

# Motorola DCT5100 Set-Up Guide

HDTV



## >> IMPORTANT SAFETY INSTRUCTIONS

The DCT5100 has been designed to operate reliably in a well ventilated household environment. Slots and openings in the unit cabinet are provided for ventilation. These openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. The unit should be positioned with at least 2 inches of space above and on all sides.



- Position the DCT5100 with at least 2 inches of space above and on all sides.
- Do not block the slots and openings in the DCT5100.
- Do not place anything on top of the DCT5100.
- Do not position the DCT5100 in an enclosed space that would restrict airflow around the unit.
- Do not position the DCT5100 near any external heat source that could raise the temperature around the unit.

## >> INTRODUCTION



### *WELCOME TO THE HIGH-DEFINITION EXPERIENCE*

Congratulations on receiving a new DCT5100 High-Definition Cable Converter from Comcast. The Motorola DCT5100 is the most advanced digital consumer terminal available today. The powerful processing capability of the DCT5100 delivers crystal-clear video, surround sound audio and advanced interactive applications to your living room.

The DCT5100 is capable of much more than just delivering hundreds of analog and digital video channels. The DCT5100 can provide exciting services such as High-Definition video, electronic program guides, commercial-free CD quality music, Comcast On Demand, Pay-Per-View, and much more.

This Set-Up Guide introduces you to the basic features of the DCT5100 and provides several options for integrating it into your current entertainment system. For more detailed configuration information, please visit [www.motorola.com/broadband](http://www.motorola.com/broadband).

For details on Comcast Digital Cable Services offered in your area, please see your Comcast User Guide.

## THE DCT5100 FRONT PANEL

The DCT5100 front panel has 12 keys and an LED display. Use the keys to perform basic functions such as access to the electronic program guide, navigate menus, and purchase Pay-Per-View events. The table following this drawing describes each key and its use. There are also inputs for a Universal Serial Bus (USB), audio/video jacks and a Smart Card slot. These inputs are for future applications under development and are not enabled on this unit.

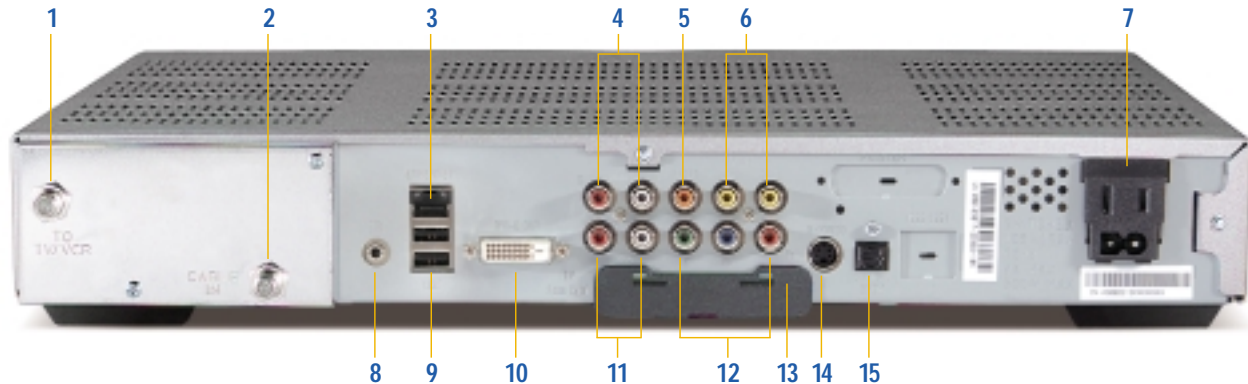


KEY	DESCRIPTION
1 LED	Displays the channel number or time of day. There are four indicator lights on the LED screen: <ul style="list-style-type: none"> <li>• MSGS. — the DCT5100 has received messages for you to read</li> <li>• ON — the DCT5100 is powered on</li> <li>• A/B — the RF bypass is active</li> <li>• REMOTE — the remote control is in use</li> </ul>
2 ▲▼◀▶ CURSOR	Moves the cursor around the program guide and menu screens.
3 MENU	Displays the main menu.
4 POWER	Turns the device on or off.
5 INFO	Displays the current channel and program information.
6 A/B	Use to manually enable the RF bypass function. You must have a cable-ready TV for this function to operate. (Optional.)
7 SELECT	Selects menu options, ON DEMAND, Pay-Per-View events or programs from the program guide.
8 GUIDE	Displays the program guide.
9 CHANNEL + CHANNEL -	Changes the channels by moving up or down.
10 USB	The Universal Serial Bus (USB) connector is used to support devices such as keyboards, joysticks, scanners, disk storage, PCs, printers, and digital cameras. (Not enabled on this unit.)
11 VIDEO IN	The VIDEO IN connector accepts a baseband video input from a VCR, camcorder, or other video device. (Not enabled on this unit.)
12 AUDIO IN R AUDIO IN L	These connectors are used for connecting the set-top between a CD player and a stereo tuner (or other audio peripheral). Audio from the auxiliary device will pass through the DCT5100 when it is turned off. (Not enabled on this unit.)
13 SMART CARD SLOT	This interface is intended to support electronic commerce activity utilizing a Smart Card. (Not enabled on this unit.)

## THE DCT5100 BACK PANEL

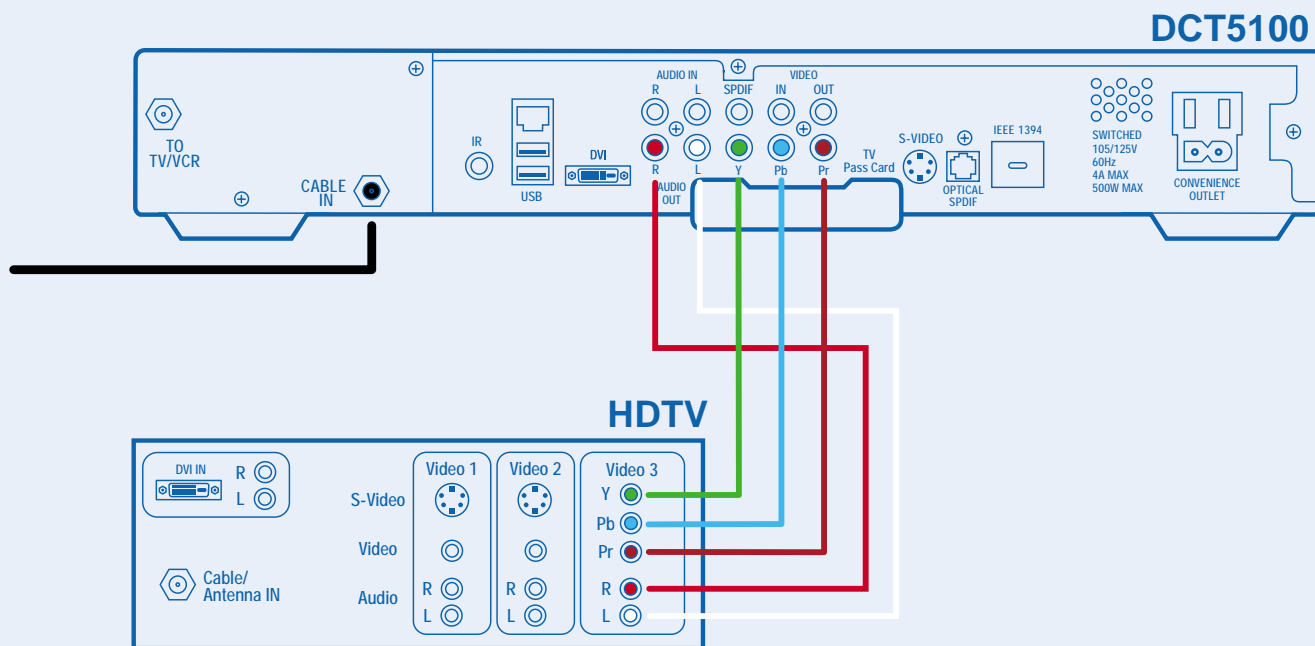
NOTE: The rear panel of your DCT5100 may vary from this drawing because of the different configurations that are available. Please contact your service provider to determine which connections are supported on your system.

The rear panel of the DCT5100 consists of two types of interfaces — audio/video and data. The table following this drawing describes each connection and its use.



KEY	DESCRIPTION
1	<b>TO TV/VCR</b> This coaxial output connector is used to connect the DCT5100 to a TV or VCR operating on channel 3 or 4.
2	<b>CABLE IN</b> The CABLE IN connector receives the incoming signal from your cable service provider.
3	<b>ETHERNET</b> The Ethernet port that supports PC networking. (Not currently enabled.)
4	<b>AUDIO IN R AUDIO IN L</b> These connectors are used to connect a set-top between a peripheral audio device such as a CD player and a stereo tuner or A/V receiver. In the current DCT5100 release, the audio from the peripheral device will pass through the DCT5100 when it is turned off.
5	<b>SPDIF</b> The orange coaxial SPDIF connector is a digital output connection that carries Dolby Digital 5.1 audio or PCM audio. It is used to connect the DCT5100 to a stereo tuner or A/V receiver to provide surround-sound, theater-style audio.
6	<b>VIDEO IN VIDEO OUT</b> The VIDEO IN connector accepts a baseband video input from a VCR, camcorder or other video device. (Not currently enabled.) The VIDEO OUT connector is used to deliver baseband video to an external device such as a VCR or TV.
7	<b>Convenience</b> This AC outlet may be used to plug your TV into the DCT5100 as a convenient additional outlet.
8	<b>IR</b> This connector enables the DCT5100 to control a VCR while recording a selected program. Not all electronic program guides support this feature.
9	<b>USB</b> The Universal Serial Bus (USB) is used to support devices such as keyboards, joysticks, scanners, disk storage, PCs, printers, and digital cameras. (Not currently enabled.)
10	<b>DVI</b> Used to deliver High-Definition video to an HDTV with a DVI video input. (Not available/enabled on all units)
11	<b>AUDIO OUT R AUDIO OUT L</b> The RCA phono-type connectors are used to deliver audio to a stereo receiver.
12	<b>Y Pb Pr</b> These connectors are used to deliver component video to an HD-ready TV or monitor. Though capable of delivering standard definition video to your TV or monitor, these cables are necessary to deliver High Definition video.
13	<b>TV PASS CARD</b> For Future Use
14	<b>S-VIDEO</b> This connector is used to deliver high quality, standard definition video to external devices that accept S-Video inputs, such as a high-end VCR or TV.
15	<b>OPTICAL</b> The OPTICAL SPDIF connector is an optical digital output connection that carries Dolby Digital 5.1 audio or PCM audio. It is used to connect the DCT5100 to a stereo tuner or A/V receiver to provide surround-sound, theater style audio.

## Connecting the DCT5100 to a High-Definition TV using the YPbPr Video inputs



This diagram shows the base audio and video connections between the DCT5100 and an HDTV using the YPbPr component video connection.

You should use this audio configuration only if your HDTV has built-in speakers and you do not intend to include a stereo or Home Theater receiver in your configuration.

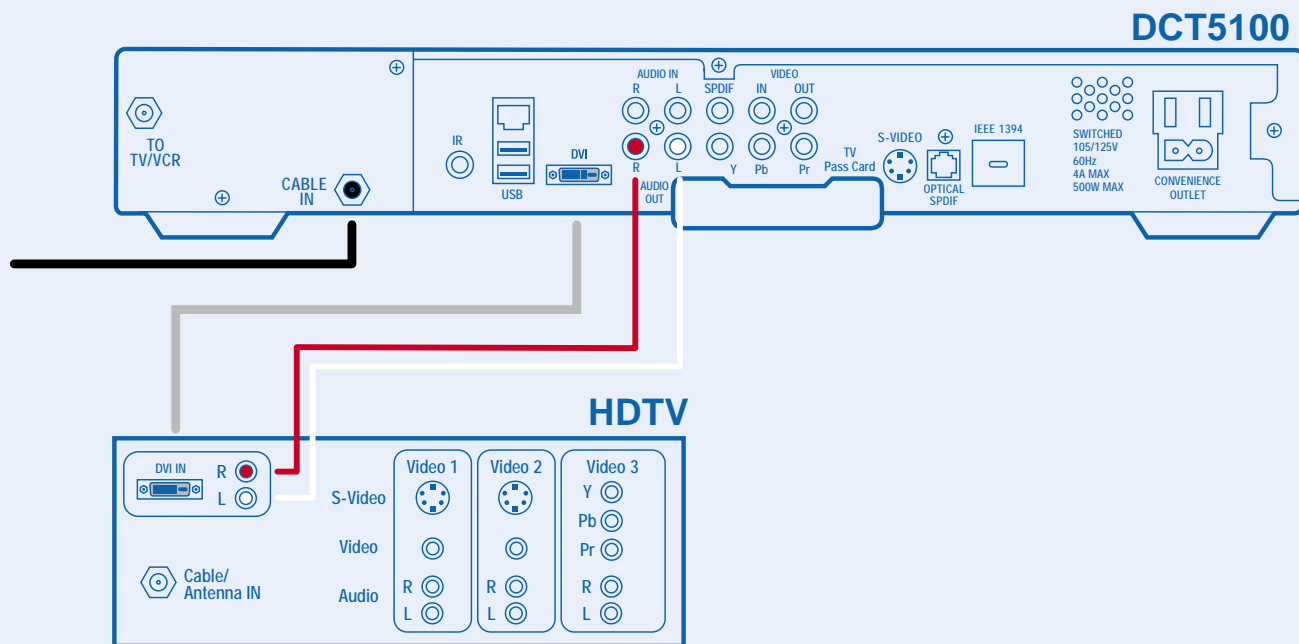
Connector cables to be used:

- 6 ft coaxial cable
- Three-pronged component video cable
- Two-pronged RCA type stereo audio cable

1. Using a coaxial cable, connect cable wall outlet to the CABLE IN coaxial input on the DCT5100.
2. Locate the Y Pb Pr inputs on your HDTV and the Y Pb Pr outputs on the DCT5100. To make identification easy, these connectors are color-coded on the DCT5100 (Y = green, Pb = blue, and Pr = red). Colors may vary on your HDTV.
3. Using a three-jack component video connector, connect the Y output on the DCT5100 to the Y input on your HDTV. Do the same for the Pb and Pr connections.
4. Locate the AUDIO OUT L (white) & R (red) outputs on the DCT5100 and the AUDIO IN L & R inputs on your HDTV associated with the YPbPr Video inputs.
5. Using a two-pronged RCA type audio connector, connect the L (white) output on the DCT5100 to the L (white) input on your HDTV. Do the same for the red.

If your HDTV supports either optical (Optical SPDIF) or coaxial (SPDIF) digital audio connections, these connections may be used in place of the stereo audio outputs (AUDIO R and L). In most cases these outputs offer a higher level of audio quality, including support for 5.1 surround sound.

## Connecting the DCT5100 to an HDTV using the DVI video inputs



This diagram shows the base audio and video connections between the DCT5100 and an HDTV using the DVI video connection.

You should use this audio configuration only if your HDTV has built-in speakers and you do not intend to include a stereo or Home Theater receiver in your configuration.

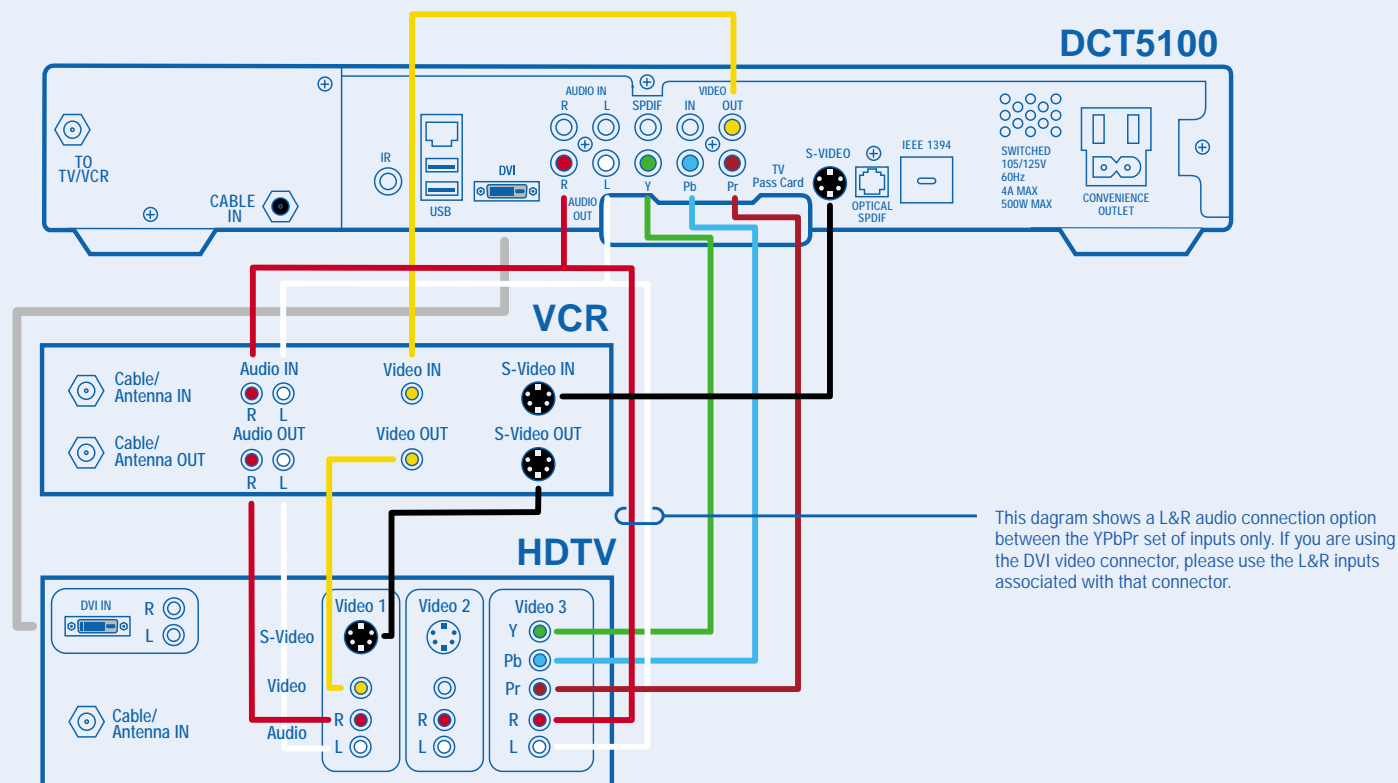
Connector Cables to be used:

- 6 foot coaxial cable
- Two-pronged RCA type audio cables.
- DVI video cable

1. Using a coaxial cable, connect cable wall outlet to the CABLE IN coaxial input on the DCT5100.
2. Locate the DVI video input on your HDTV and the DVI-D video outputs on the DCT5100.
3. Using a DVI cable, connect the DVI output on the DCT5100 to the DVI input on your HDTV.
4. Locate the AUDIO OUT L (white) & R (red) outputs on the DCT5100 and the AUDIO IN L & R inputs on your HDTV associated with the YPbPr Video inputs.
5. Using a two-pronged RCA type audio connector, connect the L (white) output on the DCT5100 to the L (white) input on your HDTV. Do the same for the red.

If your HDTV supports either optical (Optical SPDIF) or coaxial (SPDIF) digital audio connections, these connections may be used in place of the stereo audio outputs (AUDIO R and L). In most cases these outputs offer a higher level of audio quality, including support for 5.1 surround sound.

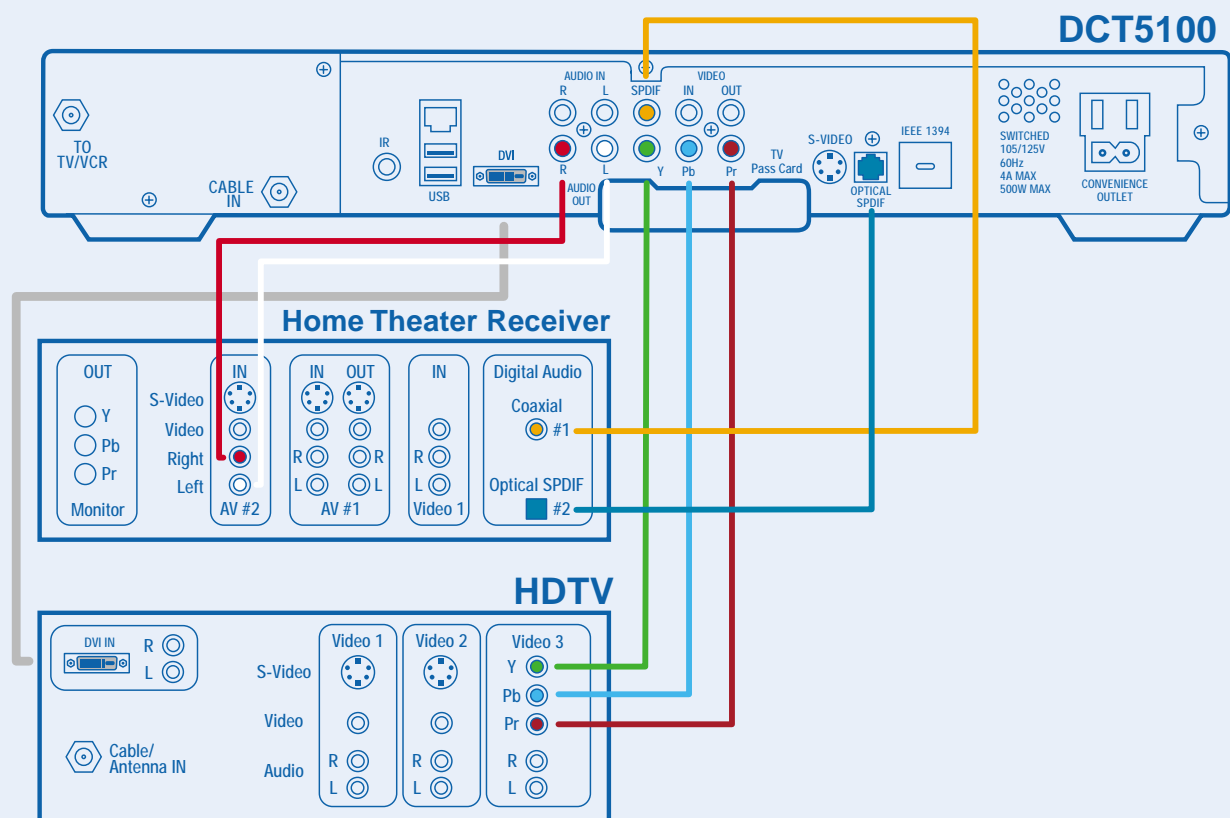
## Connecting the DCT5100 to a High-Definition TV and VCR



This diagram should be used if you intend to use a standard stereo VCR in your configuration. This configuration will allow you to watch both HD and Standard Definition video on your HDTV as well as record and play Standard Definition video via your VCR.

- Using the Video Only diagram, connect your coaxial cable to the Motorola DCT5100 and the DCT5100 Y Pb Pr HD video connection directly to your HDTV.  
Connector Cables to be used: • 1 set of two-pronged RCA type audio cables (red & white) • 2 sets of "Y" audio splitter cables • 2 S-video cables – OR – 2 sets of single-pronged RCA type video cables (yellow)  
Note: The video cables you use will depend on the inputs/outputs on your VCR and HDTV. S-video is considered the higher standard definition video output and should be your first choice.
  - Connect the single connector end of a Y audio splitter cable to the AUDIO OUT R (red) on the DCT5100. Insert the other ends into the AUDIO IN R on your VCR and AUDIO IN R on your HDTV.
  - Use the second splitter cable to connect the AUDIO OUT L (white) on the DCT5100 to the AUDIO IN L connections on both the VCR and the HDTV.
  - Use the two-pronged RCA cable to connect the AUDIO OUT L & R on your VCR to the AUDIO IN L & R on your HDTV.
  - Using an S-video cable, connect the S-VIDEO output on the DCT5100 to the S-VIDEO IN on your VCR. Then use the second S-video cable to connect the S-VIDEO output on the VCR to the S-VIDEO IN on your HDTV.
- OR –
- Using your single-pronged RCA type video connector cable, connect the VIDEO OUT (yellow) connector on the DCT5100 to the VIDEO IN connector on your VCR. Next, use the second single-pronged RCA type video connector cable to connect the VIDEO OUT connector on your VCR to the VIDEO IN connector on your HDTV.

## Connecting the DCT5100 to a High-Definition TV and Home Theater



To take full advantage of the DCT5100 digital audio features you'll want to incorporate a stereo or Home Theater receiver. This diagram illustrates how to integrate your DCT5100, Home Theater receiver and HDTV. We have not illustrated how to integrate a VCR or DVD player with a Home Theater receiver. The manual supplied with these components would best describe those connections.

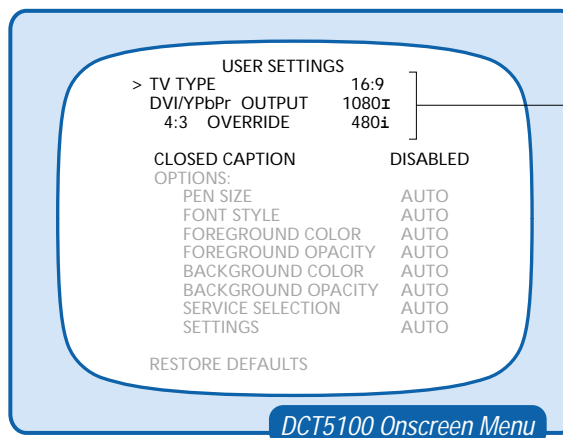
- Using the Video Only diagram, connect your coaxial cable to the Motorola DCT5100 and the DCT5100 Y Pb Pr HD video connection directly to your HDTV.  
The audio options are dependent on the audio inputs available on your Home Theater receiver. We've listed them in order of sound quality.
  - OPTION ONE and TWO** – Optical or RCA Type Digital Audio (orange)  
(These two connections are of similar quality. Either one or the other may be used.)  
Connector cables to be used: Optical or RCA type audio cable
  - 2. Locate the OPTICAL SPDIF output on the DCT5100 and the OPTICAL SPDIF input on your digital Home Theater receiver. This input may also be labeled *Toslink* on your digital Home Theater receiver.
  - 3. Using an optical audio connector, connect the output on the DCT5100 to the input on your digital Home Theater receiver.
    - OR –
    - 2. Locate the orange RCA type SPDIF output on the DCT5100 and the RCA type SPDIF or digital audio input on your Home Theater receiver.
    - 3. Using a single-pronged RCA type audio connector, connect the output on the DCT5100 to the input on your Home Theater receiver.
  - OPTION THREE** – Baseband Audio  
Connector cables to be used: Two-pronged RCA type audio cable (red & white)
  - 3. Locate the AUDIO OUT L (white) & R (red) outputs on the DCT5100 and the AUDIO IN L & R inputs on your Home Theater receiver.
  - 4. Using a two-pronged RCA type audio connector, connect the L & R outputs on the DCT5100 to the L & R inputs on your Home Theater receiver. Remember L will go to L and R will go to R.

## OPTIMIZING YOUR HDTV PICTURE

The final step is tailoring your DCT5100 to the capabilities of your HDTV using the On Screen Menu. This allows the DCT5100 to automatically optimize both Standard and High-Definition video, based on your HDTV and personal preferences.

To access the On Screen Menu, power ON your HDTV and power OFF the DCT5100. Press the MENU button on either your remote control or the DCT5100 front panel to call up the On Screen Display.\* You may use either the DCT5100 front panel or the remote control to navigate the display:

- The arrow on the left indicates the position of the cursor.
- Press the ▲ and ▼ buttons to select the setting you wish to change.
- Press the ► button to select an option for that setting.
- To exit the setting and move to another setting, use the ▲ and ▼ buttons.
- Press the POWER or MENU button to exit the menu and save your settings.



The settings shown in this diagram are for illustrative purposes, and only represent one possible configuration. Please refer to the following sections for more setting options.

### TV TYPE

The first user setting is TV TYPE. Your selection tells the DCT5100 what type of TV you have and how you prefer to watch widescreen programming. Your choices are 16:9, 4:3 Letterbox, or 4:3 Pan Scan.

- Choose 16:9 if you have a widescreen HDTV.
- Choose 4:3 Letterbox if you have a standard TV and you prefer to watch widescreen programming in its original aspect ratio.
- Choose 4:3 Pan Scan if you have a standard screen TV and you prefer that widescreen programming is cropped to fill your screen. Think of this last choice as watching a theater-style movie that has been reformatted to fit your standard screen TV.

### DVI/Y Pb Pr OUTPUT

Next, use the down arrow to select DVI/Y Pb Pr OUTPUT. This setting indicates the picture resolution you prefer when watching High-Definition programming. The choices, listed in order of highest to lowest picture resolution, are 1080i, 720p, 480p, and 480i. Your selection will depend on which format(s) your HDTV supports. To maximize your high-definition viewing experience, refer to your television set owner's manual, and use the right arrow button to choose the setting that indicates the highest picture resolution that your television will support.

NOTE: The above setting may read either "DVI/YPbPr OUTPUT" or "YPbPr OUTPUT" or depending on connections offered / enabled on your DCT5100.

### 4:3 OVERRIDE

Finally, use the down button arrow to select 4:3 OVERRIDE. By selecting 480i or 480p you are telling the DCT5100 to send Standard Definition programming to your TV in its original broadcast format. Select OFF and the DCT5100 will default to the resolution selected in the Y Pb Pr OUTPUT setting above. To exit and save changes press the POWER or MENU button.

For more details on configuring your DCT5100 output settings, including setting Closed Caption preferences, see the Motorola DCT5100 User Guide or visit [www.motorola.com/Broadband](http://www.motorola.com/Broadband).

\* If the On Screen Menu does not appear on your HDTV screen, your TV may not support the default, standard definition setting. Use the DCT5100 front panel LED to view and change your settings.

## ➤➤ TROUBLESHOOTING

Before calling your service provider, review this troubleshooting guide. This information can help you quickly solve the problem.

<b>PROBLEM</b>	<b>CAUSE</b>	<b>POSSIBLE SOLUTION</b>
<b>No sound</b>	Accidentally pressed MUTE on the remote control. The receiver is tuned to the wrong entertainment component. You are watching TV using your VCR, and your VCR is off.	Press MUTE on the remote control to restore the volume level. Check that the receiver is set to the proper input source. Turn your VCR on.
<b>No picture</b>	Cable signal may not be reaching your home.	Check to be sure that all cables are connected properly and that your TV is tuned to cable channel 3 or 4, if using the TO TV-VCR connections. Hand-tighten the cable connections if necessary. Check that your component connection cables are not crossed. Y goes to Y, Pb to Pb and Pr to Pr. If connected through the baseband RCA video connection, make sure the cables are connected properly. If you are watching TV using your VCR, be sure your VCR is on, or set to bypass. Ensure that the proper video display format for your TV has been selected.
<b>No Guide or wrong Guide</b>	The DCT is not correctly connected to the cable system.	Check that your cable is connected to the DCT set-top first. NOT looped through the VCR.
<b>Picture or sound is noisy on one channel</b>	Coaxial cable is disconnected or loose. Cable operator is experiencing system difficulties.	Reconnect the cable and hand-tighten if loose. Call your cable operator.
<b>Sound from only one stereo speaker</b>	Cable connections are disconnected or loose.	Hand-tighten or reconnect the cables properly. Ensure that wires are not frayed and plugs are not bent or broken.
<b>No power</b>	Power cord is disconnected.	Reconnect the power cord. Ensure that the DCT5100 is plugged into an outlet that is always live.
<b>Remote control does not work</b>	Remote isn't set in cable TV mode. Obstruction between remote and cable terminal.  Dead batteries.	Press CABLE on the remote control. Ensure that nothing is on the DCT5100 or blocking a clear line of sight between it and the remote control. Change the batteries in your remote control according to the instructions in the section, "Installing Batteries."
<b>Poor audio quality</b>	Audio levels on external devices not set relative to DCT5100 volume level.	For best audio quality, use the remote control to set the DCT5100 to approximately 3/4 of maximum volume level and then adjust the audio levels on the external devices.

**If your problem still exists,  
contact Comcast at 1.800.COMCAST.**



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