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HIGH DEFINITION TELEVISION

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HIGH DEFINITION TELEVISION

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**HDTV**

# Welcome to High-Definition Service

Congratulations on receiving a new High-Definition Cable settop box from Mediacom. You can now experience the ultimate in high-definition video and digital audio. Your HD settop enables reception of both high-definition and standard-definition digital programming as well as analog programming. Along with the settop box, you'll also receive an Interactive Remote Control, which will be used along with your existing HDTV's remote control to navigate and control your cable service. This Set-Up Guide introduces you to the basic features of the settop box and provides several options for integrating it into your current entertainment system.

# Important Safety Instructions

## Ventilate

The High-Definition settop box 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.

## Safety Instructions

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



# General Setup

When the technician installs your HD settop box, the technician will set up your HDTV, VCR and/or other devices as listed below. Be certain the technician enters this information below, as it is necessary for switching from one device to another. If you are self-installing the settop, use this list to enter the input source names as you complete each connection.

## Input Source List

Standard TV - Video Input: _____

HDTV - Video Input: _____

VCR - Video Input: _____

DVD - Video Input: _____

Video Input: _____

Video Input: _____

## Getting Started

To begin using your HDTV service, power ON both the settop box and your HDTV:

1. Using the Mediacom remote, power on the settop box by pressing the CABLE button to set it in Cable mode, then the POWER button.
2. With the Mediacom remote, power on the HDTV by pressing the TV button, then the POWER button; OR, using your HDTV Remote, follow your TV manufacturer's instructions for turning on your HDTV.

NOTE: Not all TV's are compatible with the Mediacom remote

# To View a High-Definition Channel

After powering on:

## Viewing a High-Definition Channel

1. On your TV's remote, press the VIDEO INPUT MODE button (refer to your TV's manual for clarification) as necessary until you reach the HDTV Video Input noted on the previous page.
2. On the Mediacom remote, press the CABLE button to set the remote in Cable mode.
3. Use the remote to access the high-definition channels in any of the following ways:
    a. Press the CHANNEL UP/DOWN buttons to scroll to a high-definition channel.
    b. Press the applicable number keys to go to a specific channel number.
    c. Browse, using the Interactive Program Guide (IPG).

# Viewing and Changing a Standard-Definition Channel

## Viewing Standard-Definition Channels

1. On your TV's remote, press the VIDEO INPUT MODE button (refer to your TV's manual for clarification) as necessary until you reach the Standard TV Video Input from the INPUT SOURCE LIST on the first page.
2. On the Mediacom remote, press the CABLE button to set the remote in Cable mode.
3. Use the Mediacom remote to access the standard definition channels in any of the following ways:
    a. Press the CHANNEL UP/DOWN buttons to scroll to a standard definition channel.
    b. Press the applicable number keys to go to a specific channel number.
    c. Browse, using the Interactive Program Guide (IPG).
4. With your TV's remote, press the FORMAT (aspect ratio) button (if available) as needed, stretching or zooming to adjust the picture display until any black (or gray/white) sidebars are eliminated.



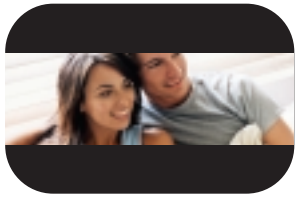
# Important Information to Protect your HDTV Display

## Sidebars

Most TV screens and programming were designed using a 4:3 aspect ratio for standard-definition TV reception and viewing. However, some HDTVs are "wide screen," which use an aspect ratio of 16:9. Therefore, when a standard-definition program is viewed on a wide-screen HDTV, the HDTV may center the image on the screen with black, gray or white margins (known as sidebars) on either side in order to retain the 4:3 aspect ratio. The settop converter uses this same process when 4:3 content is viewed via the high-definition input of a 16:9 wide-screen HDTV.

## Letterboxing

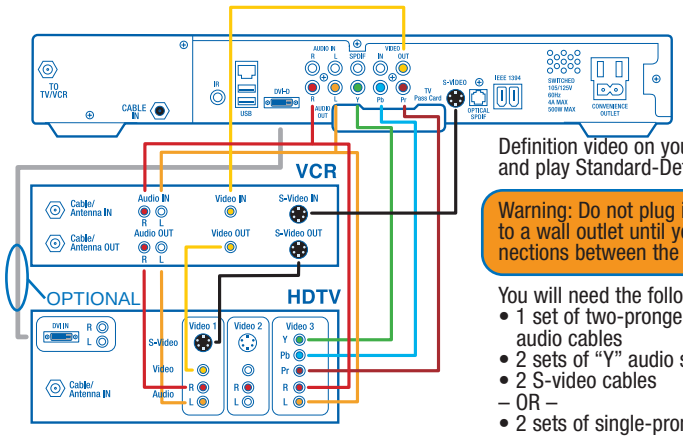
In a similar fashion, when wide-screen (16:9 aspect ratio) content is transmitted to a 4:3 TV screen, the content provider may add black margins on the top and bottom of the screen to ensure that the entire width of the picture is visible. This is known as "letterboxing."



## Avoiding Sidebar or Letterbox Damage (Burn-In)

Persistent viewing of programs with sidebars or letterboxing over long periods of time may degrade the picture quality of your HDTV by reducing your HDTV's ability to display colors evenly across the screen. Both the television manufacturers and Mediacom recommend that sidebars be eliminated by using the zoom feature whenever possible. (Since letterboxing is done by the content provider, letterboxed programs cannot always be completely zoomed to fill the screen. See your TV's manual for details.) Pausing DVD's or videos for extended periods of time can also cause burn-in. Mediacom will not be held responsible for any burn-in on your HDTV set.

# Connecting the Settop Box to a High-Definition TV and VCR




If you intend to use a standard stereo VCR, use this configuration to watch both HD and Standard-Definition video on your HDTV as well as record and play Standard-Definition video via your VCR.

**Warning: Do not plug in the setup box power cord to a wall outlet until you have completed ALL connections between the DCT and other components.**

You will need the following connector cables:
- 1 set of two-pronged red & white RCA-type audio cables
- 2 sets of "Y" audio splitter cables
- 2 S-video cables

– OR –

- 2 sets of single-pronged RCA type video cables

Note: The inputs/outputs on your specific VCR and HDTV determine which video cables you will need. If your VCR and HDTV accepts S-video, this should be your first choice as it is considered the higher standard-definition video output.

**1.** Using the coaxial cable from an active wall outlet, connect the cable to the CABLE IN coaxial input on the settop box.

**2.** Locate the Y Pb Pr inputs on your HDTV and the Y Pb Pr outputs on the settop box. (These connectors are color-coded on the settop box as follows: Y = green. Pb = blue. Pr = red. Colors may vary on your HDTV.)

**3.** Using a three-jack component video connector, connect the Y output on the settop box to the Y input on your HDTV. Do the same for the Pb and Pr connections.

**4.** Connect the single connector end of a Y audio splitter cable to the AUDIO OUT R (red) on the settop box. Insert the other ends into the AUDIO IN R on your VCR and AUDIO IN R on your HDTV.

**5.** Use the second splitter cable to connect the AUDIO OUT L (pink) on the settop box to the AUDIO IN L connections on both the VCR and the HDTV.

**6.** 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.

**7a.** Using an S-video cable, connect the S-VIDEO output on the settop box 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.

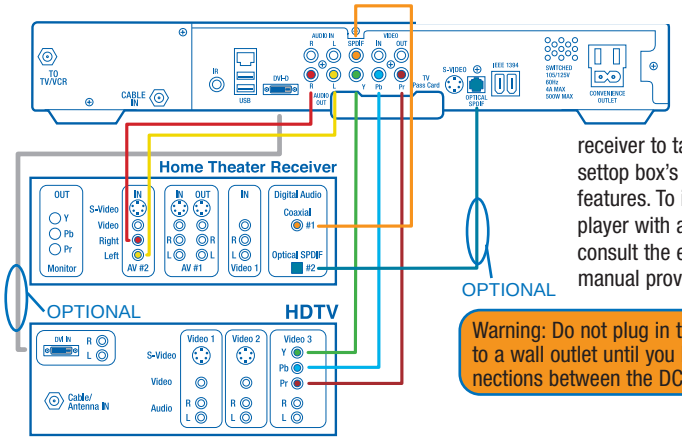
– OR –

**7b.** Using your single-pronged RCA-type video connector cable, connect the VIDEO OUT (yellow) connector on the settop box 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.

NOTE: You will need to purchase all other cables if you chose to use the optional outputs on the HD settop box such as the DVI-D and Optical SPDIF outputs.



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




Using this illustration, you can connect a stereo or Home Theater receiver to take full advantage of the settop box's rich digital audio features. To integrate a VCR or DVD player with a Home Theater receiver, consult the equipment manufacturer's manual provided with the equipment.

**Warning: Do not plug in the settop box power cord to a wall outlet until you have completed all connections between the DCT and other components.**

There are three options to configure your audio connection to include your Home Theater. Configure your audio setup to match the audio inputs on your Home Theater receiver. Options 1 and 2 are of equal sound quality. Option 3 is of lesser quality.

**Option One** – Optical

**1.** Follow steps 1 through 3 in the previous diagram.

**2.** Locate the OPTICAL SPDIF output on the settop box 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 settop box to the input on your digital Home Theater receiver.

**Option Two** – RCA-Type Digital Audio

**1.** Follow steps 1 through 3 in the previous diagram.

**2.** Locate the orange RCA-type SPDIF output on the settop box 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 settop box to the input on your Home Theater receiver.

**Option Three** – Baseband Audio Connector cables to be used: Two-pronged RCA type audio cable (red & pink)

**1.** Follow steps 1 through 3 in the previous diagram.

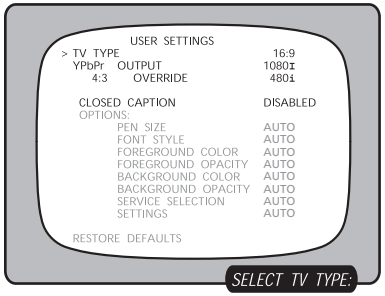
**2.** Locate the AUDIO OUT L (pink) and R (red) outputs on the settop box and the AUDIO IN L & R inputs on your HDTV

**3.** Using a two-pronged RCA-type audio connector, connect the L & R outputs on the settop box to the L & R inputs on your HDTV. Remember L will go to L, and R will go to R.

NOTE: When using your audio receiver, it is recommended that you mute or turn down the volume on your TV.

# Optimizing Your HDTV Picture

Use the on screen menu to tailor your HD settop box to the capabilities of your HDTV. This allows the HD settop box 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 HD settop box. Press the MENU button on either your remote control or the HD settop box front panel to call up the On Screen Display.* You may use either the HD settop box 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.

**TV TYPE**

The first user setting is TV TYPE. Your selection tells the HD settop box 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.

**Y Pb Pr OUTPUT**

Next, use the down arrow to select 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.

**4:3 OVERRIDE**

Finally, use the down button arrow to select 4:3 OVERRIDE. By selecting 480i or 480p you are telling the HD settop box to send Standard Definition programming to your TV in its original broadcast format. Select OFF and the HD settop box 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 HD settop box output settings, including setting Closed Caption preferences, see the Motorola HD settop box User Guide or visit 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 (480i). Use the HD settop box front panel LED to view and change your settings.



# Frequently Asked Questions

**What is HDTV?**

High-definition television is a high-resolution digital wide-screen TV format. A high-definition TV signal has twice the color resolution and imparts a picture that is six times sharper than that provided by a traditional analog TV set. HDTV likewise provides enhanced audio, such as Dolby Digital.

**How is HDTV Different?**

The usual National Television Standards Committee (NTSC) analog TV screen in the U.S. has 525 scan lines, with 480 actually visible. The usual TV has an effective picture resolution of about 210,000 pixels. In the highest resolution digital TV formats, each picture contains about 2 million pixels. This means about 10 times more picture detail on the HDTV screen!

**I keep hearing about 720p and 1080i signal formats – what does Mediacom support?**

The formats used in HDTV are:
- 720p - 1280x720 pixels progressive
- 1080i - 1920x1080 pixels interlaced

The settop will automatically convert all high-definition signals to 1080i format regardless of the format of the broadcast signal.

**4:3, 16:9, wide screen and pan and scan – what does it all mean?**

4:3 (width: height) is the standard television shape. HDTV's have been manufactured in both 4:3 and 16:9 aspect ratios. 16:9 (width: height) is the traditional shape of a HDTV, although some HDTV's have been designed with a 4:3 aspect ratio. Wide screen is a term used for the 16:9 aspect ratio. Most HDTV sets are easy to identify because of their wide screens. These screens, which are usually a lot wider than they are tall, closely resemble their movie theater counterparts. Pan and Scan is a tool that can be deployed to present 16:9 content onto a 4:3 television (vs. letterboxes). The "pan and scan" technique displays only part of the picture at any given time, so that it can fill up the entire display screen rather than require sidebars to fit within the 4:3 HDTV display ratio.

**What is the difference between "interlaced" and "progressive" scan?**

"Interlaced" or "progressive" refers to the scanning system. In an interlaced format, the screen shows every odd line at one scan of the screen, and then follows that up with the even lines in a second scan. Since there are 30 frames shown per second, the screen shows one half of the frame every sixtieth of a second. For smaller screens, this is less noticeable. As screens get larger, the problem with interlacing is flicker. Progressive scanning shows the whole picture, every line in one showing, every sixtieth of a second. This provides for a much smoother picture, but uses slightly more bandwidth.

**Will I be able to view closed captioning with HD Service?**

To enable closed captions on the HD settop you must access the On Screen Display. Begin by powering ON your HDTV and powering OFF the settop box. Press the MENU button on either your Mediacom remote or the settop box front panel to call up the On Screen Display. You may use either the front panel or the remote to navigate the display. Arrow down to the Closed Caption menu option. Use the right arrow button to select the option to Enable closed captions. Press the POWER or MENU button to exit the menu and save your settings.

**I am tuned to a high-definition channel, however the picture is not displayed in full screen. What is wrong?**

Not all programs are in high-definition format and therefore programs will not always be full-screen. Not every show currently broadcast by a HD station is in HD format. You can assume that if you are getting a picture on the HD channel, then your equipment is functioning properly. You may want to check your HD monitor (TV set) settings (consult the HD monitor's user manual).

**Can I view all my regular TV channels through the HDTV connection?**

Yes, but you may get what is known as "burn-in" on the sides of your TV screen. This could ruin your television, especially if it is a projection-type television. Consult your TV's user manual for information regarding viewing 4:3 (standard video) programming in its native format.

**When I tune to a high-definition channel, the picture seems to take a long time to display. Is this normal?**

Yes, it may take up to 5 seconds for a high-definition picture to first display. This occurs because there are many more pixels to be created, thus, more time is required.

**Why is the aspect ratio of different programs inconsistent?**

The aspect ratio of the content is controlled by the service providers (HBO, Showtime etc.). You can go to the HBO website at www.hbo.com, the Showtime website at www.sho.com, hdtvgalazy.com or titantv.com to find out which programming is in 16:9 HDTV. As time goes on, there will be more and more HD in 16:9 aspect ratio. Whether the HD signal is in 4:3 or 16:9 formats, the picture quality will be better (crisper, clearer, etc.) than an analog or a standard digital signal. The reason for this is that there is up to 5 times the information, or data, for each HD service than there is for standard digital, no matter what the aspect ratio.

# Troubleshooting Tips

## General Troubleshooting Tips

- Properly plug your television and HD settop box into an electrical outlet. (If a light switch controls the outlet, make sure it's turned on.)
- Make sure all cables are properly connected and connections are finger tight.
- Make sure power indicator light on the settop box is on.
- Make sure TV power is on and TV is tuned to channel 3 or the correct video input.
- If your set-up includes a VCR and/or stereo, make sure they are properly connected to the settop box.

## Blank Screen or Snowy Picture

- If you are using the cable TV/RF input, make sure your TV and/or VCR are tuned to channel 3.
- If you are using the line/RCA inputs, make sure your TV and/or VCR are tuned to the correct line input.

## Blue Screen or other VCR-related Problems

- Make sure your VCR is tuned to channel 3 or the correct video input.
- Press TV/VCR button on your VCR.

## There are no graphics, closed captions, or program guides appearing on the TV screen

- The HD settop box cannot generate graphics on all video outputs at all times.
- If the HD settop is set to 1080i, 720p, or 480p output format, graphics are only available on the high definition video outputs (DVI and component video).
- If the HD settop is set to 480i, graphics are available on all video outputs.
- If the HD settop is connected to a standard definition (SD) TV, verify that the HD settop is configured to use the 480i output mode.

## Interactive Guide with No Program Listing

- Disconnect the power cord from the electrical outlet and wait at least 10 seconds. Plug the power cord back into the electrical outlet to begin reloading the interactive guide information. This will take about 30 minutes to complete. While the guide is reloading information, you will be able to watch TV and change channels with your remote, but on-screen programming listings will not be available until the reloading process is complete.

## No Sound

- Verify that the mute function has not been activated on your TV and/or HD settop box.
- Make sure the volume is turned up on your TV or home theater system.
- If you are using a stereo receiver or home theater system, verify that the audio connections are correct.

## More Troubleshooting Help

- If you need additional help, please call Mediacom at: 1-877-854-2253



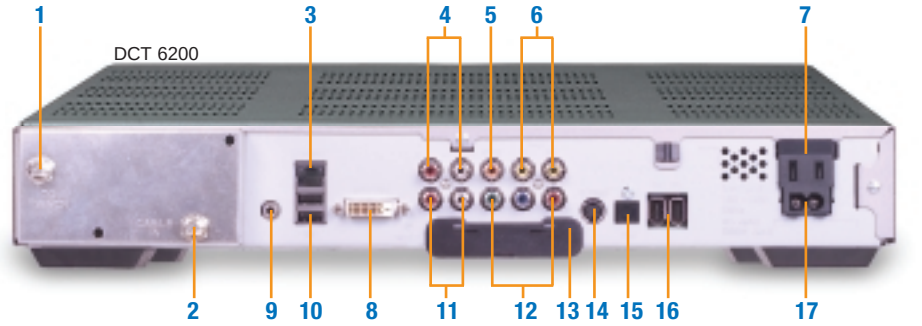
# HD Settop Box Front Panel

The front panel has 12 keys and an LED display. Use the keys to perform basic functions such as access to the interactive program guide, navigate menus, and order On Demand/Pay-Per-View events. The table following this drawing describes each key and its use.


| | Key | Description |
|---|---|---|
| 1. | LED | Displays the channel number or time of day.<br>There are four indicator lights on the LED screen:<br>MSGS. — the DCT6200 has received messages for you to read<br>ON — the DCT6200 is powered on<br>A/B — the RF bypass is active (Not enabled on this unit.)<br>REMOTE — the remote control is in use |
| 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. (Not enabled on this unit.) |
| 7. | SELECT | Selects menu options, events or programs from the program guide. |
| 8. | GUIDE | Displays the program guide. |
| 9. | CHANNEL +<br>CHANNEL - | Changes the channels by moving Up or Down. |
| 10. | SMART CARD SLOT | This interface is intended to support electronic commerce activity utilizing a Smart Card. (Not enabled on this unit.) |

# HD Settop Box Back Panel

The rear panel of the consists of three types of interfaces - audio, video and data. The following information describes each connection and its use.




| Key | Description |
|---|---|
| **1. TO TV/VCR** | This coaxial output connector is used to connect the DCT6200 to a TV or VCR operating on channel 3 or 4. |
| **2. CABLE IN** | This connector receives the incoming signal from your cable service provider. |
| **3. ETHERNET** | This port supports PC networking. (Not currently enabled.) |
| **4. AUDIO IN R AUDIO IN L** | These connect a settop between a peripheral audio device such as a CD player and a stereo tuner or A/V receiver. The audio from the peripheral device will pass through the DCT6200 when it is turned OFF. |
| **5. SPDIF** | 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 DCT6200 to a stereo tuner or A/V receiver to provide surround-sound, theater-style audio. |
| **6. VIDEO IN VIDEO OUT** | 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. OUTLET** | This outlet may be used to plug your TV into the DCT6200 as a convenient additional outlet. |
| **8. DVI-D** | Digital Video Interface to connect high-definition monitor or high-definition tv. |
| **9. IR** | This connector enables the DCT6200 to control a VCR while recording a selected program. Not all electronic program guides support this feature. |
| **10. USB** | The Universal Serial Bus (USB) is used to support devices such as keyboards, joy sticks, scanners, disk storage, PCs, printers, and digital cameras. (Not currently enabled.) |
| **11. AUDIO OUT R AUDIO OUT L** | The RCA phono-type connectors are used to deliver audio to a stereo receiver. |
| **12. Y Pb Pr** | 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. TV PASS CARD** | For Future Use |
| **14.. S-VIDEO** | 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. OPTICAL SPDIF** | 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 DCT6200 to a stereo tuner or A/V receiver to provide surround-sound, theater style audio. |
| **16. IEEE1394** | Firewire Digital Interface to connect high-definition monitor or high-definition tv. |
| **17. POWER INLET** | For the female end of the supplied power cord. |