remote control and the DCX set-top may be too large. Stand in front of the DCX set-top and not too far to either side.</td>
</tr>
<tr>
<td></td>
<td>• Press and release operation keys one at a time, firmly and deliberately.</td>
</tr>
<tr>
<td></td>
<td>• Try changing channels using the buttons on the DCX set-top front panel.</td>
</tr>
<tr>
<td></td>
<td>• Check the batteries in the remote control. Install new batteries if needed.</td>
</tr>
<tr>
<td>There is no audio when viewing cable channels</td>
<td>Verify that the mute button on the DCX set-top or the remote control has not been pressed. Press MUTE on the remote control to restore sound.</td>
</tr>
<tr>
<td></td>
<td>• If the DCX set-top audio output is connected to the TV, verify that the mute button on the TV has not been pressed.</td>
</tr>
<tr>
<td></td>
<td>• If the DCX set-top audio output is connected to a home theater receiver, verify that the receiver is set to the appropriate input source and the MUTE button on the receiver has not been pressed.</td>
</tr>
<tr>
<td></td>
<td>• Verify that you have the correct cables for the audio connections.</td>
</tr>
<tr>
<td></td>
<td>• Verify that the audio cables are firmly connected between the DCX set-top and the audio playback device (TV, receiver, DVD player, etc.).</td>
</tr>
</tbody>
</table>
| There is no audio from the center and/or surround speakers of a home theater receiver connected to the DCX set-top | Not all programs feature full Dolby Digital [5.1] or Dolby Digital Plus [7.1] surround sound. In some cases, the programs may only contain left and right stereo audio.  
- Verify that the HDMI or S/PDIF cable (coaxial or optical) is firmly connected to the DCX set-top and the home theater receiver.  
- Verify that the home theater receiver is set to a surround sound audio mode (Dolby Pro Logic®, Dolby Pro Logic II®, Dolby Pro Logic IIX®).  
- Verify that the receiver is properly configured to work with all connected speakers. |
| --- | --- |
| There is no video on the TV screen | Verify that the TV is powered on and set to the appropriate input source for the DCX set-top.  
Verify that the DCX set-top is powered on and tuned to an authorized cable channel.  
Verify that all video cables between the DCX set-top and the TV are firmly connected.  
Verify that the coaxial cable feed is firmly connected to the DCX set-top and the wall jack.  
- If the DCX set-top video output is connected to a home theater unit, verify that the home theater unit is powered on and set to the appropriate input source.  
- If the DCX set-top video output is connected to a TV through an HDMI connection, power off the TV and then power off the DCX set-top. Wait one second and then power on the devices.  
Not all HDTVs can display every output format (1080i, 720p, 480p, or 480i) available on the DCX set-top. Refer to your TV manufacturer’s documentation to determine the compatible format for your TV and set the corresponding output format for the set-top on the IPG. |
| No graphics or program guides appear on the TV screen | If you use the IEEE-1394 connection, on-screen graphics, including closed captions and program guides, are not displayed by the DCX set-top. On-screen graphics and captions may still be overlaid by your TV, if enabled. Alternatively, use HDMI or component video instead. |
| No closed captions display | Verify on the IPG menu, that closed captions are enabled.  
If you are using the RF out connector, verify that closed captions are enabled on the TV.  
*Note: Closed captioning may not be available on the current program.* |
| There are black bars to the right and left of the picture | Wide screen TVs display 4:3 programs in this format unless set to Stretch.  
Many HD programs are broadcast in pillar box format with black bars to the left and right of the picture. These programs are broadcast in 16:9 HD formats even though the video is not 16:9. |
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are black bars above and below the picture</td>
<td>All 4:3 HDTVs display HD programs in letterbox format (black bars above and below the picture) because of the shape of the display screen. Some SD programs are broadcast in the letterbox format with black bars above and below the picture. Some widescreen TVs offer a zoom feature that may be able to remove the black bars (see your TV manual for information about zooming 4:3 video).</td>
</tr>
<tr>
<td>There are black bars on all four sides of the picture</td>
<td>This may occur on a 16:9 TV if the active video for an SD broadcast is in letterbox format. To confirm, wait for a commercial or look for a graphic, such as a network logo. If the commercial fills the screen from top to bottom, or the graphic appears below the active video, the program is being letterboxed by the broadcaster. You can minimize this by activating the zoom feature on the TV. A broadcaster may include black bars on either side of a wide screen broadcast. This is called a “hybrid” aspect ratio and results in a black border surrounding the video on a 4:3 TV. Because this is part of the broadcast, the DCX set-top cannot correct the video. You may be able to minimize the border using the zoom feature on the TV.</td>
</tr>
<tr>
<td>Colors do not appear correctly</td>
<td>Be sure to match up each signal to the same YPbPr connection on the TV, otherwise the colors will not appear correctly on your TV.</td>
</tr>
<tr>
<td>The DCX set-top is making a humming noise</td>
<td>The DCX set-top includes an integrated hard drive and a fan for cooling. During normal operation, the DCX set-top emits a low humming noise, similar to a personal computer. The noise varies in volume occasionally when the speed of the internal fan adjusts to changes in the temperature around the DCX set-top. Please note the hard drive may stay on even when the DCX set-top is turned off (standby).</td>
</tr>
</tbody>
</table>
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apache COMMONS-EL-1.0
apache COMMONS-MODELER-1.1
apache JAKARTA-REGEXP-1.3
apache XERES-2.0.0
apache XERES-2.0.2
apache XERES-2.6.1
mxml-2.0.1

#### apache_2.0 ####
apache-commons-digestor-1.5
apache-commons-el-1.0
apache-commons-modeler-1.1
apache jakarta-regexp-1.3
apache-xerces-2.0.0
apache-xerces-2.0.2
apache-xerces-2.6.1

#### bouncyCastleLicense ####
bcmPublicCFE_1.4.0
BigDigits2.1.0
busybox_1.9.1
busybox_20090528
dropcap-0.8.29
cifiprops-1.25
cifiprops-1.29
ebtables-v2.0.8-2
freetype-2.1.2
ggc-3.4.6
gdb_3.5
ipchains-1.3.9
ipmasqadm-0.4.2
llvm-1.0.2a
ncurses-5.3
net-snmp-5.3.1
procps-2.0.17
sash-1.1
squid-2.5
termcap-1.3
unistd-0.9.27
uclinux-2.0.8
uclinux-dist-20070130
util-linux-2.12a
wget-1.7
xfsprogs-2.5.6

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iperf-2.0.0
iperf-2.0.2
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jgoodies-looks-v2.2.0
MPEG_license
mencoder License
openssl_license
openssl-0.9.8b
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perl-2.0.1
perl-5.6.1
perl-5.6.2
python_2.0.1
python-2.0.1
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westhawk_6.0
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