



INSTALLATION GUIDE

Pace TDC777D



BRINGING TECHNOLOGY HOME
www.pace.com

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This manual describes some on-screen displays such as menus. These may change in the future, if the set-top's software is updated over the cable. However, the way that you use the menus will remain similar to the way described in this manual.

SAFETY INFORMATION

This digital set-top has been manufactured and tested with your safety in mind. However, improper use can result in potential electric shock or fire hazards. To avoid defeating the safeguards that have been built into the set-top, please observe the precautions discussed in this document.

Warnings on the set-top

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR



The lightning flash with arrowhead symbol, within a triangle, is intended to alert you to the presence of uninsulated “dangerous” voltages within the set-top’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within a triangle is intended to alert you to the presence of important instructions in the literature accompanying the set-top.

Other warnings

To reduce the risk of electric shock, do not remove the cover of the set-top. There are no user-serviceable parts inside it.

Do not perform any servicing unless you are qualified to do so. Refer all servicing to qualified service personnel. Servicing the set-top yourself will invalidate the warranty.

To reduce the risk of fire or electric shock, do not expose this set-top to rain or moisture.

On the rear panel of the set-top there is a tamper-evident label that states ‘Warranty void if broken or removed’.

To avoid possible damage to the internal hard disk, do not pick up or move the set-top while it is connected to the wall AC outlet. If you want to move the set-top, first stop any recording, then turn off the set-top and wait 60 seconds before disconnecting it. You should handle the set-top carefully, as any damage you cause to the internal hard disk (or any other component) will invalidate the warranty.

Installation

The installation of the set-top should be carried out by a qualified installer and should conform to local codes.

Note to the installer

This reminder is provided to call the attention of the cable-TV-system installer to Section 820 of the National Electrical Code (USA), which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as is practical.

Service address:
Pace Americas Inc.
3701 FAU Boulevard, Suite 200, Boca Raton, Florida 33431 U.S.A.

IMPORTANT SAFETY INSTRUCTIONS

Before you install or use the apparatus, you must read and understand these Important Safety Instructions.

At all times when using the apparatus you must follow these Important Safety Instructions to reduce the risk of fire, electrical shock and injury to persons.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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 are provided for your safety. If the provided plug does not fit into the outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as 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.

SAFETY INFORMATION (cont.)

In addition to the Important Safety Instructions, please read the Safety Information below.

Power sources

The model number, serial number, and electrical rating of this set-top are on a label on its base.

You must operate the set-top only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company. If you move the set-top between locations at different temperatures, allow it to reach room temperature before you apply power to it.

Overloading

Do not overload wall AC outlets, extension cords or other power outlets as this can result in a risk of fire or electric shock.

Lightning

For added protection for the set-top during a lightning storm, or when it is left unattended and unused for long periods of time, disconnect the cable system from the set-top. See also item 13 in the Important Safety Instructions.

Ambient temperature

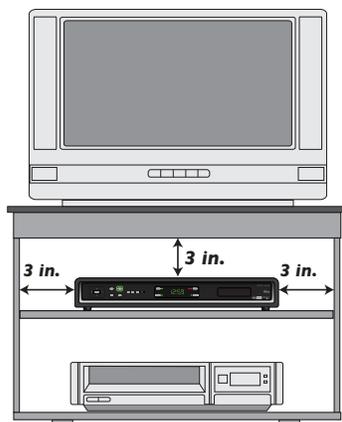
The operating temperature range of the set-top is 32-104°F. If the ambient temperature around the set-top falls outside this range, you must correct this in order for the set-top to work correctly and safely. For example, if the temperature is too high, make sure there is sufficient ventilation (see below) and that the set-top is not directly on top of or underneath other equipment.

Ventilation

Slots and openings in the casing of the set-top are provided for ventilation, to ensure reliable operation of the set-top and to protect it from overheating.

- Never block the ventilation openings by placing the set-top on a bed, sofa, rug, or other similar surface. Place it on a hard, flat surface.
- Never cover the ventilation openings with items such as newspapers, table-cloths, or curtains.
- You can place the set-top near other consumer electronics devices, such as stereo amplifiers or televisions, but you must not place it directly on top or underneath them.
- Do not place the set-top in a built-in installation such as a bookcase or rack unless proper ventilation is provided and you have adhered to the manufacturer's instructions.
- **Maintain a minimum distance of three inches around the set-top for sufficient ventilation.**

See also item 7 in the Important Safety Instructions.



Water and moisture

Do not expose the set-top to rain or moisture, dripping or splashing, and ensure that no objects filled with liquids, such as vases, are placed on the set-top. See also item 5 in the Important Safety Instructions.

Entry of objects and liquids

Never push objects of any kind into the set-top through openings as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock. Never spill liquid of any kind on the set-top.

Transporting

Move the combination of set-top and cart with care. Quick stops, excessive force and uneven surfaces may cause the combination of set-top and cart to overturn. See also item 12 in the Important Safety Instructions.

Placement and mounting

Do not place the set-top on an unstable or uneven surface. The set-top may fall, causing serious injury to a child or adult and serious damage to the set-top. If you mount the set-top, for example to a wall or ceiling, follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer. See also item 12 in the Important Safety Instructions.

Risk of fire or scorching

Never place naked flame sources, such as lighted candles, on or adjacent to the set-top.

Replacement parts

When replacement parts are required, be sure that the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards. See also item 14 in the Important Safety Instructions.

Safety check

Upon completion of any servicing or repairs to the set-top, ask the service technician to perform safety checks to determine that the set-top is in its proper operating condition. See also item 14 in the Important Safety Instructions.

SAVE THIS INFORMATION FOR FUTURE REFERENCE

SAFETY INFORMATION (cont.)

Safety aspects of connections

Full details of the rear panel are on page 7.

Connecting

Do not connect the set-top (or any other equipment such as a TV or VCR) to the power supply until you have properly connected all the other cables.

The set-top operates with a 110-240 V AC, 50-60 Hz power supply. Do not connect the set-top to any supply other than this.

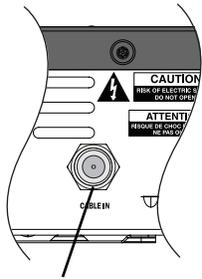
This set-top is equipped with a two-wire power cord, with a polarized plug at one end. The other end of the cord is fitted with a polarized connector, which is shaped such that it can be fitted only one way into the power input connector of the set-top. Connect this end first, before inserting the polarized plug into the wall AC outlet.

Disconnecting

Disconnect the set-top from the power supply before you disconnect any other equipment from its rear panel.

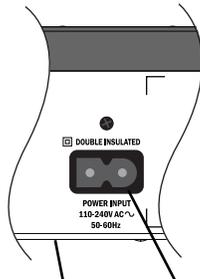
The only way to disconnect the set-top from the power supply is to remove the power cord from the wall AC outlet. Therefore, you must install the set-top near to the wall AC outlet, which should be easily accessible.

If you are in any doubt about the power cord, its plug, or its connection, consult a qualified electrician.



The **CABLE IN** connector is designed for connection to a cable network only.

You must not connect any other equipment, such as a VCR, to this input.



POWER INPUT

The model number, serial number, and electrical rating of this set-top are on a label on its base.

Regulatory information

CAUTION: Do not attempt to modify the set-top without written authorization from the manufacturer. Unauthorized modification could void your authority to operate the set-top.

NOTE

The set-top 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. The set-top generates, 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.

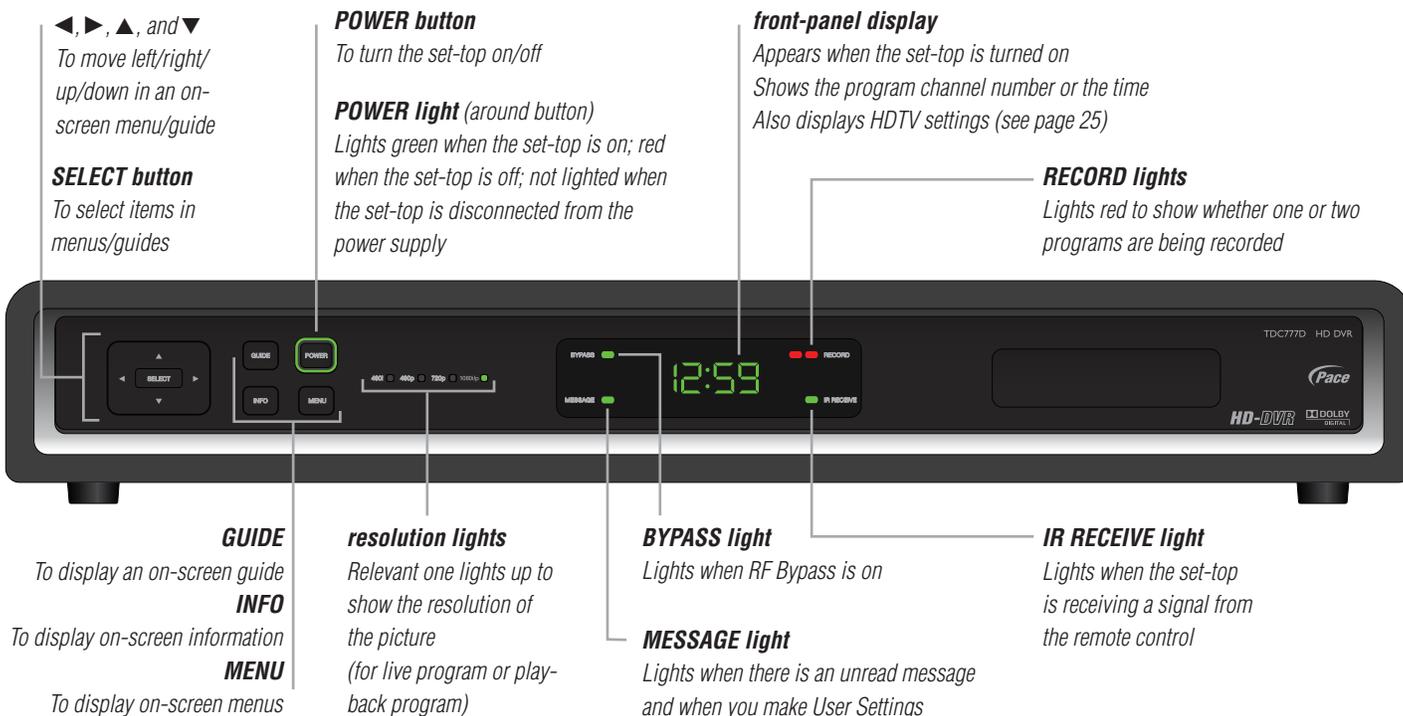
However, there is no guarantee that interference will not occur in a particular installation. If the set-top does cause harmful interference to radio or television reception, which can be determined by turning the set-top off and on, you are encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the set-top and the receiver.
- Connect the set-top to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

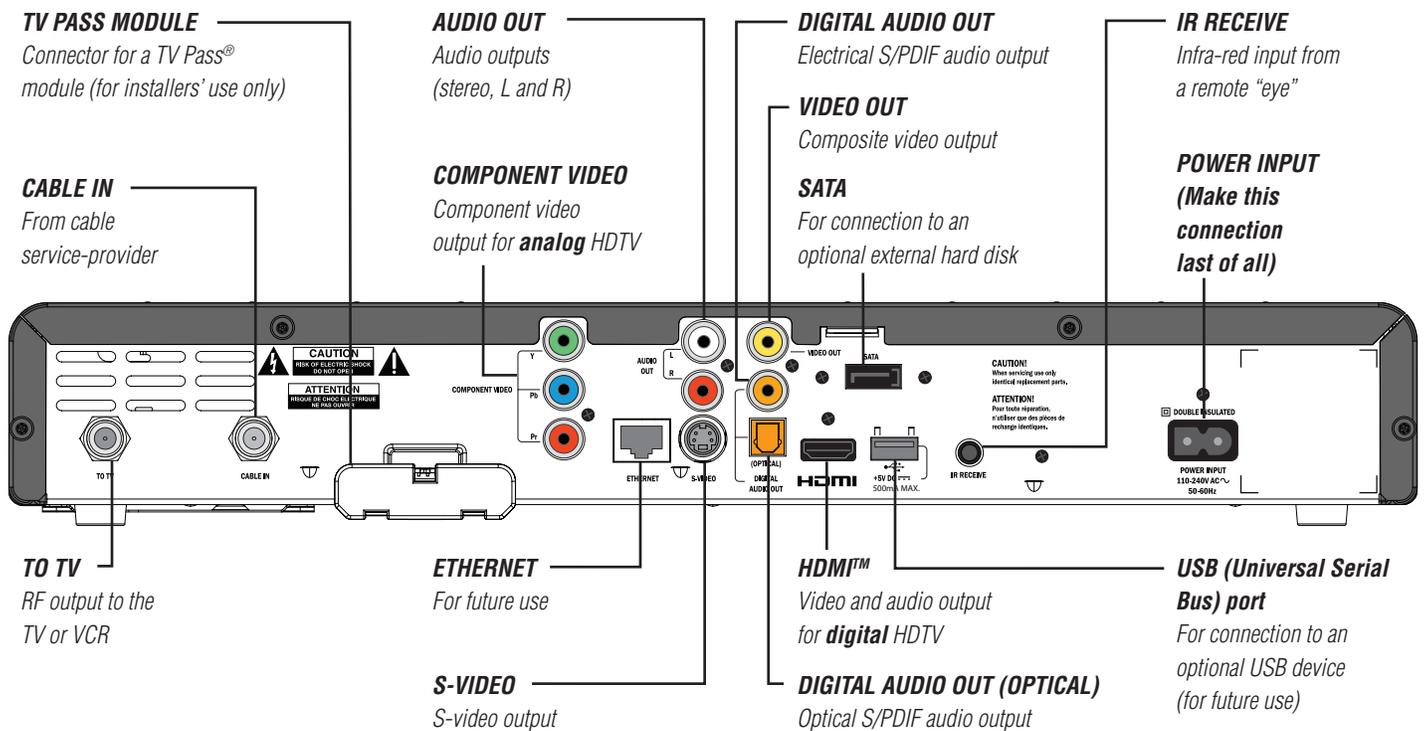
OVERVIEW

- Read all the safety information on pages 3 through 5.
- Familiarize yourself with the front and rear panels of the set-top (see below and page 7).
- Is the set-top in a TV cabinet with closed non-transparent doors or somewhere else where its IR-receive window is blocked from view? If so, connect a remote “eye” (IR receiver) (see page 8).
- Decide how you want to connect the set-top (and to which equipment) and look at the table on page 9 to see which setup you should use.
- Be aware of menu settings that could affect your choice of setup (see page 33).
- Connect the equipment together according to your chosen setup, but do not yet connect the power cords (see pages 10 through 18).
- Connect the power cords and turn on the equipment (see pages 19 and 20).
- Check that you can see a picture on the TV (see page 22) and do any necessary tuning (see page 21).
- Check whether the user settings are appropriate for the TV being used and change them if necessary (see pages 25 through 31).
- Any problems? Display the diagnostic screens (see page 34) and consult the “Solving Problems” section on page 35.

Using the front-panel buttons



REAR PANEL



CABLE IN

Connect the cable service here.

TO TV

Connect to the RF/antenna input on the TV or VCR (optional).

AUDIO OUT

Connect to the L and R audio inputs on the stereo TV, stereo VCR, or optional stereo amplifier.

DIGITAL AUDIO OUT

Connect to the **electrical** digital audio input on optional digital audio equipment, such as an audio decoder or home theater receiver.

DIGITAL AUDIO OUT (OPTICAL)

Connect to the **optical** digital audio input on optional digital audio equipment.

VIDEO OUT

Connect to the composite video input on the VCR (or a standard TV).

S-VIDEO

Connect to the S-video input (if present) on the VCR or TV.

COMPONENT VIDEO

If the HDTV does not have an HDMI, connect the HDTV here.

HDMI (High Definition Multimedia Interface)

If the HDTV has an HDMI, connect it here for a **digital** audio/video connection (instead of using the AUDIO and three **analog** COMPONENT VIDEO connectors).

IR RECEIVE

Connect to an optional remote "eye".

SATA

Connect to an optional external hard disk (if enabled by the cable service-provider).

USB (Universal Serial Bus) port

Connect to compatible optional equipment that supports a USB 2.0 interface (future use).

ETHERNET

For future use.

TV PASS MODULE

Connect a TV Pass® module, if required.

POWER INPUT

Connect the set-top's power cord here. **Make this connection last of all.**

CONNECTING THE EQUIPMENT

Getting the cables ready

Below is a list of cables (and their connectors) that are shown in the diagrams on pages 10 through 18, along with a key to how they are depicted in the diagrams. (Options are shown as dashed lines.)

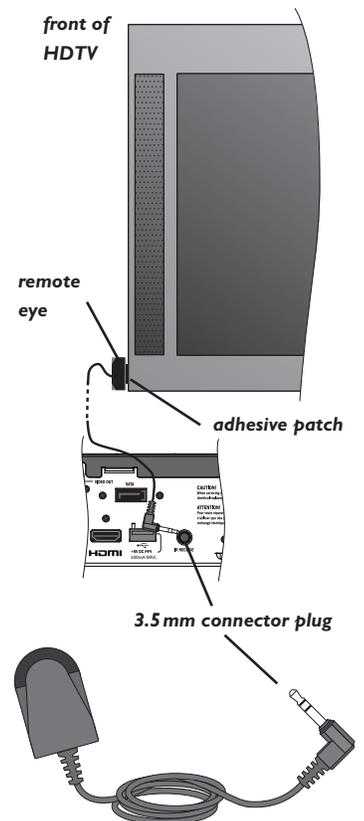
Cable type	Connector type	Cable numbers	Drawn as
75 Ω coaxial (RF cable)	male F-type		-----
Standard HDMI	HDMI 19-pin type A	1	=====
HDMI (to DVI)	HDMI 19-pin type A/DVI	2	=====
Component video 75 Ω coaxial	male RCA connector	9, 12	=====
Video 75 Ω coaxial	male RCA connector	13	=====
S-video	4-way male mini-DIN	4, 5	=====
Stereo audio coaxial	male RCA connector	3, 6, 7, 10	=====
Digital audio 75 Ω coaxial*	male RCA connector	8	=====
Digital audio optical	optical S/PDIF	11	=====
IR receive	male 3.5 mm connector		=====

*Any cable connected to DIGITAL AUDIO OUT must be 75 Ω coaxial, not regular audio cable.

Connecting a remote “eye” (IR receiver)

You may need to install the set-top in an equipment closet with closed non-transparent doors or some other location where the remote-control sensor (IR-receive window) on the set-top's front panel is blocked from view (for example, if the TV is wall-mounted). In that case, you need to connect a remote “eye” (IR receiver) to the set-top's rear panel. The IR signals from the remote control can be received by the remote eye and they then reach the set-top through the remote eye's cable. The remote eye is not supplied with the set-top.

1. Select a location for the remote eye. This will typically be on the top or side of the TV, but could be in a different, but convenient, location. Make sure that it is in a position where there is a clear path between the remote control and the remote eye.
2. Make sure that you can conveniently route the cable. The cable on the remote eye is approximately 10 feet long, so make sure that the location you have chosen is within 10 feet of the IR RECEIVE connector on the set-top's rear panel.
3. Make sure the area where you will attach it is clean and dry.
4. A small adhesive patch is supplied with the remote eye. Remove the paper from one side of the patch and stick the patch to the back (larger, flat side) of the remote eye.
5. Remove the paper from the other side of the adhesive patch and stick the remote eye at the position you want. Make sure that the window at the curved end of the remote eye points towards the position from which the remote control will be operated.
6. Insert the 3.5 mm connector plug on the other end of the remote eye's cable into the socket labeled “IR RECEIVE” on the rear panel of the set-top.



CONNECTING THE EQUIPMENT (cont.)

Choosing the best setup

In order for you to view programs broadcast in high-definition, the set-top must be connected to a suitable HDTV or computer monitor. The set-top is also compatible with standard-definition TVs and VCRs.

On the following pages are diagrams that show you how to connect typical equipment (HDTV, VCR, DVD player, and home theater receiver) to the set-top. The connected items are shown individually and then in combination (see the tables below). Some of the connections may change when extra equipment is added. For example, when you add a home theater receiver, some cables that previously went to the TV can, instead, go to the home theater receiver.

These setups make efficient use of the connectors on the set-top. However, depending on the other equipment and the connectors on it, you may choose to connect things differently.

These setups allow stereo recording and play-back of video tapes. You hear stereo sound from the home theater's loudspeakers.

Although the RF cables (shown by dashed lines in the diagrams) are not absolutely necessary, we recommend that you connect them as a back-up and to use the RF Bypass feature. If you use the RF cables, you must tune the TV (and VCR) to the set-top's VHF output channel (3 or 4: consult the cable service-provider to find which channel it is for the location). Consult the manuals supplied with the TV and VCR for information on how to tune.

You can take advantage of the digital audio output from the set-top by connecting a suitable cable between the home theater receiver and the DIGITAL AUDIO OUT or DIGITAL AUDIO OUT (OPTICAL) connector (as shown in the diagrams).

Setups using the TV's HDMI connector:

HDMI TV (optional home theater receiver)	Setup A	Page 10
DVI HDTV (optional home theater receiver)	Setup B	Page 11
VCR and HDMI TV	Setup C	Page 12
VCR, home theater receiver, and HDMI TV	Setup D	Page 13
DVD player and HDMI TV	Setup E	Page 14
VCR, DVD player, home theater receiver, and HDMI TV	Setup F	Page 15

Setups using the TV's component video and stereo audio connectors:

HDTV (optional home theater receiver)	Setup G	Page 16
DVD player and HDTV (optional home theater receiver)	Setup H	Page 17
VCR, DVD player, home theater receiver, and HDTV	Setup I	Page 18

WARNINGS

Do not connect the set-top (or any other equipment such as a TV or VCR) to the AC power supply until you have properly connected all the other cables.

Disconnect the set-top from the AC power supply before you disconnect any other equipment from its rear panel.

The only way to disconnect the set-top from the AC power supply is to remove the AC power cord (or switch the wall AC outlet switch, if present, to its OFF position). The set-top must therefore be installed near the wall AC outlet, which should be easily accessible.

The cable input is designed for connection to a cable network only. You must not connect any other equipment, such as a VCR, to this input.

Any cable connected to DIGITAL AUDIO OUT must be 75 ohm coaxial cable, not regular audio cable.

NOTE

Copy protection via an HDMI secure link

The HDMI link between the set-top and the HDTV should be a secure link. When the set-top is attached via an HDMI cable to an HDCP-compliant (High-bandwidth Digital Content Protection) HDTV, the HDTV and set-top negotiate a secure link, which allows the set-top to transmit full resolution video (picture) to the HDTV.

Not all HDTVs support HDCP. If the set-top is connected to an HDTV that does not support it, the following may be displayed:

Your HDTV does not support HDCP. Please use the YPbPr component connection to watch TV.

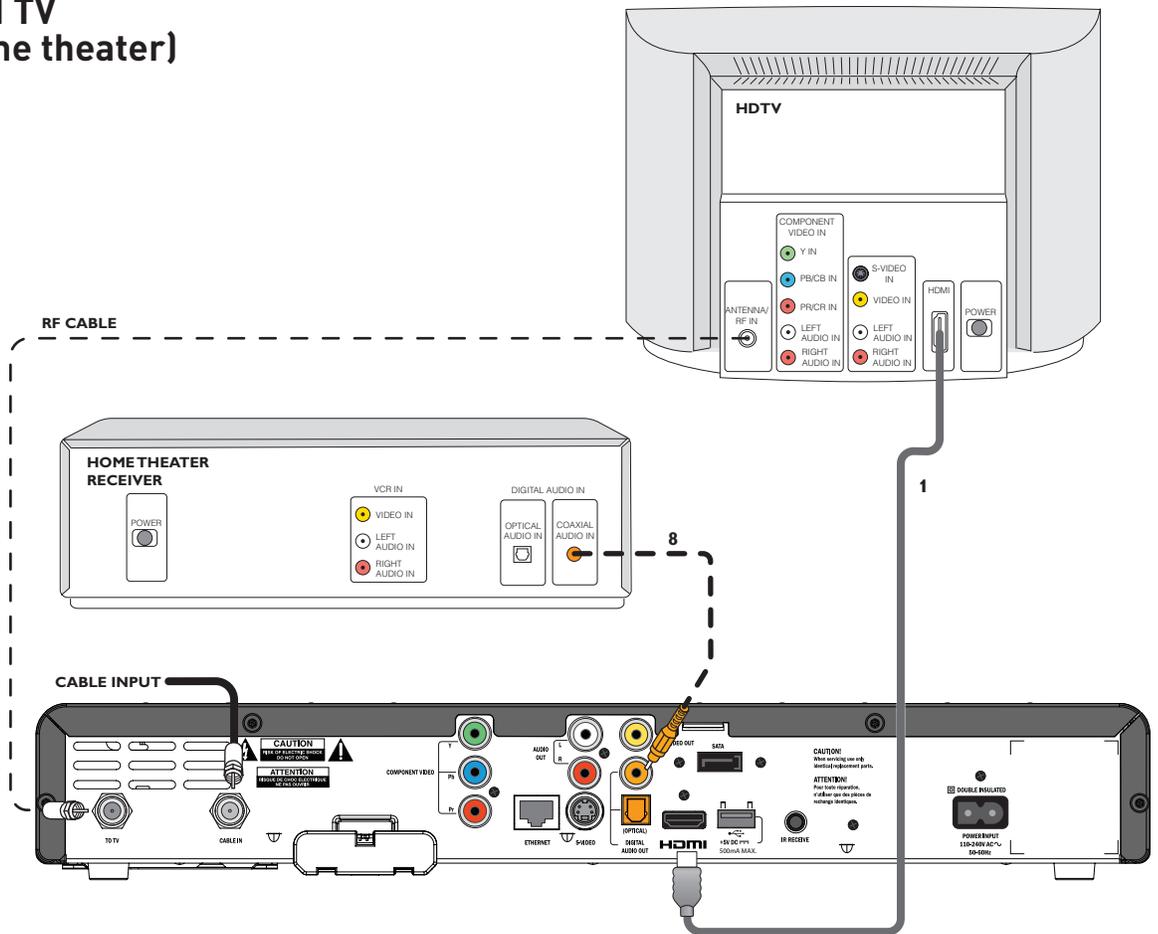
The HDMI output is then disabled, so no picture is transmitted from this connector. In that case, use the component video connectors to connect up (see Setup G, H, and I).

NOTE

How you set up the equipment may depend on the home theater receiver. For example, the optical audio input may be associated with a particular video input. Consult the home theater user guide for further details.

CONNECTING THE EQUIPMENT (cont.)

Setup A - HDMI TV (+ optional home theater)

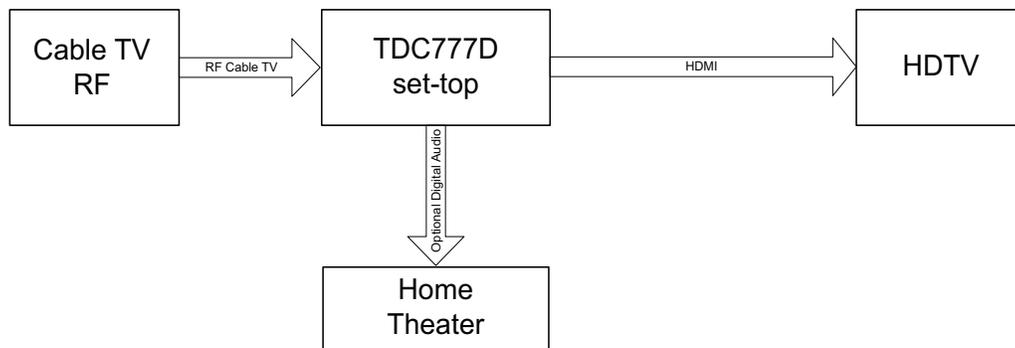


About Setup A: Using an HDMI cable to connect an HDTV (optional home theater shown)

This is the most basic setup, with only an HDTV and optional home theater connected.

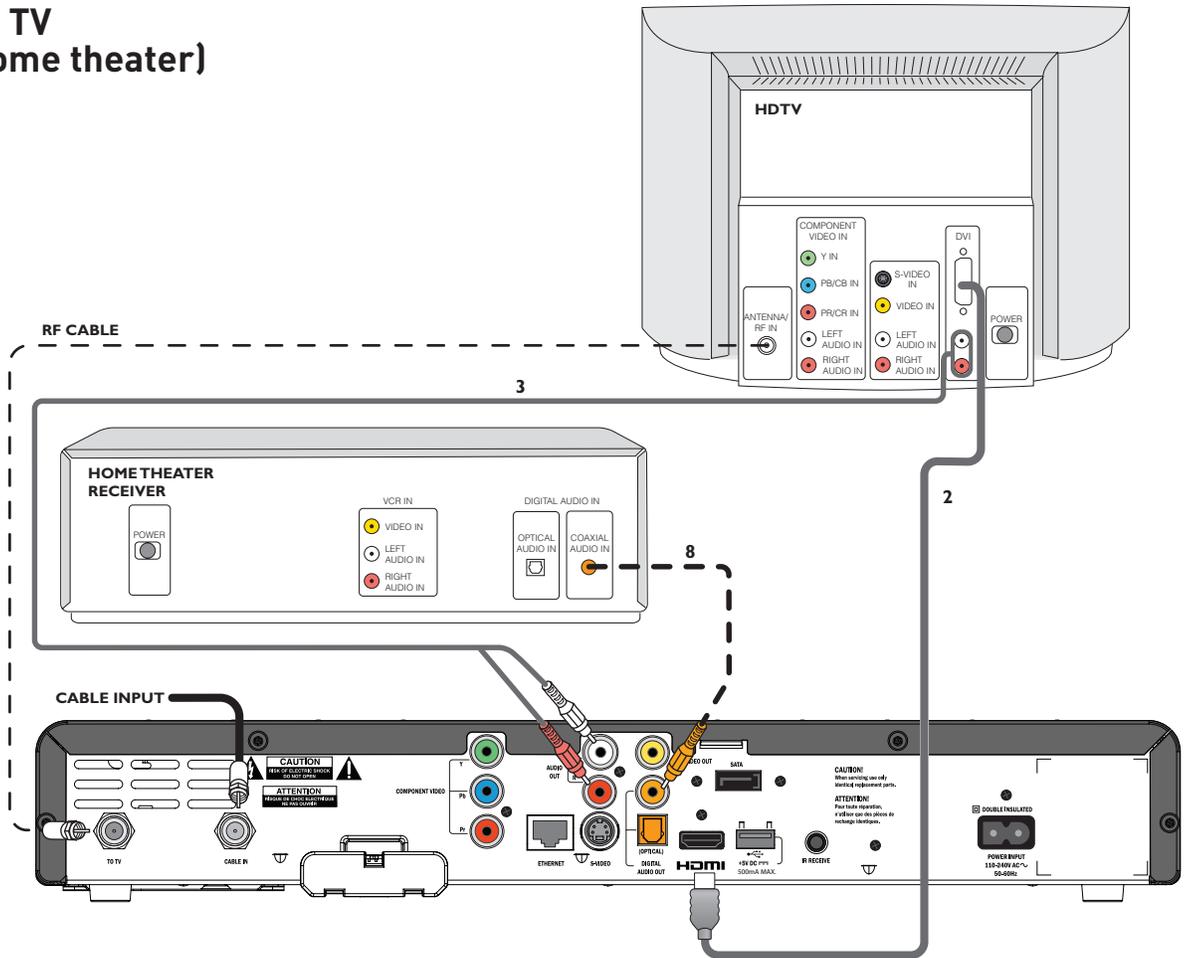
- The set-top has an HDMI connector.
- The HDTV has an HDMI, so use an HDMI cable (1) to connect it to the set-top's HDMI.
- HDMI carries both high-resolution digital video and digital audio.
- To enhance the sound, you can connect a home theater receiver.
- There is a choice of two S/PDIF outputs: (i) electrical (labeled DIGITAL AUDIO OUT, which is shown connected by cable 8 in the diagram above) and (ii) optical (labeled DIGITAL AUDIO OUT (OPTICAL)).
- When you add a home theater receiver, the set-top's audio connection to the TV (via HDMI) is not needed, so you may wish to mute (turn off) the audio on the TV.

Cable Wiring Diagram A



CONNECTING THE EQUIPMENT (cont.)

Setup B - DVI TV (+ optional home theater)

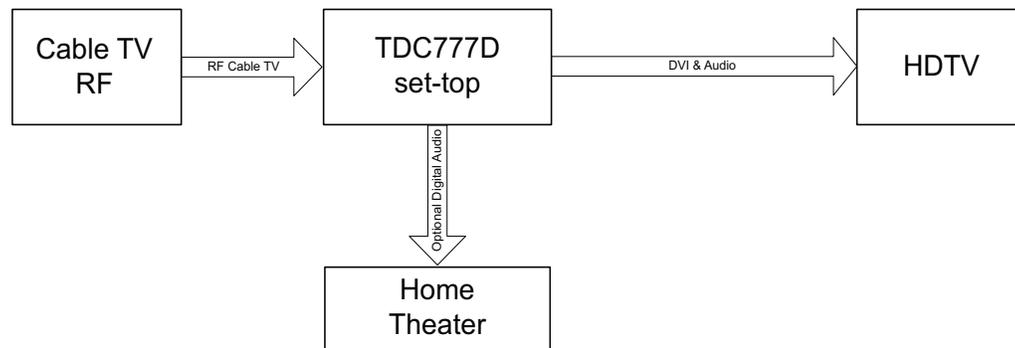


About Setup B: Using an HDMI-to-DVI cable to connect an HDTV (optional home theater shown)

If the HDTV has a DVI connector, you can still take advantage of the digital video signal.

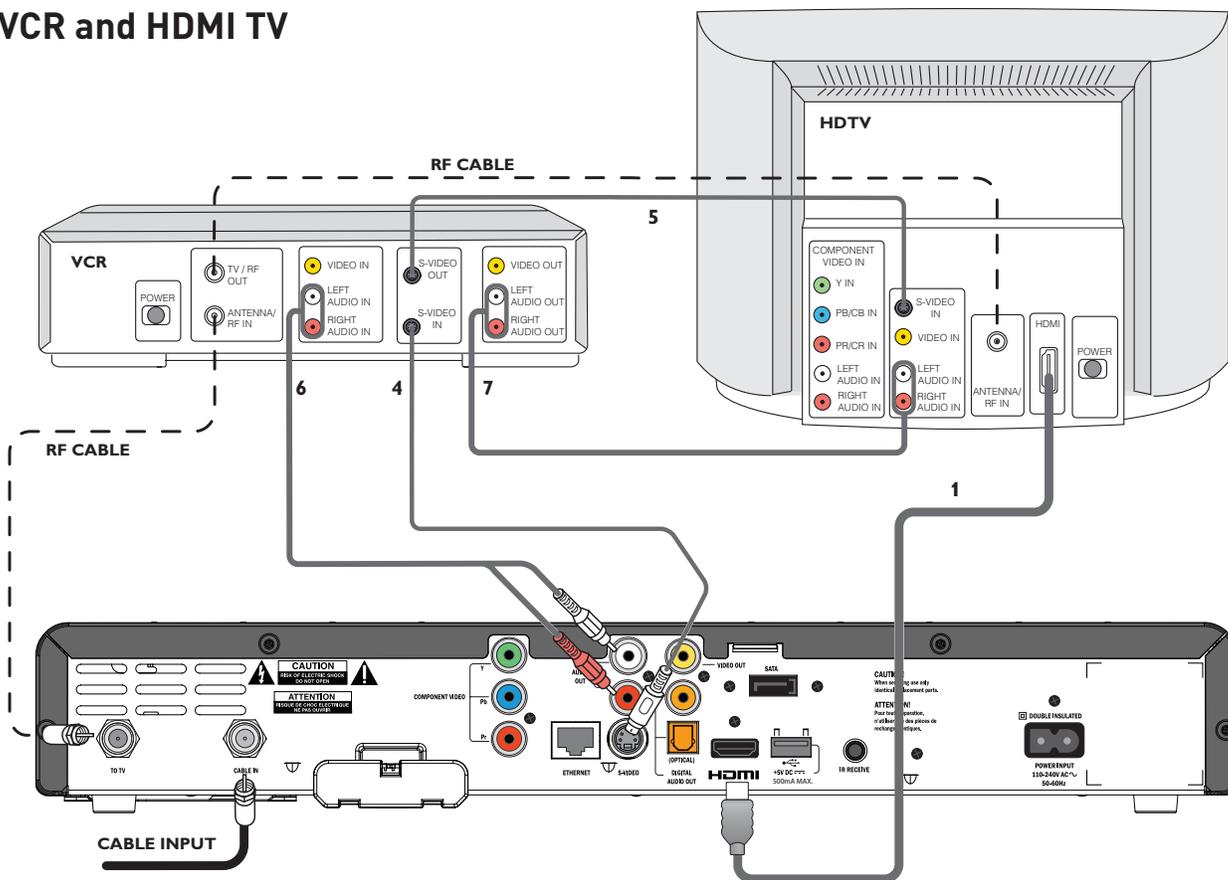
- The set-top has an HDMI connector.
- The HDTV has a DVI, so use a special HDMI-to-DVI cable (2) to connect it to the set-top's HDMI. Both DVI and HDMI carry high-resolution digital video.
- Use audio L and R cables: cables 3 from the set-top's AUDIO OUT connectors to the HDTV's audio inputs, as shown.
- To enhance the sound, you can connect a home theater receiver, using the set-top's DIGITAL AUDIO OUT connector (as shown above) or its DIGITAL AUDIO OUT (OPTICAL) connector. In that case, cables 3 are not needed.

Cable Wiring Diagram B



CONNECTING THE EQUIPMENT (cont.)

Setup C - VCR and HDMI TV

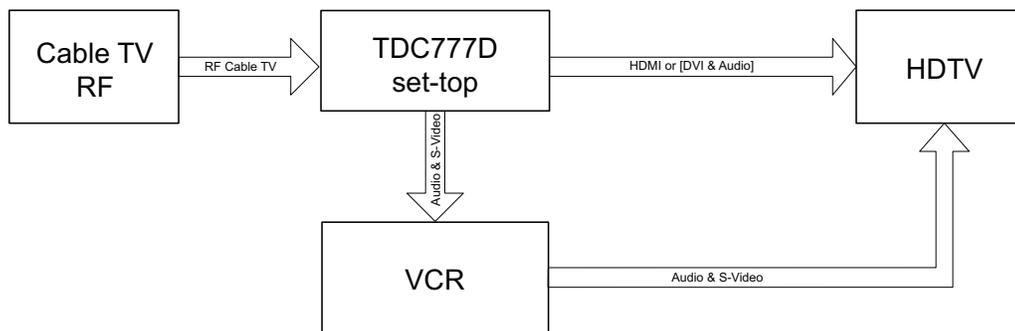


About Setup C: Using an HDMI cable to connect an HDTV and S-video cable to connect a VCR

In this setup, a VCR is added to the basic setup. Depending on its connectors, you could connect a DVD recorder in a similar manner. If the TV has only component video connectors or a DVI, not HDMI, you would have to connect an audio amplifier or home theater receiver to the set-top's DIGITAL AUDIO OUT or OPTICAL AUDIO OUT connector in order to hear the sound (because the set-top's audio L and R connectors are connected to the VCR).

- If the VCR and HDMI TV have S-video connectors, use S-video cables (4 and 5), as this gives a better quality picture. If there are no S-video connectors, use the composite video connectors (labeled VIDEO OUT on the set-top) and video 75 ohm coaxial cables.
- Use audio L and R connector cables: cables 6 (from the set-top's AUDIO OUT connectors) and cables 7 (between the VCR and the HDMI TV).
- The path for recording on the VCR is cables 6 (audio L and R) and cable 4 (S-video) (or via composite video connectors).
- The path for playing back from the VCR is cables 7 (audio L and R) and cable 5 (S-video) (or via composite video connectors).

Cable Wiring Diagram C

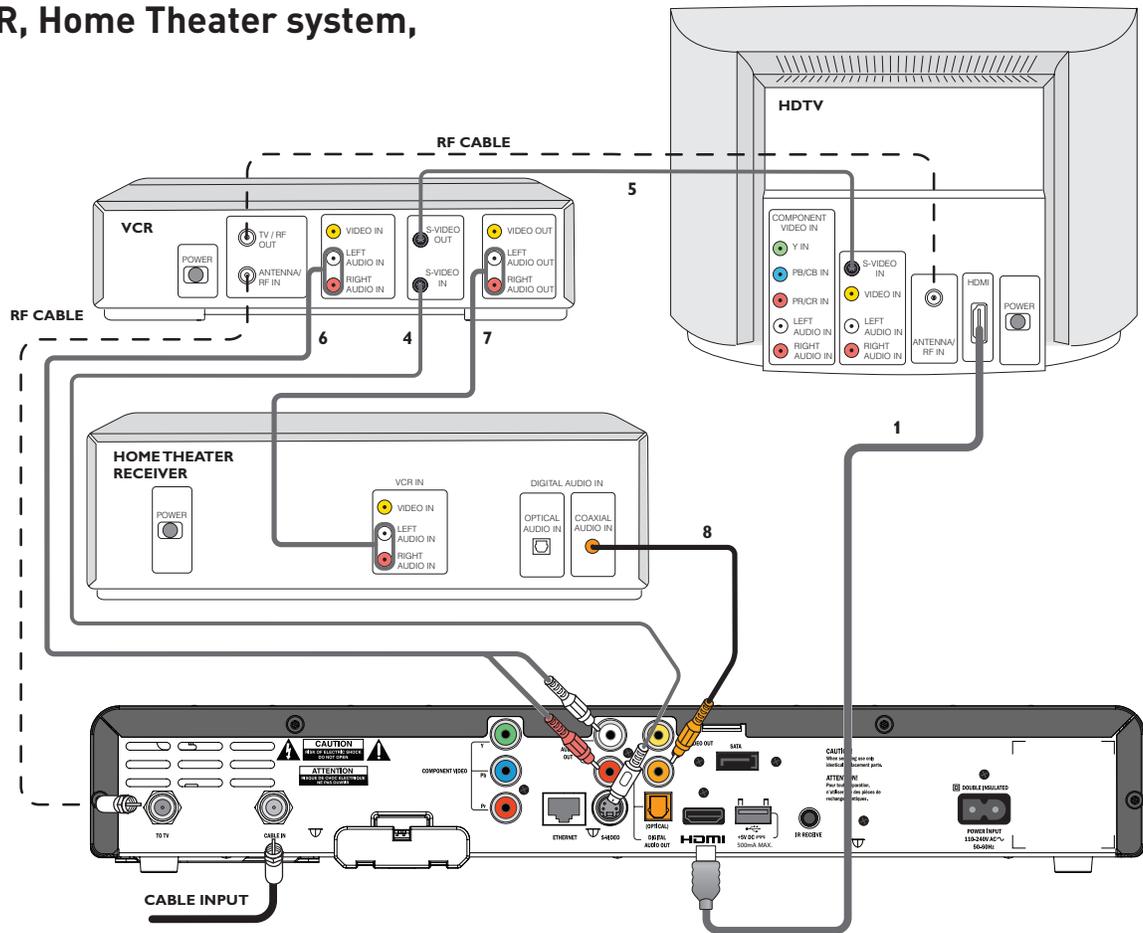


NOTE

This diagram shows a video path from the set-top to a VCR to allow recording by the VCR. It shows a video path from the VCR to the TV to allow playback of videos. Video signals fed through a VCR may be affected by copyright protection systems, which can cause picture distortion on the TV. Do not, therefore, use a path through a VCR to watch the set-top programs. Use the HDMI path or an alternate **direct** video path from the set-top to the TV. Remember to select the correct input on the TV.

CONNECTING THE EQUIPMENT (cont.)

Setup D - VCR, Home Theater system, and HDMI TV

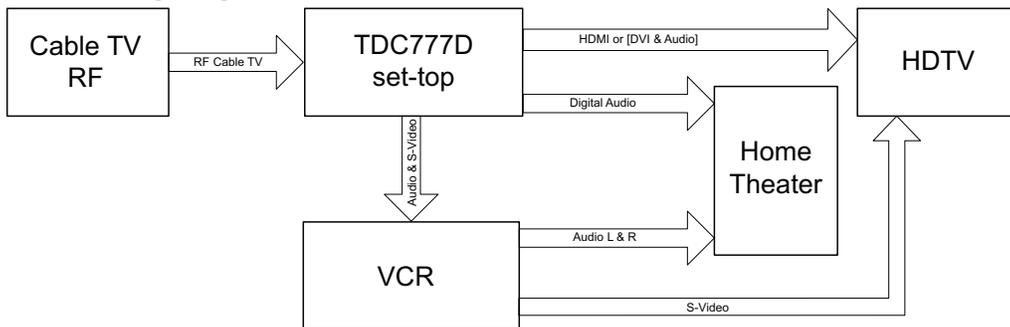


About Setup D: Adding a home theater receiver to Setup C

All of the points mentioned in Setup C apply.

- To enhance the sound, connect a home theater receiver.
- There is a choice of two S/PDIF outputs: (i) electrical (labeled DIGITAL AUDIO OUT, which is shown connected by cable 8 in the diagram above) and (ii) optical (labeled DIGITAL AUDIO OUT (OPTICAL)).
- When you add a home theater receiver, the set-top's audio connection to the HDTV (via HDMI) is not needed, so you may wish to mute (turn off) the audio on the HDTV.
- Instead of the VCR's audio L and R outputs going to the HDTV, they connect via cables 7 to the home theater receiver.

Cable Wiring Diagram D

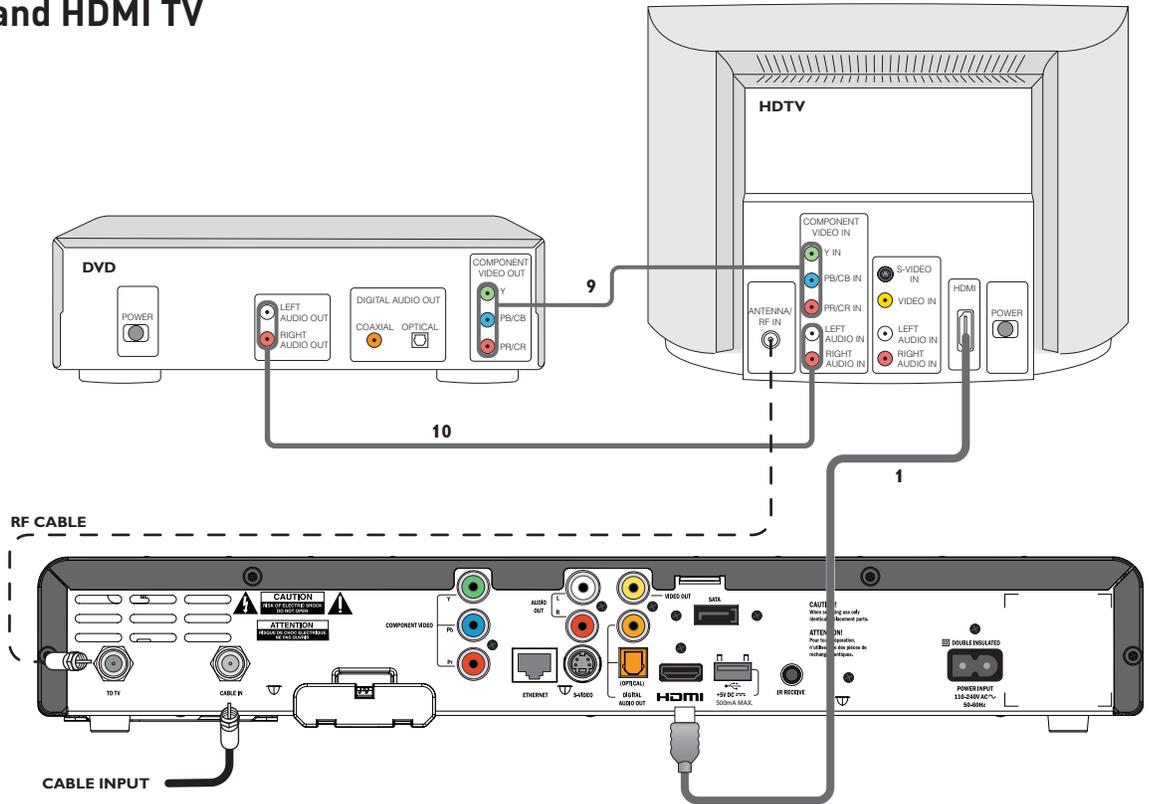


NOTE

This diagram shows a video path from the set-top to a VCR to allow recording by the VCR. It shows a video path from the VCR to the TV to allow playback of videos. Video signals fed through a VCR may be affected by copyright protection systems, which can cause picture distortion on the TV. Do not, therefore, use a path through a VCR to watch the set-top programs. Use the HDMI path or an alternate **direct** video path from the set-top to the TV. Remember to select the correct input on the TV.

CONNECTING THE EQUIPMENT (cont.)

Setup E - DVD and HDMI TV

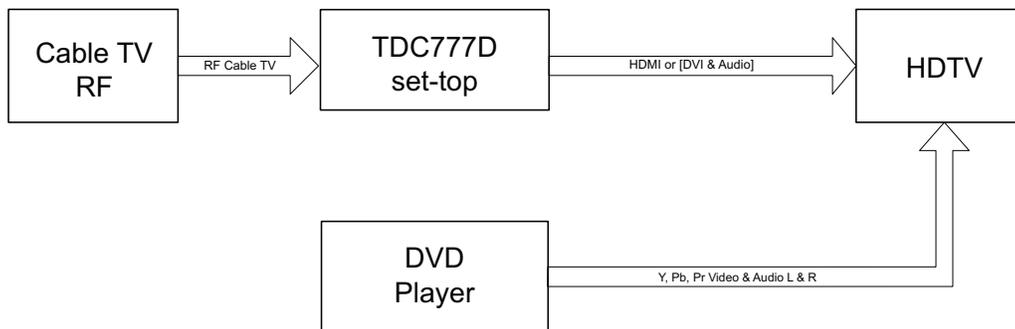


About Setup E: Using component video cables to connect a DVD player and an HDMI TV

In this setup, a DVD player is added to the basic setup. In this example, the set-top and HDTV are connected by an HDMI cable. The component video option is shown in Setup H on page 17.

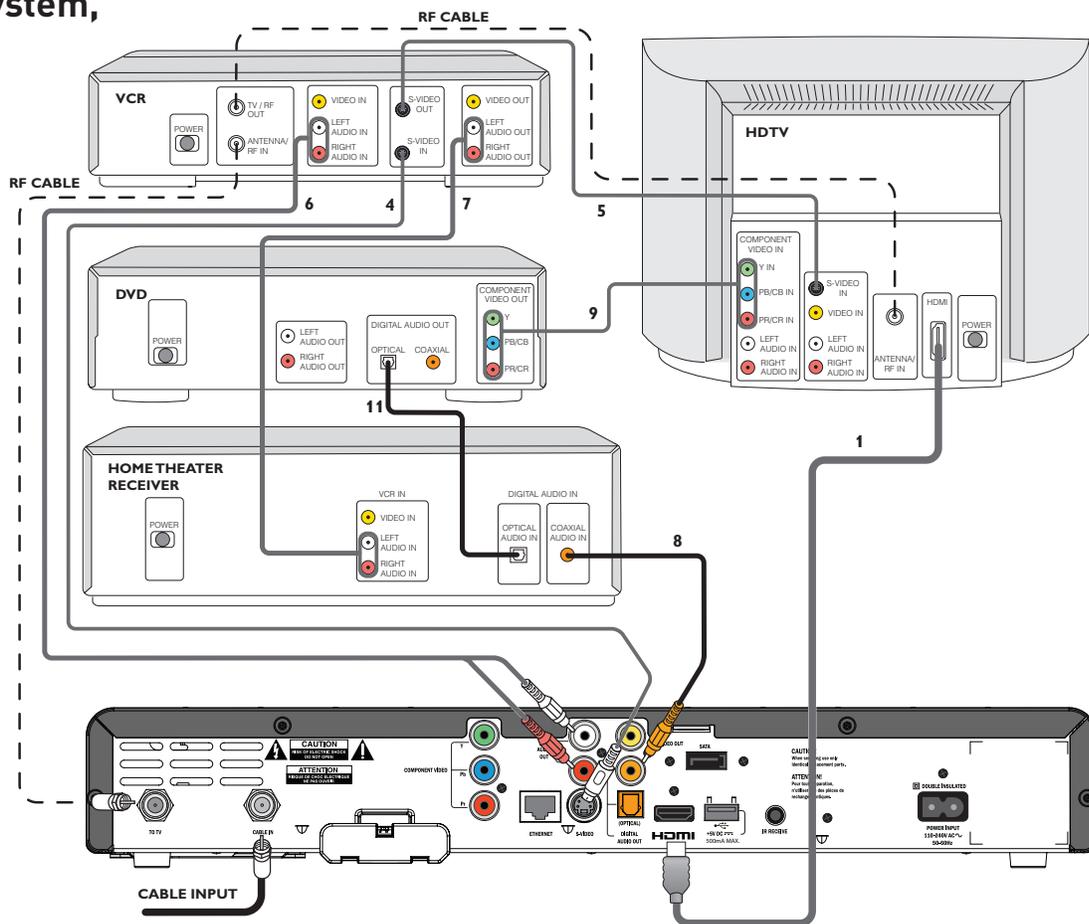
- This setup assumes that the DVD player has component video output connectors and you make the connection using three cables (9). If it does not have component video outputs, then you can connect it to the HDTV using any spare composite video or S-video input connectors on the HDTV.
- The audio connection from the DVD player can go directly to the HDTV (provided that there are enough audio input connectors on the HDTV), as shown by cables 10 in diagram above.

Cable Wiring Diagram E



CONNECTING THE EQUIPMENT (cont.)

Setup F - VCR, DVD, Home Theater system, and HDMI TV

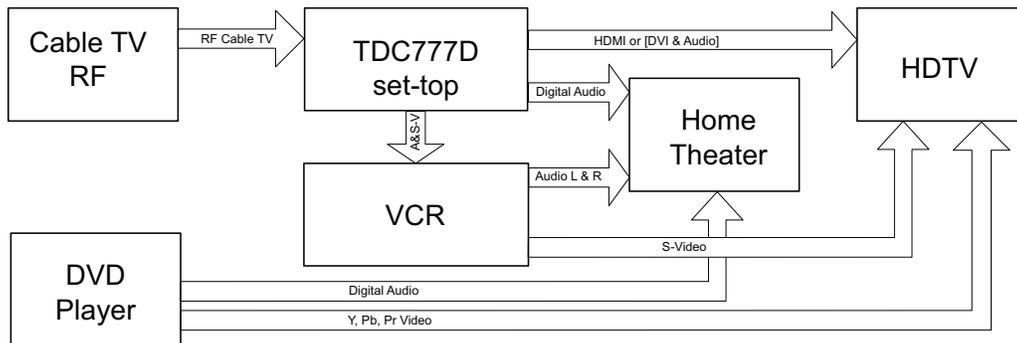


About Setup F: Combining all the equipment with an HDMI TV

This setup shows the best use of cables and connectors if the HDTV has an HDMI and if the DVD player has component video connectors.

- Although the video and audio from the set-top to the VCR could be looped through the home theater receiver, it is not necessary to do this and it requires more cables.
- When you add a home theater receiver, as shown, the set-top's audio connection to the HDTV (via HDMI) is not needed, so you may wish to mute (turn off) the audio on the HDTV.

Cable Wiring Diagram F

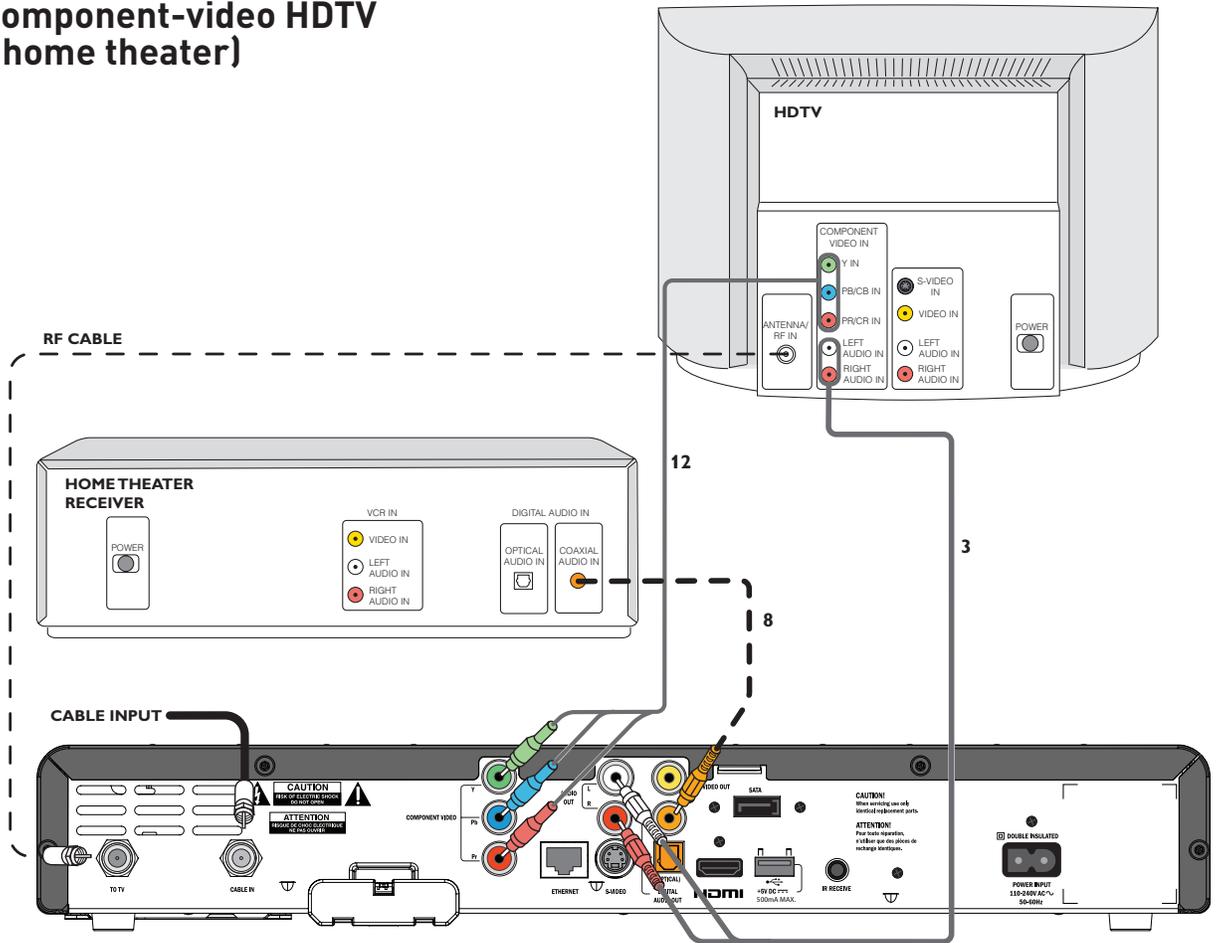


NOTE

This diagram shows a video path from the set-top to a VCR to allow recording by the VCR. It shows a video path from the VCR to the TV to allow playback of videos. Video signals fed through a VCR may be affected by copyright protection systems, which can cause picture distortion on the TV. Do not, therefore, use a path through a VCR to watch the set-top programs. Use the HDMI path or an alternate **direct** video path from the set-top to the TV. Remember to select the correct input on the TV.

CONNECTING THE EQUIPMENT (cont.)

Setup G - Component-video HDTV (+ optional home theater)

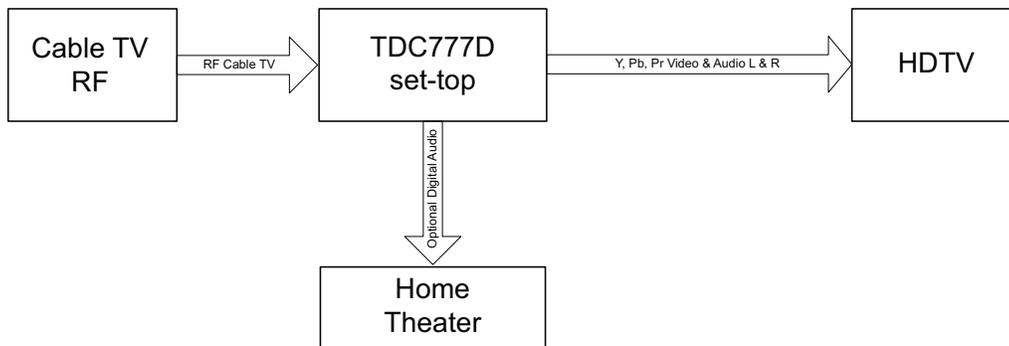


About Setup G: Using component-video cables to connect an HDTV (optional home theater shown)

This is the most basic setup for a non-HDMI TV, with only an HDTV and optional home theater.

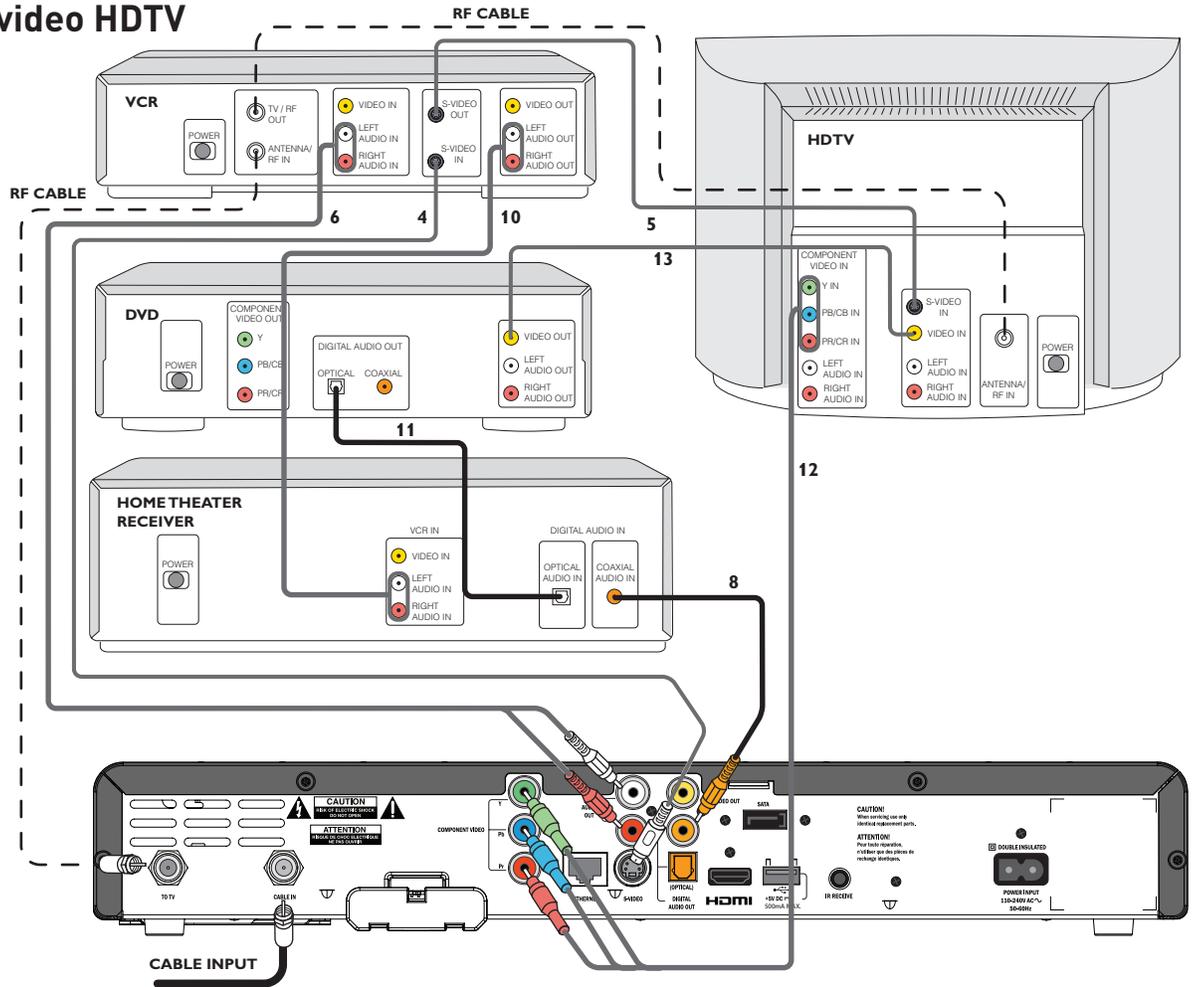
- The set-top has component-video connectors as well as an HDMI.
- Use component-video cables (12) to connect the HDTV to the set-top.
- In addition, connect audio L and R cables (3) between the AUDIO OUT connectors on the set-top and the audio in connectors on the HDTV.
- To enhance the sound, you can connect a home theater receiver, in which case audio L and R cables 3 are not needed.
- There is a choice of two S/PDIF outputs: (i) electrical (labeled DIGITAL AUDIO OUT, which is shown connected, by cable 8 in the diagram above) and (ii) optical (labeled DIGITAL AUDIO OUT (OPTICAL)).

Cable Wiring Diagram G



CONNECTING THE EQUIPMENT (cont.)

Setup I - VCR, DVD, Home theater, and Component-video HDTV

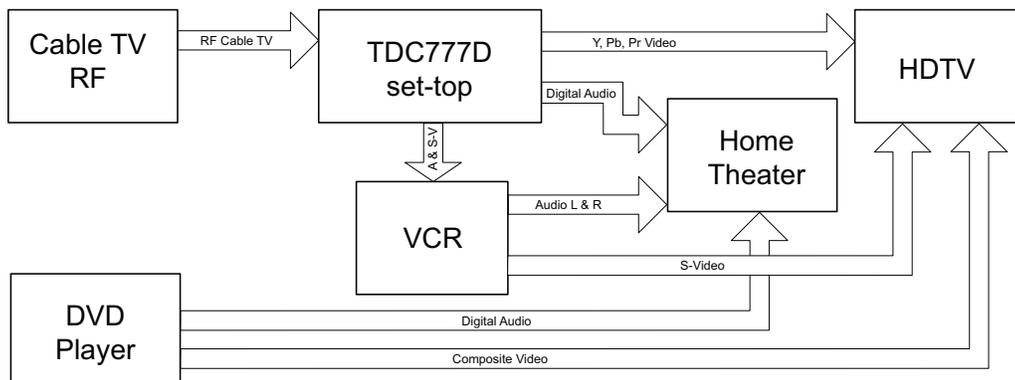


About Setup I: Combining all the equipment for a component-video HDTV

This setup shows the best use of cables and connectors if the HDTV and the DVD player have component video connectors.

- The audio output from the VCR goes to the home theater receiver (via cable 10) to enhance the sound during playback.
- Although the video and audio from the set-top to the VCR could be looped through the home theater receiver, it is not necessary to do this and it requires more cables.

Cable Wiring Diagram I



NOTE

This diagram shows a video path from the set-top to a VCR to allow recording by the VCR. It shows a video path from the VCR to the TV to allow playback of videos. Video signals fed through a VCR may be affected by copyright protection systems, which can cause picture distortion on the TV. Do not, therefore, use a path through a VCR to watch the set-top programs. Use the component video path or an alternate **direct** video path from the set-top to the TV. Remember to select the correct input on the TV.

CONNECTING THE EQUIPMENT (cont.)

Connecting the power cord to the set-top

Before you connect the set-top to a wall AC outlet, connect the polarized socket on the set-top's power cord into the POWER INPUT connector on the set-top's rear panel.

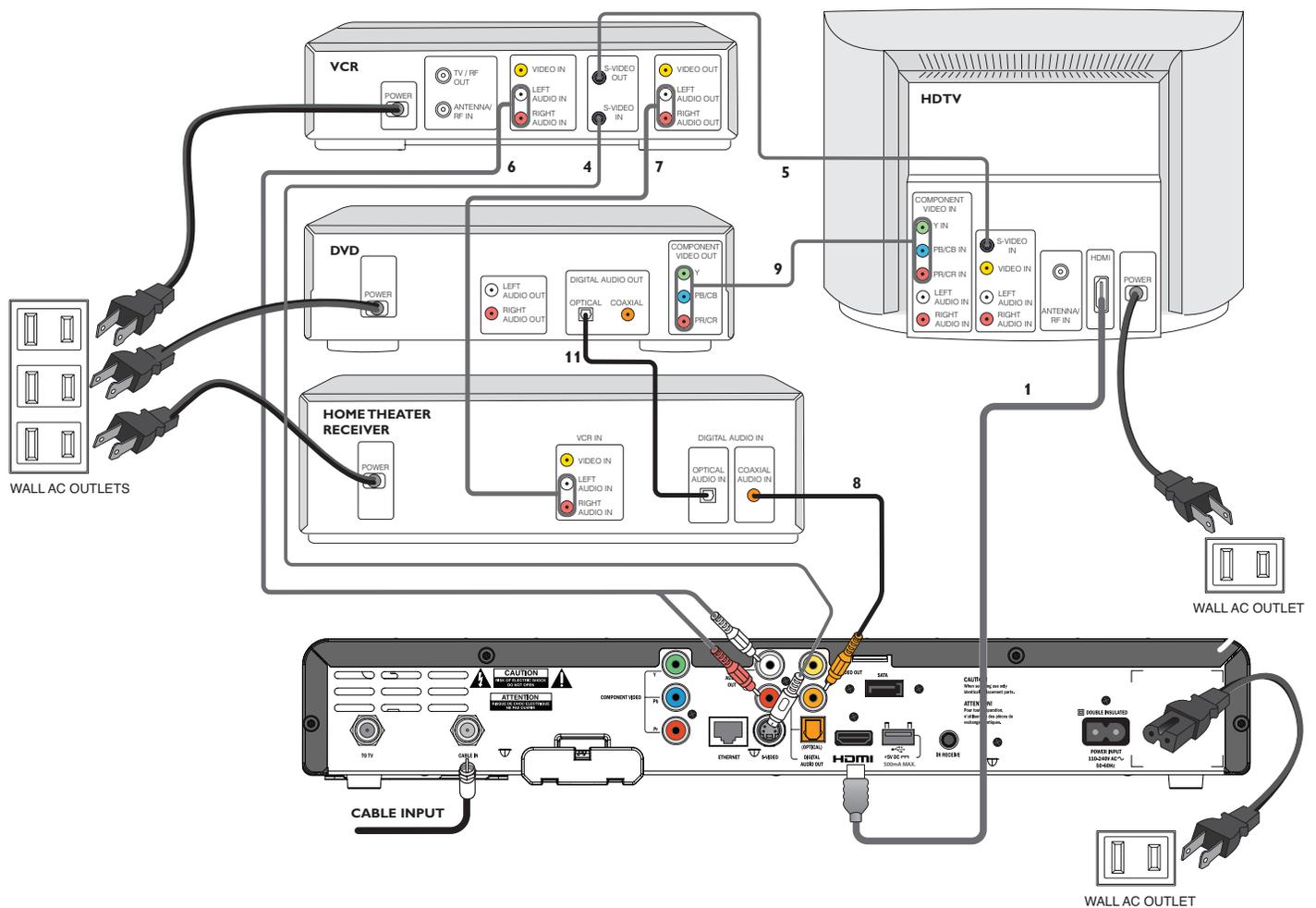
Connecting equipment to the wall AC outlets

Connect the plugs on the power cords from the set-top, VCR, and any other equipment into wall AC outlets. If these outlets have switches, switch them ON.

WARNINGS

Do not connect the set-top (or any other equipment such as a TV or VCR) to the power supply until you have properly connected all the other cables.

The power cords you use may be fitted with polarized plugs. Do not defeat the safety purpose of the polarized plugs on power cords.



NOTE

This diagram shows power cords that have 2-blade polarized plugs. You may need to use a different type of plug in the region where you live.

OPERATING THE SET-TOP

Turning the set-top on and off

After you have connected the set-top to the wall AC outlet (and switched this outlet ON, if it has a switch), the light around the **POWER** button on the set-top's front panel should be red.

Wait for a few seconds, then press the **POWER** button on the front panel of the set-top to turn it on. The light around the **POWER** button goes green, to show that the set-top is on.

If the light around the **POWER** button is neither red nor green, there is a problem (see page 35).

To turn the set-top on or off at any time, press the **POWER** button on its front panel or the **POWER** button on the remote control (first making sure the remote control is set to control the set-top).

Never turn off the set-top by simply disconnecting it from the power supply. If you need to disconnect the set-top, first stop any recording. Then turn off the set-top by pressing the **POWER** button on its front panel or on the remote control, so that the light around the **POWER** button goes red. Then wait 60 seconds before disconnecting the set-top from the wall AC outlet.

Power Saving: To save power and money, and to reduce greenhouse gas emissions, turn off the set-top, using the power button, when it is not in use.

Using the remote control

The cable TV service-provider determines the digital channels, services, and screen information that you see on the TV when you use the set-top and its remote control.

Consult the information supplied by the cable service-provider for details on how to make the most of the digital cable services. Also read the operating instructions that are supplied with the remote control.

Lightning storms

Disconnect the set-top's power cord during lightning storms. A lightning storm may affect the set-top, if it is on during the storm. It may appear that it has stopped working, but you can easily restore its operation as follows:

Unplug the set-top's power cord from the wall AC outlet. Then plug this power cord in again at the wall AC outlet (and, if there is a switch by this outlet, switch it to its ON position).

To turn the set-top on, press the **POWER** button.



The light around the button changes from red to green.



Front panel display, showing the time (see page 33)

NOTES

IMPORTANT: Unless there is a lightning storm or you will be away from your home for a long time, do not unplug the set-top from the wall AC outlet (or do not switch it off there, if the outlet has a switch). The set-top cannot be updated with new features, through the cable, if it is disconnected from the AC power supply.

OPERATING THE SET-TOP (cont.)

Tuning the TV and VCR to the set-top

The set-top's RF output port (labeled "TO TV") can transmit signals on either channel 3 or channel 4. The cable operator has set up the set-top to transmit on the channel that is suitable for the installation location and should have told you which channel this is. You must tune the TV and the VCR to this output channel so that programs can be watched and recorded through the RF coaxial cables. To do the tuning, refer to the diagram, right, and the manuals supplied with TV and VCR, if necessary, then carry out the following steps.

1. Make sure that all the equipment, including the set-top, is turned on.
Make sure that you have selected the RF input at the TV.
Make sure that the Bypass feature is turned off (BYPASS is NOT lighted on the front panel).
2. On the VCR, switch the TV/VCR switch to "TV".
3. Tune the TV to the set-top's RF output channel (3 or 4, as stated by the cable operator).

You should now be able to see on the TV a program that is coming from the set-top. If you cannot, check that the RF coaxial cables are securely and correctly connected (see the setup diagrams). If there is still a problem, check with the cable operator that you are using the correct RF output channel.

4. When you can see a set-top program on the TV, switch the TV/VCR switch on the VCR to "VCR".

If you can still see the picture on the TV, everything is tuned correctly. If the picture disappears, carry out the following final step.

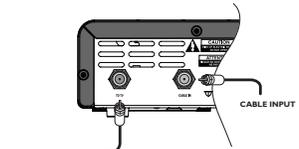
5. Tune the VCR by setting the VCR's RF output channel to the same RF channel number as the set-top and TV (either 3 or 4, as stated by the cable operator).

Everything should now be tuned correctly.

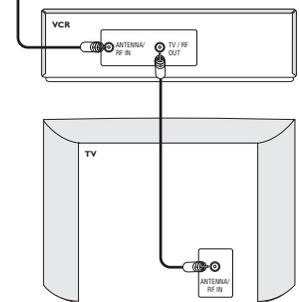
NOTES

Regardless of the program channel number selected on the set-top (and shown on its front-panel display), the RF output channel number will always be fixed (either 3 or 4, as quoted by the cable operator). The TV and VCR must be tuned to this channel if you want to watch and record programs through the RF coaxial cables.

Find out from the cable operator whether the set-top's RF output is channel 3 or channel 4 (see step 1)



Set the VCR's RF output to the same channel number as the set-top's RF output (see step 5)



Tune the TV to the same channel number as the set-top's RF output (see step 3)

OPERATING THE SET-TOP (cont.)

Displaying a picture on the HDTV screen

If the set-top is connected to the HDTV's component video or HDMI input and is turned on (the **POWER** light is green), but the HDTV does not initially display a picture from the set-top, the HDTV may not support the set-top's current output resolution (for further details on resolutions, see page 26). You therefore need to change the set-top's output resolution as follows:

1. First press the **POWER** button on the remote control (**POWER** light goes red), then press the **MENU** button.
2. Next, press the **ZOOM** button on the remote control (the button could be labeled **ASPECT**) until a picture appears.
Each button-press changes the set-top's output resolution, which also appears on the TV screen.
After a few seconds, you should see the PACE USER SETTINGS menu.
3. Press the **POWER** button to remove this menu and return to normal viewing.

Current output resolution from the set-top



Setting up subtitles

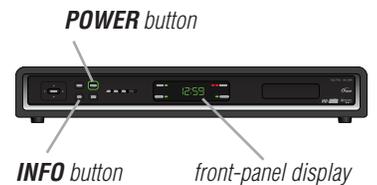
Subtitles in various languages may be transmitted with TV programs. You can set up the set-top to display subtitles, when they are available. You can also set the preferred language for these subtitles. There is a choice of several languages, including English.

If you set subtitles to be "on", they will be displayed in the preferred language only when subtitles in that language are transmitted with a program. For example, if you set subtitles to be "on" and in Spanish, but only French subtitles are transmitted with a particular program, you will see French subtitles for that program, not Spanish.

Note: You can also turn on closed captions (see pages 29 and 30) to give subtitles, but any subtitles you set up using this PACE SUBTITLE SETTINGS menu will take priority.

Selecting subtitles in your preferred language

1. Make sure that the set-top is turned on (the **POWER** light is green).
2. Press the **POWER** button on the set-top (the **POWER** light goes red), then press the **INFO** button.
"oFF" (indicating that subtitles are currently set to be off) or "on" (indicating that subtitles are currently set to be on) appears on the front-panel display and the PACE SUBTITLE SETTINGS menu appears on the TV screen (see right).
3. Press **▲** or **▼** to highlight "Subtitles", then press **SELECT** to turn them on or off.
4. Press **▲** or **▼** to highlight "Subtitle Language", then use the **SELECT** button to choose the language you want (the language changes each time you press **SELECT**).
A three-letter abbreviation for the language appears on the front-panel display while you do this.
5. When you have finished making changes, press the **POWER** button to remove the PACE SUBTITLE SETTINGS menu and return to normal viewing.



OPERATING THE SET-TOP (cont.)

Using the set-top's DVR (digital video recorder) functions

The set-top has an internal hard disk that you can use to record and play back television programs, giving you much more control of your viewing experience. For example, you can pause live television and resume viewing from the point at which you left off. You can record many more hours than you can by using a VCR or DVD recorder. There are red lights on the set-top's front panel to show when recording is taking place.

With the set-top you can:

- pause live TV;
- instantly replay live TV;
- fast-forward up to the point of live TV;
- watch a scene in slow motion;
- rewind through a program you have been watching;
- record high definition digital pictures (as well as the regular standard definition);
- record one program while watching another;
- record two programs while watching a previously recorded program;
- schedule the set-top to record a program or a whole series;
- fully manage any stored recordings;
- back up any digital recordings to a VCR or DVD recorder;
- retain full control over any parental viewing restrictions you have set up.

You control the set-top's DVR functions using the remote control; consult the information supplied by the cable service-provider for more details. Also read the operating instructions that are supplied with the remote control.

Using an external hard disk

The cable service-provider may enable a feature that allows an external hard disk to work with the set-top. If this is the case, most major brands of serial ATA hard disk, connected to the SATA port, are supported. You must not connect an external hard disk to the USB port.

If you do use an external hard disk, it gives extra recording capacity, but you cannot choose which disk (internal or external) the set-top will record onto. It automatically chooses the one with more empty space. The recordings on the external hard disk are uniquely linked to the set-top on which they were made, so you cannot play them back or delete them with a different set-top.

Connecting an external hard disk

1. Stop any recording you are making to the set-top's internal hard disk.
2. Turn off the set-top with the **POWER** button and then wait 60 seconds before disconnecting it from the wall AC socket. (You must not "hot plug" an external hard disk.)
3. Connect the external hard disk, using an appropriate cable, to the SATA connector on the set-top.
4. Apply power to the external hard disk.
5. Reconnect the set-top to the wall AC socket and turn it on with the **POWER** button.

If the external disk needs formatting, the set-top informs you by displaying a pop-up dialog box on the TV screen (see right).

6. Use the **arrow** and **SELECT** buttons to select YES, and the formatting begins.

NOTES

The exact functionality of the DVR in the set-top depends on the on-screen program guide. For more details, consult the information supplied by the cable service-provider.

Do not confuse recording to the hard disk with recording to a separate VCR or DVD recorder, as mentioned on page 24.

The DVR functions will not work if the set-top becomes overheated. The internal hard disk will be temporarily disabled. Refer to the set-top's ventilation requirements on page 4.

Do you want to format the external hard drive?

YES

NO

Formatting the Hard drive. Please wait...

OPERATING THE SET-TOP (cont.)

Using RF Bypass

You can use the RF Bypass feature to watch the regular (analog) channels that are included in the cable service. It makes these channels “bypass” the set-top and pass directly to the TV and/or VCR. You may wish to do this if you want to record a different channel on a VCR or DVD recorder.

To use RF Bypass:

- The set-top must be installed with the correct connections from the rear panel to the TV or VCR (see the note, right); and
- The RF Bypass feature must be on (you may need to set it to “On” in the Setup menu; see page 33).

A **BYPASS** light on the set-top’s front panel lights up green if RF Bypass is on. The remote control may have a button that allows you to turn RF Bypass on and off.

For you to start using RF Bypass, the set-top must be turned on. However, once set, RF Bypass works even if you turn the set-top off.

When RF Bypass is on: you can use the TV’s remote control to tune to any of the available regular (analog) channels and watch that channel on the TV (the path is the RF cable). You can, at the same time, use the set-top’s composite video and L and R audio outputs to record on the VCR the channel that the set-top is tuned to. (This channel number is shown on the set-top’s front panel.*) This means that, when the Bypass is on, you can watch a regular (analog) channel on the TV and, at the same time, record a **digital** channel on the VCR. (If you are recording on the hard disk, you can record two different programs on it, while watching an analog channel on the bypass.)

When RF Bypass is off: you see on the TV the channel that the set-top is tuned to. This is the **same** channel that the VCR receives. Therefore, when RF Bypass is off, you can record on the VCR only the program that you are watching on the TV (but you can still record a different one on the hard disk).

Using Zoom to change the picture

Making the appropriate TV Aspect Ratio and TV Display Capability settings (see pages 25 through 29) should ensure that the picture on the TV screen is not distorted (stretched or squashed) and that it fills as much of the screen as possible.

However, even if you have selected the correct settings, there may be times when a program appears with black borders either at the top and bottom or at the sides of the picture (or sometimes even all the way around the picture). This happens because the aspect ratio (shape) of the **transmitted program** does not match the aspect ratio of the HDTV, or because the transmitted program includes black borders as part of the transmission (see right).

The remote control should have a “zoom function” button (could be labeled ZOOM or ASPECT), which you can use to change the TV picture until it appears as you want it to.

1. Press the “zoom function” button once to change the display.
2. Press it again to change the display again. Continue to press it in this way until the picture appears as you want it to.

Note: The effect that this button has on transmissions depends on the transmission itself. On some transmissions it may have no effect at all.

NOTE

If you are not sure whether the set-top has been set up to allow RF Bypass, check your installation. If there is a cable (RF cable) going from the TO TV connector on the set-top’s rear panel to the TV (or to the VCR and TV, as shown by the dashed line on pages 10 through 18), then RF Bypass is correctly set up. The TV and VCR also need to have been tuned to the set-top’s VHF output channel (3 or 4, depending on the location).

* NOTE

If the “Front LED Display” (see page 33) is set to “Current Time”, you will not see the channel number. To see the number of the channel the set-top is tuned to, you must set “Front LED Display” to “Current Channel”.



A 4:3 **transmission**, with a 16:9 picture. Dark bars are added at the top and bottom of the transmission.



A 16:9 **transmission**, with a 4:3 picture in it. Dark bars are added at the sides of the transmission.

MAKING USER SETTINGS

About User Settings

You need to make the correct settings so that the set-top is compatible with the HDTV or TV. However, you may wish to change some settings, for example if you purchase a new HDTV. You can make the following settings and you can also reset them to the factory defaults.

- TV Aspect Ratio (the screen's width-to-height ratio, or shape)
- TV Display Capability (screen resolution)
- Auto Pillarbox
- Closed Captions
- Front Panel Settings
- Hard Disk Sleep Mode (for energy saving)
- HDMI Settings

You use the buttons **on the front panel** of the set-top to make the settings and you can see them on the front-panel display. You can also look at on-screen menus, but note that, until the set-top has been set up to match the display capability of the TV (see page 26), these menus may not be visible.

Putting the set-top into User Settings mode

1. Make sure that the set-top is turned on (the **POWER** light is green).
2. Press the **POWER** button on the set-top (the **POWER** light goes red), then press the **MENU** button.
"ASP" (or another of the 8 "words" shown right) should then appear on the front-panel display. If it does not appear, press the **MENU** button again. You should see the PACE USER SETTINGS menu on the TV screen.
3. When you have finished making changes (see pages 26 through 32), press the **POWER** button to remove the PACE USER SETTINGS menu and return to normal viewing.

About the TV Aspect Ratio

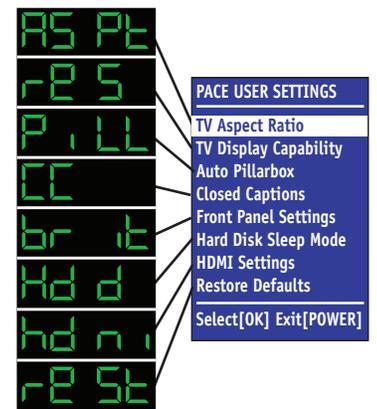
The TV that you have connected to the set-top has an aspect ratio (width-to-height ratio) of 4:3 (basic/standard) or 16:9 (widescreen). You must set the appropriate TV Aspect Ratio (4:3 or 16:9) on the set-top, so that it is compatible with the TV.



4:3 standard TV,
EDTV or HDTV



16:9 HDTV



MAKING USER SETTINGS (cont.)

Setting the TV Aspect Ratio

The flow diagram (right) shows how you use the **arrow** and **SELECT** buttons on the set-top's front panel to change the display and make the settings. See also the instructions below.

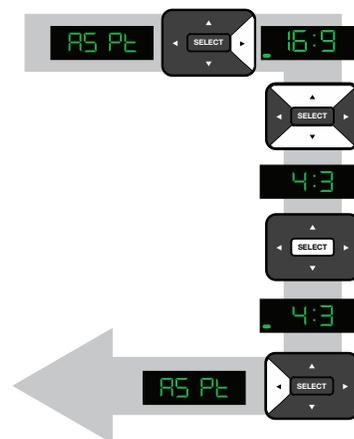
If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows "ASPT".
2. Press the ► button.
The current TV Aspect Ratio setting ("4:3" or "16:9") appears on the front panel. Whenever the current setting is displayed, the MESSAGE light will be lighted. You may also see the menu, shown below, on the TV screen. In the menu, the current setting has > in front of it.



2. Press the ▲ or ▼ button until the TV Aspect Ratio you want appears on the front panel.
3. Press the **SELECT** button to confirm your choice and change to that TV Aspect Ratio.
4. Press the ◀ button. The front panel will display "ASPT" again.

To continue making the settings, see the next section.



About TV Display Capability (resolution settings)

- **The set-top** can transmit pictures to the TV in a range of resolutions (also called "Display Capabilities" - see below for the settings available). Generally, higher screen resolutions give better quality pictures. However, the quality always depends on how the program was originally transmitted.
- **Different TVs** display different screen resolutions. For example, standard TVs display "480i", EDTVs (Enhanced Definition TVs) display "480p", and most HDTVs display "1080p", "1080i", or "720p". Many HDTVs will display at more than one resolution. For more information, see the information supplied with the HDTV. See also the note, right.

You may need to make appropriate TV Display Capability settings on the set-top, so that it is compatible with the TV. See the next page for full instructions.

In order to display the best picture every time, you must select **every** resolution that the TV is capable of displaying. This ensures that programs are displayed with minimum distortion.

TV Display Capability settings

- **480i** is standard definition NTSC and is transmitted in a 4:3 aspect ratio (see right).
- **480p** is enhanced digital TV and can be transmitted in either a 4:3 or 16:9 aspect ratio.
- **720p, 1080i, and 1080p** are HDTV and are transmitted in a 16:9 aspect ratio (see right).



480i transmission:
The aspect ratio is 4:3



1080i transmission:
The aspect ratio is 16:9

NOTE

When the HDTV and set-top are connected by an HDMI connector, the set-top gets information from the HDTV about the HDTV's display capability. The set-top uses this information to adjust its TV Display Capability settings.

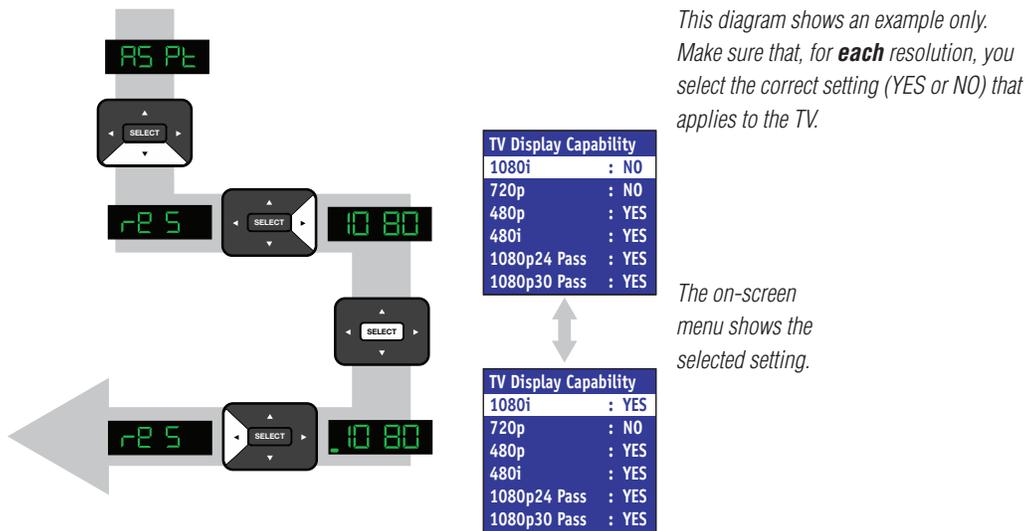
The set-top also records the HDTV's ID (identification), so that only one HDTV is supported at any one time. When the HDTV has updated the set-top's TV Display Capability settings, you may change them if you wish. Your changes will then be stored with the ID.

You can restore the set-top's TV Display Capability settings to their factory values, as described on page 32. You can also restore the set-top to the settings that the HDTV has passed to the set-top. To do this you must first restore the factory settings while the HDMI cable is disconnected from the set-top, then reconnect the HDTV via the HDMI cable.

MAKING USER SETTINGS (cont.)

Changing the TV Display Capability

The flow diagram (below) shows how you use the **arrow** and **SELECT** buttons on the set-top's front panel to change the display and make the settings. See also the instructions below and on page 28.



If you have not already done so, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows “reS” (short for resolution). On the PACE USER SETTINGS menu, TV Display Capability is highlighted when “reS” is on the front panel.
2. Press the ► button when you see “reS” on the front panel. The front panel shows the TV display capability that was last selected, so it could show 480i, 480P, 720P, 1080i, 1080p24*, or 1080p30* (the last three settings are displayed as 1080). The TV Display Capability menu, shown right, appears on the TV screen.



If the highlighted resolution is currently set, the MESSAGE light is lighted and YES is on the menu

1080i	: YES
720p	: NO
480p	: YES
480i	: YES
1080p24 Pass	: YES
1080p30 Pass	: YES

* NOTE	
If the HDTV is 1080p-compliant and connected by HDMI, setting “1080p24 Pass” to YES causes 1080p/24 transmissions (at 24 frames per second) to be displayed at 1080p/24. Likewise, setting “1080p30 Pass” to YES causes 1080p/30 transmissions (at 30 frames per second) to be displayed at 1080p/30.	
The HDMI-connected HDTV may report that it is not 1080p-compliant and set “1080p24 Pass” (or “1080p30 Pass”) to NO. In this case 1080p transmissions will be output at one of the other resolutions (1080i, 720p, 480p, or 480i). If you override this NO setting and set YES, you may see nothing for 1080p transmissions.	
If the HDTV is not connected by HDMI, “HDMI Cable Required” is displayed and you cannot set “1080p24 Pass” or “1080p30 Pass” to either YES or NO.	
Transmissions at 480i, 480p, 720p, or 1080i can never be output at 1080p.	

MAKING USER SETTINGS (cont.)

3. Press the ▲ or ▼ button to highlight each resolution in turn on the menu and, for each one, press the **SELECT** button if you wish to change the setting (the setting changes between “YES” and “NO” each time you press **SELECT**).

If, at any stage in this process, the menu disappears from the screen, immediately press the SELECT button to restore the menu.

4. When you are satisfied that all the TV resolutions are correct, press the ◀ button. The front panel shows “reS” again and the PACE USER SETTINGS menu reappears.

To continue making the settings, see the next section.

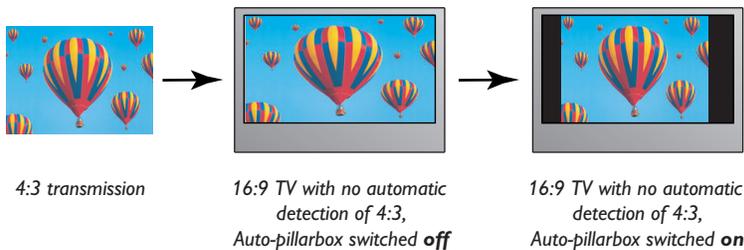
Further information about the TV Display Capability

The TV Display Capability settings relate to equipment that is connected to the HDMI and COMPONENT VIDEO connectors because the settings control the output at those connectors. If equipment is connected via an HDMI cable, that equipment may also pass information back to the set-top, which may affect what settings are available.

Generally, the TV Display Capability settings do not affect equipment connected to the VIDEO OUT connector, because the output at this connector is always standard definition 480i.

Setting Auto Pillarbox

If the TV is a 16:9 TV that does not automatically detect 4:3 transmissions (and therefore does not add black bars to the sides of the picture), then 4:3 transmissions *may* display “stretched” to fit the 16:9 screen. If you do not want this effect, you can set the set-top to add black bars to the 4:3 picture, so that it is transmitted to the TV at a 16:9 aspect ratio. See the example below.



MAKING USER SETTINGS (cont.)

Changing the Auto Pillarbox setting

If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows "PiLL".
On the PACE USER SETTINGS menu, Auto Pillarbox is highlighted when "PiLL" is on the front panel.
2. Press the ► button.
The Auto Pillarbox menu appears on the TV screen. The current Auto Pillarbox setting ("Yes" = switched on, or "no" = switched off) is displayed on the front panel.
3. If you want to change the setting, press ▲ or ▼. Press the **SELECT** button to confirm the choice and change to the new setting.
4. Press the ◀ button. The front panel shows "PiLL" again and the PACE USER SETTINGS menu reappears.

To continue making the settings, see the next section.

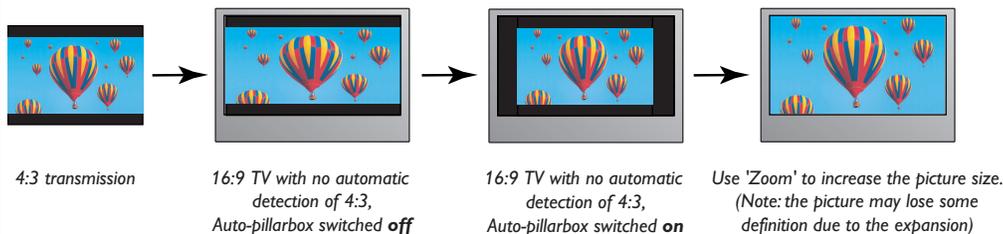


> shows current setting, as does a lighted MESSAGE light

NOTE

16:9 picture in a 4:3 transmission

Sometimes, 4:3 transmissions may contain a 16:9 picture, with black borders at the top and bottom. On a 16:9 TV, this may display with black borders all the way around the picture. To remove these borders, you can use the "Zoom function" button on the remote control (could be labeled ZOOM or ASPECT). See the example below. For more information about using "Zoom", see page 24.



Making Closed Caption Settings

Closed captioning is a means of displaying alerts and subtitles on the TV screen, superimposed on whatever you are watching. You can turn closed captions on or off, as required, and you can also change the closed captions' appearance.

Turning closed captions on or off

If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows "CC".
On the PACE USER SETTINGS menu, Closed Captions is highlighted when "CC" is on the front panel.
2. Press the ► button. The Closed Captions menu appears on the TV screen, see right.
The current Closed Captions (CC) setting, either "ON" or "OFF" is highlighted on the menu.
3. If you want to change the setting, press the **SELECT** button - the setting changes.
4. Press the ◀ button. The front panel shows "CC" again and the PACE USER SETTINGS menu reappears.

To continue making the settings, see the next section.



MAKING USER SETTINGS (cont.)

Changing the closed captions' appearance

If you want to change the closed captions' appearance, you can see the effect of your settings by looking at the example below the menu.

1. On the Closed Captions menu (see page 29), press the ▼ button to highlight "Configure Captions", then press **SELECT**. The Configure Captions menu appears (see right).
2. Use the ▲ and ▼ arrows to highlight each option in turn. Use the **SELECT** button to choose the setting you want (the setting changes each time you press **SELECT**).
3. If you wish to reset all the Closed Caption settings to their default values (mainly Auto), press the ▼ button to highlight "Reset to Defaults" on the menu, then press **SELECT**.
4. When you have made all the changes you want, press ◀ twice to redisplay the PACE USER SETTINGS menu.

Configure Captions	
Size	: Small
Font	: Style 1
Character Color	: White
Character Shading	: Auto
Background Color	: Black
Background Shading	: Auto
Std Def CC	: Auto
Hi Def CC	: Service 1
Reset to Defaults	

Closed Caption Example

Making Front-Panel Settings

You can use the Front Panel Settings menu to set the brightness level of the front-panel lights (but not the **POWER** light) when the set-top is being used ("Viewing Brightness") and when it is switched off ("Standby Brightness").

In the front panel of the set-top is an IR (infrared) receiver, which reacts when you press buttons on the remote control. You can use the Front Panel Settings menu to turn this IR receiver off. Generally, you should leave it set to "On", but you may wish to turn it off if you have a plasma HDTV that causes interference with the remote control.

If you turn it off but still wish to control the set-top by remote control, you must connect a "remote eye" (IR tether) to the IR RECEIVE connector on the set-top's rear panel and place the remote eye away from the HDTV. If you have no remote eye, and "IR Receiver" is set to "Off", the only way to control the set-top is to use the front-panel buttons.

If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows "FP".
On the PACE USER SETTINGS menu, Front Panel Settings is highlighted when "FP" is on the front panel.
2. Press the ► button. The Front Panel Settings menu, shown right, appears on the TV screen.
3. Press the ▲ or ▼ button to highlight "Standby Brightness" and "Viewing Brightness" in turn, as required.
4. For each level, use the **SELECT** button to choose the setting you want: "Low", "Std" (Standard), or "High" (the setting changes each time you press **SELECT**). Look at the dimming and brightening of the front-panel lights while you are making the settings, to see the effect of your selections.
5. If you wish to turn off the IR Receiver, press the ▲ or ▼ button to highlight "IR Receiver" on the menu, then press **SELECT** to change the setting to "Off".
Note that if you do this, you will then have to use the set-top's front-panel buttons (or a remote eye) to control the set-top and make any further settings.
6. When you have made all the changes you want, press ◀ to redisplay the PACE USER SETTINGS menu.



Front Panel Settings	
Standby Brightness	: Std
Viewing Brightness	: High
IR Receiver	: On

MAKING USER SETTINGS (cont.)

Setting Hard Disk Sleep Mode

If the set-top is in Hard Disk (Hdd) Sleep Mode, the internal hard disk (and any attached external hard disk) will receive no power when you switch off the set-top (that is, when the front-panel **POWER** light is red and the set-top is in standby). This is an energy-saving feature.

If you have set up the set-top to make recordings, the set-top and hard disk switches on to allow those recordings to be made, even if this “Standby Sleep Mode” feature is on (set to “YES”). However, it takes a little more time to do so, compared with having Standby Sleep Mode off (set to “NO”).

If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows “Hdd”, as shown right.
2. Press the ► button.
The current Standby Sleep Mode setting (“YeS” = switched on, or “no” = switched off) is displayed on the front panel and the Standby Sleep Mode menu appears (see right).
3. If you want to change the setting, press ▲ or ▼. Press the **SELECT** button to confirm the choice and change to the new setting.
4. Press the ◀ button. The front panel shows “Hdd” again.
5. When you have made all the changes you want, press ◀ to redisplay the PACE USER SETTINGS menu.



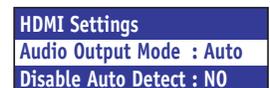
> shows current setting, as does a lighted MESSAGE light

Making HDMI Settings

You can use the HDMI Settings menu to choose an Audio Output Mode, and to enable or disable automatic detection of a newly connected HDTV (if it is connected by an HDMI cable).

If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▲ or ▼ button until the front panel shows “hdni”, as shown right.
2. Press the ► button. The HDMI Settings menu appears (see right).
3. Press the ▲ or ▼ button to highlight “Audio Output Mode” or “Disable Auto Detect” as required.
4. Use the **SELECT** button to choose the setting you want (the setting changes each time you press **SELECT**).



Audio Output Mode has three possible settings:

“Auto” (provides the audio format best suited to the connected equipment)

“L-PCM” (provides PCM audio only)

“Pass Through” (does not change the audio format)

Disable Auto Detect is either “YES” or “NO”.

5. When you have made all the changes you want, press ◀ to redisplay the PACE USER SETTINGS menu.

Removing the User Settings menus

When you have finished making all the user settings you wish to make, press the **POWER** button to remove the PACE USER SETTINGS menu and return to normal viewing.

MAKING USER SETTINGS (cont.)

Restoring the factory default settings

If you wish, you can restore the user settings and subtitle settings to their factory defaults. All the changes you have made will be lost and the settings will revert to those that were programmed in the factory. The factory settings are:

USER/SUBTITLE SETTINGS menu item	Options	Factory default setting
TV Aspect Ratio	–	16:9
TV Display Capability	1080p24 Pass 1080p30 Pass 1080i 720p 480p 480i	No No Yes No Yes Yes
Auto Pillarbox	–	No
Closed Captions	–	Off
Configure Captions	Various	All Auto except Hi Def CC, which is Service 1
Front Panel Settings	Standby Brightness Viewing Brightness IR Receiver	Std High On
Hard Disk Sleep Mode (Standby Sleep Mode)	–	Yes
HDMI Settings	Audio Output Mode Disable Auto Detect	Auto No
Subtitles	–	Off
Subtitle Language	–	English

The flow diagram (right) shows how you use the **arrow**, **SELECT**, and **POWER** buttons on the set-top's front panel to change the display and make the settings. See also the instructions below.

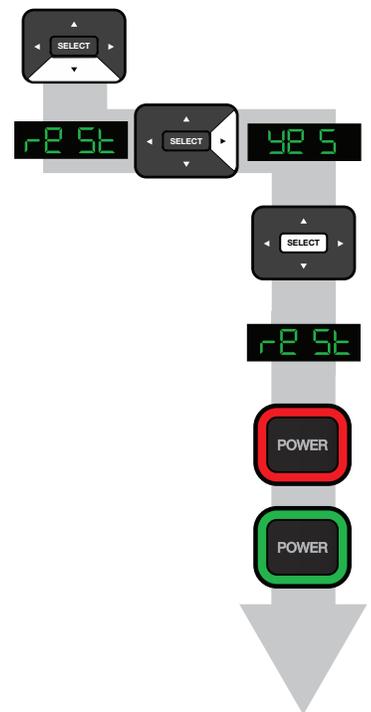
If you have not done so already, put the set-top into User Settings mode, as described on page 25.

1. Press the ▼ button until the front panel shows “reSt” (short for “**rest**ore factory settings”), as shown right, and Restore Defaults is highlighted on the PACE USER SETTINGS menu.
2. Press the ► button.
“YeS” appears on the set-top's front panel and the message: “Restore Default. Press OK to confirm” appears on the TV screen. (If, at this stage, you no longer wish to restore the factory settings, press the ◀ button.)
3. To confirm and restore the factory settings, press the **SELECT** button.
The factory settings are restored, and the PACE USER SETTINGS menu reappears.
4. If you want to continue changing the settings, see the sections from page 25 onwards. If you have finished changing the settings, press the **POWER** button. The set-top then switches on with the restored settings.

NOTE

If the set-top and HDTV are connected via a standard HDMI cable, the HDTV may pass information about the required settings back to the set-top (see page 26). If you wish to restore the set-top's settings to those created by the HDTV, you must disconnect the HDMI cable from the set-top before you restore the factory default settings. When you reconnect the HDTV to the set-top via the HDMI cable, the HDTV will pass back the information again.

Always turn off the set-top, wait 60 seconds, then disconnect the set-top from the wall AC outlet before you connect or disconnect any other equipment to or from its rear panel.



USING THE SETUP MENUS

In addition to the user settings described on pages 25 through 32, setup menus may be available in the on-screen guide. These should be described in the information provided by the service-provider. There may also be on-screen information to explain these menus.

However, certain settings may affect how the set-top and TV work. See the table below for information about typical menu items and settings (they depend on which on-screen guide is running on the set-top, so may vary from those given below).

Item	Options	Settings	Notes
Cable Box Setup	Front LED Display	Current Time, Current Channel	If setting is "Current Time", the time is displayed on the front panel when the set-top is switched on. If setting is "Current Channel", the program channel number is displayed.
	RF Bypass	Off, On	This must be "On" before you can use RF Bypass. For information about RF Bypass, see page 24.
	Configuration		Allows you to view the configuration of the set-top.
Audio	Default Audio Track	Channel Default, English, various other languages	Sets the language track that the set-top first attempts to use when tuning to a channel. "Channel Default" means the set-top uses the default audio track for the program. Selecting a language means it uses the corresponding language track, if it is available.
	Optimal Stereo		Selecting this option enables the set-top to regulate the volume to minimize sudden changes in volume, for example during a commercial break.
	Audio Output	TV Speakers, Stereo, Advanced	If you select "Advanced", further settings are displayed, allowing you to set the Compression (to None, Light, or Heavy) and the Stereo Output (to Mono, Stereo, or Matrix Stereo).
Screen position			This allows you to adjust how the picture displays on the TV screen.

Other items and options may be available on these screens. The menus may be subject to change in the future, as the set-top advances with new technology.

DISPLAYING DIAGNOSTIC SCREENS

Displaying the Diagnostics Information screens

The Diagnostic Information screens provide “read-only” information about the configuration of the set-top. This includes information on, for example, addressing, memory, current channel, status information, etc.

First of all, make sure that the set-top is connected to the TV by HDMI, S-video, composite video (RCA), or RF (TO TV) connections, and set the TV to its appropriate input.

Ensure the set-top is turned on (the LED around the **POWER** button on the front panel should be green).

To display the Diagnostics Information screens:

Press and release the **POWER** button on the front panel (or remote control), then immediately (within 2 seconds) press and release the **SELECT** button on the front panel (or remote control).

The DIAGNOSTICS DASHBOARD will then be displayed on the TV, and “daSh” appears on the front-panel display.

Note: The bottom line on the dashboard cycles between SW Version:, Unit Addr:, and Last Poll Ack:

From the DIAGNOSTICS DASHBOARD, you can press the ◀ button to display the DIAGNOSTICS MAIN MENU (see right). The front-panel display shows the currently highlighted item (e.g. “d 01” when “01 GENERAL STATUS” is highlighted).

Use the ◀ button to toggle between the DIAGNOSTICS DASHBOARD and DIAGNOSTICS MAIN MENU.

To use the Diagnostics Information screens:

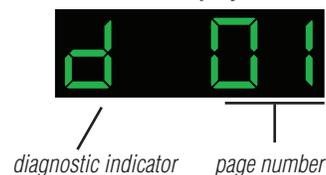
In both menus, use the ▲ and ▼ **arrow** buttons to move the on-screen arrow through the items, then press **SELECT** or ▶ to view more information in sub-menus. Instead, you can use the remote control to key in the 2-digit number of the sub-menu.

To remove a sub-menu and return to the preceding level, press the ◀ button.

To remove the DIAGNOSTICS DASHBOARD (or DIAGNOSTICS MAIN MENU), and return to normal TV viewing, press the **POWER** button on the front panel **twice**.



LED Display



SOLVING PROBLEMS

If the installed system does not seem to be working properly, first make sure that all the cables are securely connected, then carry out the following checks, in the order shown.

Check	Suggested solution	Further checks, if there is still a problem
<p>Is anything lighted on the set-top's front panel?</p> <p>YES ▼</p> <p>NO ►</p>	<p>Power may not be reaching the set-top. Make sure that the power cord is properly plugged in. If there is a switch by the wall AC power outlet, switch it ON.</p>	<p>Check that the wall AC power outlet is working (for example, by plugging in a lamp).</p>
<p>Does the remote control operate the set-top?</p> <p>YES ▼</p> <p>NO ►</p>	<p>The set-top may not be turned on.</p> <p>Check if the light around the POWER button on the front panel is green. If it is not, press the POWER button on the front panel to turn on the set-top.</p>	<p>Check that nothing is blocking the path from the remote control to the front panel.</p> <p>Check that the remote control is currently set to operate the set-top. (Consult the instructions supplied with the remote control.)</p> <p>Check that the IR Receiver setting on the Front Panel Settings menu is set to "On" (see page 30). If it is set to "Off", the remote control will not operate the set-top unless a "remote eye" (IR tether) has been attached to the IR RECEIVE connector on the set-top's rear panel. This may be the case if you have a plasma HDTV that causes interference with the remote control. To rectify the situation, attach a remote eye, or change the IR Receiver setting to "On".</p> <p>If the remote control will still not operate the set-top, replace the batteries in the remote control.</p>
<p>Can you see a picture on the TV screen?</p> <p>YES ▼</p> <p>NO ►</p>	<p>The TV and other equipment may not be turned on. Check that they are plugged into AC power outlets and turned on.</p>	<p>Check that you have selected the appropriate AV input on the TV: HDMI, component video (YPbPr), S-video, or composite video (depending on how the system is connected up).</p> <p>If you are using a component video (YPbPr) connection, make sure the set-top's TV Display Capability settings are appropriate for the TV (see pages 26 through 28).</p> <p>If you are using the HDMI connection, make sure the connection goes directly from the set-top to the TV. If the set-top detects that the link is not secure, the set-top will not transmit a picture (see page 9). If you expect the link to be secure, try disconnecting and reconnecting the HDMI cable.</p>
<p>Is the picture distorted or too small?</p> <p>NO ▼</p> <p>YES ►</p> <p>See the next page</p>	<p>Check that the TV Aspect Ratio and TV Display Capability, as set on the set-top, are appropriate for the TV (see pages 25 through 28). Change them if necessary.</p>	<p>If the TV is a 16:9 TV, you can use Auto Pillarbox to add black borders to 4:3 transmissions, so that the picture is not stretched (see pages 28 and 29).</p> <p>If the TV Aspect Ratio and TV Display Capability settings are correct, try using Zoom to improve the picture (see page 24) or consult the instructions that came with the TV and try adjusting the TV's display.</p>

SOLVING PROBLEMS (cont.)

Check	Suggested solution	Further checks, if there is still a problem
<p>Can you display menus and guides on the screen?</p> <p>YES ▼</p> <p>NO ►</p>	<p>If the TV is connected to the VIDEO OUT or S-VIDEO connectors, then you will see menus and guides only if the screen resolution 480i is set to “YES” and 480p, 720p, 1080i, 1080p24 Pass, and 1080p30 Pass are set to “NO”.</p>	<p>Change the TV Display Capability resolution settings if necessary (see pages 27 and 28).</p>
<p>Is there any sound?</p> <p>YES ▼</p> <p>NO ►</p>	<p>Check that the audio cables are securely and correctly connected.</p>	<p>Check that you have not muted the sound on the set-top and/or TV. Adjust the volume control on the set-top and/or TV. If you are using a home theater receiver, check it is set up correctly.</p>
<p>Can you hear stereo sound?</p> <p>YES ▼</p> <p>NO ►</p>	<p>First check that the program is likely to have stereo sound (an old movie, for example, may not be in stereo).</p> <p>Check the on-screen Setup Menu, Audio settings (see page 33). The Stereo Output may be set to “Mono”. Change it to “Stereo”.</p>	<p>If the TV is mono, you will hear stereo sound only if you have a stereo audio amplifier and speakers or home theater connected to the stereo VCR or set-top.</p>
<p>Can you see and hear a DVD that you are trying to play?</p> <p>YES ▼</p> <p>NO ►</p>	<p>Check that all the audio and video cables are securely and correctly connected, including any to a home theater receiver that you may be using to enhance the sound.</p>	<p>—</p>
<p>Is the picture low quality, or “fuzzy”, when you are expecting to see an HDTV-quality picture?</p> <p>NO ▼</p> <p>YES ►</p>	<p>Some programs may include “copy protection” which means, if the set-top is connected to the HDTV via the component video connectors, the picture is downgraded to standard TV quality. To prevent this from happening, use an HDMI connection instead.</p>	<p>—</p>
<p>Can you see only regular (analog) channels but not any digital channels?</p> <p>NO ▼</p> <p>YES ►</p>	<p>The Bypass feature may be turned on (check if the BYPASS light on the set-top’s front panel is lighted). If Bypass is on, use the on-screen Setup menus to turn it off (see page 33).</p>	<p>—</p>
<p>Are the DVR functions working?</p> <p>NO ►</p>	<p>The internal hard disk may be temporarily disabled because the set-top has overheated. Make sure the set-top is not overheating (refer to the set-top’s ventilation requirements on page 4).</p>	<p>—</p>



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