



INSTALLATION GUIDE

HD IPTV Set-Top Box

IPW8000



BRINGING TECHNOLOGY HOME
www.pace.com

Contents

- Safety Information 4**
 - Warnings on the power supply unit 4
 - Other warnings 4
 - Important safety instructions 5
 - Safety aspects of connections 7
 - Note to the installer 8

- Introduction 9**
 - Package contents 9
 - Model number and serial number 10
 - Front panel 11
 - Back panel 12

- Connecting the Set-Top Box 13**
 - Connect the set-top box to the home network 14
 - Connect the set-top box to the TV 15
 - Determining the type of connection to use 15
 - Using an HDMI connection 17
 - Using a DVI connection with digital audio 18
 - Using a DVI connection with analog audio 19
 - Using a component video connection with digital audio 20
 - Using a component video connection with analog audio 21
 - Using a composite video connection 22
 - Connecting the set-top box to a home theater system 23
 - Plug in the set-top box 24
 - Connecting to the AC power supply 24

- Troubleshooting and Support 25**
 - Troubleshooting 25
 - Frequently asked questions 27
 - Picture formats 28

- Compliance Information 29**
 - Regulatory information 29
 - Declaration of Conformity 29

Safety Information

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

Warnings on the power supply unit



The lightning flash with arrowhead symbol, within a triangle, is intended to alert you to the presence of uninsulated “dangerous” voltages within your set-top box’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 your set-top box.

To ensure correct operation, use this set-top box only with the Pace-approved power supply unit provided. If you use an unapproved alternative, you will invalidate the warranty.

Other warnings

- To reduce the risk of electric shock, do not remove the cover of your set-top box. 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 box yourself will invalidate the warranty.
- To reduce the risk of fire or electric shock, do not expose this set-top box to rain or moisture.
- On the rear panel of your set-top box there is a tamper-evident label that states “Warranty void if broken or removed.”
- To avoid possible damage to the apparatus or to a connected TV or component, all AC power cords must be plugged into properly wired outlets. As with all electrical products, connection to faulty or defective components, or the failure to connect the apparatus to a properly wired outlet, may cause sparking, property damage or damage to any TV or other component connected to the apparatus and pose a fire hazard.
- Failure to heed the Safety Information provided by failing to connect to a properly wired outlet may void the manufacturer's warranty.

Important safety instructions

Before you install or use the apparatus, you must read and understand these Important Safety Instructions. At all times when installing or using the apparatus you must follow these Important Safety Instructions to reduce the risk of fire, electrical shock, property damage 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. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments and accessories specified by the manufacturer.
11. 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 or apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus is damaged in any way, such as a power-supply cord or plug is damaged, liquid is spilled or objects have fallen into the apparatus, the apparatus is exposed to rain or moisture, does not operate normally, or has been dropped.

In addition to the "Important safety instructions" section, please read the safety information below.

Power sources

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

You must operate your set-top box 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 your set-top box 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 your set-top box during a lightning storm, or when it is left unattended and unused for long periods of time, disconnect your set-top box from the power supply and disconnect the cable system from your set-top box. See also item 12 in the “Important safety instructions”.

Ambient temperature

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

Ventilation and location

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

- Never block the ventilation openings by placing your set-top box 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, tablecloths, or curtains.
- You can place your set-top box 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 your set-top box 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 your set-top box for sufficient ventilation.

See also item 7 in the “Important safety instructions”.

Water and moisture

Do not expose this product to dripping or splashing liquids, rain, or moisture. Objects filled with liquids, such as vases, should not be placed on the set-top box. See also item 5 in the “Important safety instructions”.

Entry of objects and liquids

Never push objects of any kind into your set-top box 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 your set-top box.

Placement and mounting

Do not place your set-top box on an unstable or uneven surface. Your set-top box may fall, causing serious injury to a child or adult and serious damage to your set-top box. If you mount your set-top box, for example to a wall or ceiling, follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer. See also item 11 in the "Important safety instructions".

Risk of fire or scorching

Never place open flame sources, such as lighted candles, on or adjacent to your set-top box.

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 13 in the "Important safety instructions".

Safety check

Upon completion of any service or repairs to this product, the service technician must perform safety checks to determine that your set-top box is in proper operating condition. See also item 13 in the "Important safety instructions".

SAVE THIS INFORMATION FOR FUTURE REFERENCE

Safety aspects of connections

For full details about the rear panel connections, see "Connecting the Set-Top Box" on page 13.

Connecting

Do not connect your set-top box (or any other equipment such as a TV or VCR) to the power supply until you have properly connected all the other cables. Your set-top box is designed for use only with the supplied power supply unit.

On the power supply unit there is a label that specifies the correct AC power supply input for it. Do not connect the power supply unit to any supply other than this.

Always connect the 12 volt connector from the power supply unit to your set-top box before you insert the AC power connector from the power supply unit into the wall AC outlet.

Disconnecting

To disconnect power from your set-top box, always detach the power supply unit from the wall AC outlet (rather than remove the 12 volt connector from your set-top box).

You must install your set-top box near to the wall AC outlet, which should be easily accessible.

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

Note to the installer

The servicing instructions in this notice are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions, unless you are qualified to do so. To reduce the risk of electric shock, do not remove the cover or back. There are no user-serviceable parts inside the unit. Refer all servicing issues to qualified service personnel.

Service address:

Pace Americas, Inc.
3701 FAU Blvd., Suite 200
Boca Raton, FL 33431

Introduction

Welcome to Internet Protocol Television (IPTV). The IPW8000 set-top box brings a new set of interactive services directly to you through your TV and your in-home IP network. The set-top box uses a wireless network connection or an Ethernet home network cable to connect to most entertainment devices.



The following IPTV services may be available through this set-top box:

- *Digital Video Recorder (DVR)*. Allows you to record your favorite programs to an internal hard disk (or an external DVR device) and watch them at your convenience.
- *Pause Live TV*. Allows you to pause the live broadcast on your TV and come back to the show where you left it. (Applies to DVR models only.)
- *High-Definition (HD)*. Provides crystal-clear picture and sound when compared to standard definition.
- *Video-On-Demand (VOD)*. Gives you access to a library of movies and programs that you can watch, when you want to watch them.

Note: Contact your service provider to find out if the DVR, HD, or VOD services are available and how to activate the services.

Package contents

In addition to this installation manual, the set-top box carton contains the following items:

- *IPW8000 receiver*. A TV set-top box that supports high-definition (HD) and standard-definition (SD) video decoding. It supports 720p and 1080i content and uses Ethernet over CAT-5 or wireless Wi-Fi Protected Setup to connect to the in-home network.
- *Power cord and adapter*. A 12 volt power supply unit that provides power from an AC wall outlet to the set-top box.

Before using the set-top box, read the "Important safety instructions" on page 5 of this manual. This manual describes how to connect your set-top box to both your in-home IP network and your entertainment system. The manual also outlines safeguards and installation information. The safety information contained in this manual was developed and provided solely by the set-top box manufacturer, Pace Americas.

Model number and serial number

At times your service provider may ask for your serial number. To find the model number and serial number for your set-top box, look at the label affixed to the bottom of the unit. The model number is the first alphanumeric identifier to the right of the Pace logo. The serial number is the numeric code to the right of the letters "S/N" on the label, as shown on the following sample label.

Model number location

Serial number location

Pace Model: IPW8000 HW: A
Pace Wireless DEV STB SW: IPTVL-1015
Basic SD/HD with Wi-Fi Factory ID: CCT
Electrical Rating: 12V --- 1.5A Made in Thailand

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

S/N: 1234567890123 P/N: 123T567890123

Wi-Fi MAC: 01:02:03:ab:cd:0d
Wireless Network Key: 1234567890
SSID: PACE009
GUID: xxxxxxxx-xxxxxxx-xxxx-xxxxxxxxxx Date of Mfg: MM/YYYY

ICES/NMB-003 B
FCC ID: PGRIPW8X4N IC:3439B-IPW8X4N

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

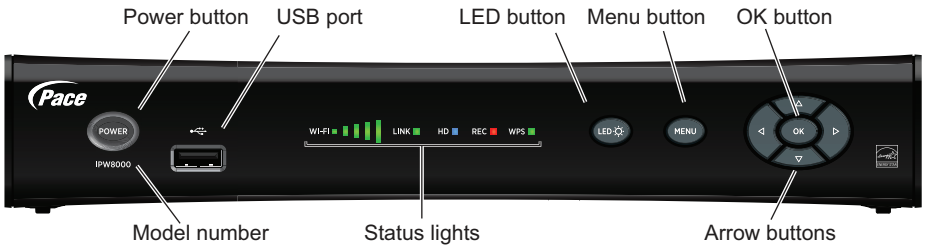
Use the space below to record the model number and serial number for your set-top box:

Model number: _____

Serial number: _____

Front panel

The illustration shows the interface elements on the front of the set-top box.



Power button

Turns the set-top box on or off.

Power light

Lights green when the set-top box is powered on. Blinks when receiving input from the remote control or when the front-panel buttons are pressed.

Model number

Identifies the model number of the set-top box.

USB port

Reserved for future use.

Wi-Fi light

Lights green to indicate the strength of the Wi-Fi signal. Five bars equals full strength.

LINK light

Lights green when the box has a good connection to the provider network.

HD light

Lights blue to indicate a high-definition input signal.

REC light

Lights red when the DVR is recording content.

WPS light

Blinks green during Wi-Fi Protected Setup pairing with the home network. Lights solid green for approximately five minutes if device pairing is successful.

LED button

Adjusts the brightness of the LED lights.

MENU button

Launches the on-screen menu.

Arrow buttons

Navigates to on-screen menu options.

OK button

Confirms the on-screen menu choice.

Back panel

The following illustration shows the connectors on the back of the set-top box.



NETWORK

Connects the set-top box to the in-home network using an Ethernet network cable, if applicable.

WPS

Connects the set-top box to the in-home network using WPS (Wi-Fi Protected Setup), if a wireless network is available.

VIDEO OUT

Connects the set-top box to a standard-definition TV using a composite video connection.

Y Pb Pr

Connects the set-top box to a high-definition TV or home theater receiver using a component video connection.

AUDIO

Connects the set-top box to a TV or home theater receiver using an analog audio connection.

OPTICAL

Connects the set-top box to a TV or home theater receiver using a digital audio connection.

HDMI

Connects the set-top box to a high-definition TV or home theater receiver using an HDMI connection.

POWER

Connects the power adapter to the set-top box. The LED lights green when the set-top box is receiving power from the wall outlet.

Connecting the Set-Top Box

To view programs broadcast in high definition, your set-top box must be connected to a suitable high-definition TV or computer monitor. Your set-top box is also compatible with standard-definition TVs and VCRs.

Your set-top box should have been connected to your TV by your installer. However, if you need to disconnect and re-connect your equipment, please read the information in this chapter carefully before you re-connect the set-top box to your TV or home theater receiver.

WARNING: Before you begin:

- Do not connect your set-top box (or any other equipment such as a TV or DVD player) to the AC power supply until you have properly connected all the other cables.
- Disconnect your set-top box from the AC power supply before you disconnect any other equipment from its rear panel.
- To disconnect power from your set-top box, always detach the power supply unit from the wall electrical outlet (rather than removing the cord from your set-top box). You should install your set-top box near a wall electrical outlet that is easily accessible.
- Any cable connected to the DIGITAL AUDIO jack must be a fiber optic TOSLINK connector, not a regular audio cable.
- If you are in any doubt about the power supply cord, its plug or its connection, consult a qualified electrician.

Connect the set-top box to the home network

If you connect to your home network through a wireless connection, use the WPS (Wi-Fi Protected Setup) connector on the back panel of the set-top box to connect the set-top box to the network.

To connect to the home network using WPS:

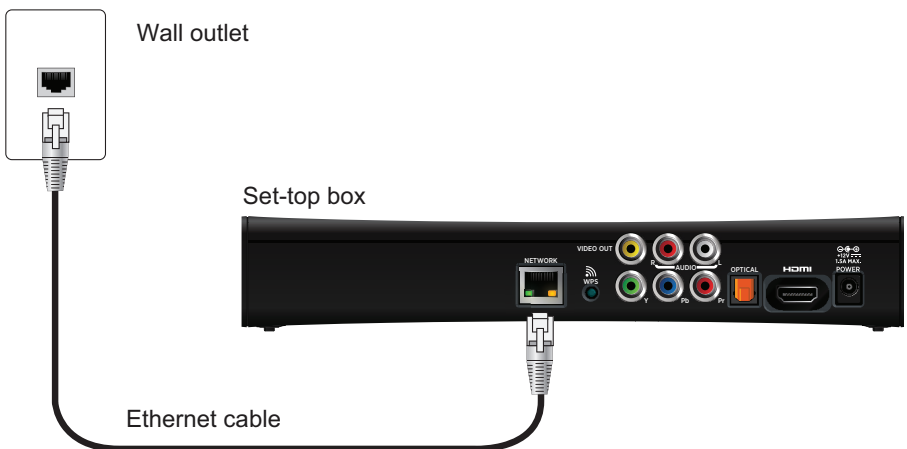
1. Press the WPS button on the back panel of the set-top box. Then, press the WPS button on the home network gateway.
2. Verify that the WPS indicator on the front panel blinks green during device pairing with the home network gateway.
3. Verify that the WPS indicator on the front panel lights solid green for approximately five minutes after the set-top box connects to the gateway.

Set-top box



To connect to the home network using an Ethernet (CAT-5) cable:

1. Insert one end of the Ethernet cable into the NETWORK connector on the set-top box.
2. Insert the other end of the Ethernet cable into the home network wall outlet.



Note: If an Ethernet connection is made, the wireless interface is disabled.

Connect the set-top box to the TV

The connections for an HD or SD TV are different, and before you begin, you must determine if your TV is HD or SD. Your TV must receive HD signals for you to enjoy the benefits of HDTV. Refer to the manual that came with your TV for more information.

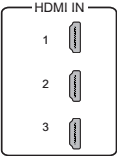
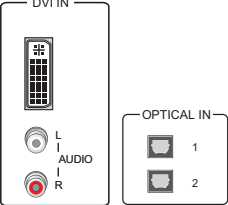
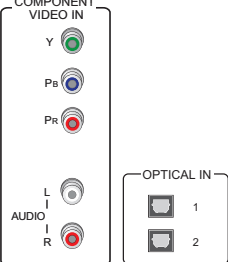
Determining the type of connection to use

The connection type you use is determined by the type of connections on your TV or home theater receiver. The following tables list the connectors that can be used for high-definition TVs and standard-definition TVs, respectively.

Connections for HDTV

To use the set-top box with high-definition TVs, use one of the following connections to view HD content. For more information about making HDTV connections, check the owner's manual for your TV and the appropriate connection diagrams in this manual.

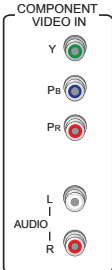

Note: The labeling on your HDTV may vary slightly from the illustrations shown in the table.

| Name | Connector | Description |
|-----------------|---|---|
| HDMI |  | Provides the HD connection using an HDMI input on the TV. The HDMI-to-HDMI connection transmits both HD video and digital audio. For connection information using HDMI, see "Using an HDMI connection" on page 17. |
| DVI |  | Provides the HD connection using a DVI input on the TV. The HDMI-to-DVI connection transmits HD video only. For digital audio, use a TOSLINK fiber optic cable to connect to the digital audio connector on the TV. For standard audio, use the Audio L/R RCA connectors. For connection information using DVI, see "Using a DVI connection with digital audio" on page 18. |
| Component video |  | Provides the HD connection using the component video input on the TV. For digital audio, use a TOSLINK fiber optic cable to connect to the digital audio connector on the TV. For standard audio, use the Audio L/R RCA connectors. For connection information using component video, see "Using a component video connection with digital audio" on page 20. |

Connections for SDTV

To use the set-top box with standard-definition TVs, you need to use one of the following connections to view SD content. For more information about making SDTV connections, check the owner's manual for your TV and the appropriate connection diagrams in this manual.

Note: The labeling on your SDTV may vary slightly from the illustrations shown in the table.

| Name | Connector | Description |
|-----------------|---|--|
| Component video |  <p>The diagram shows a vertical stack of five RCA connectors. At the top is a green connector labeled 'Y'. Below it are two blue connectors labeled 'Pb' and 'Pr'. At the bottom are two red connectors labeled 'L' and 'R'. The entire set is enclosed in a rounded rectangle with the text 'COMPONENT VIDEO IN' at the top.</p> | Provides the SD connection using the component video input on the TV. For standard audio, use the Audio L/R RCA connectors. For connection information using component video, see "Using a component video connection with analog audio" on page 21. |
| Composite video |  <p>The diagram shows a vertical stack of three RCA connectors. At the top is a yellow connector labeled 'VIDEO'. Below it are two red connectors labeled 'L' and 'R'. The entire set is enclosed in a rounded rectangle with the text 'COMPOSITE VIDEO IN' at the top.</p> | Provides the SD connection using the composite video input on the TV. For standard audio, use the Audio L/R RCA connectors. For connection information using composite video, see "Using a composite video connection" on page 22. |

Using an HDMI connection

The HDMI connector provides the connection to an HDTV. HDMI carries signals for video and audio.

To connect the set-top box to the TV using an HDMI cable:

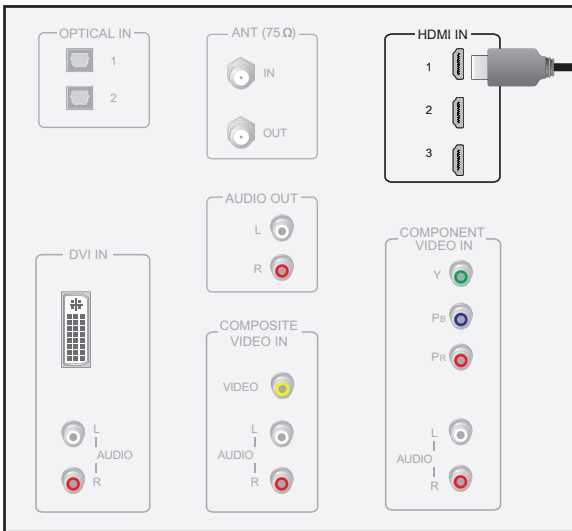
1. Insert one end of the HDMI cable into the HDMI connector on the set-top box.
2. Insert the other end of the HDMI cable into an available HDMI connector on the TV.

Set-top box



HDMI cable

Television



Note: The HDMI port on the TV must support high-bandwidth digital content protection (HDCP).

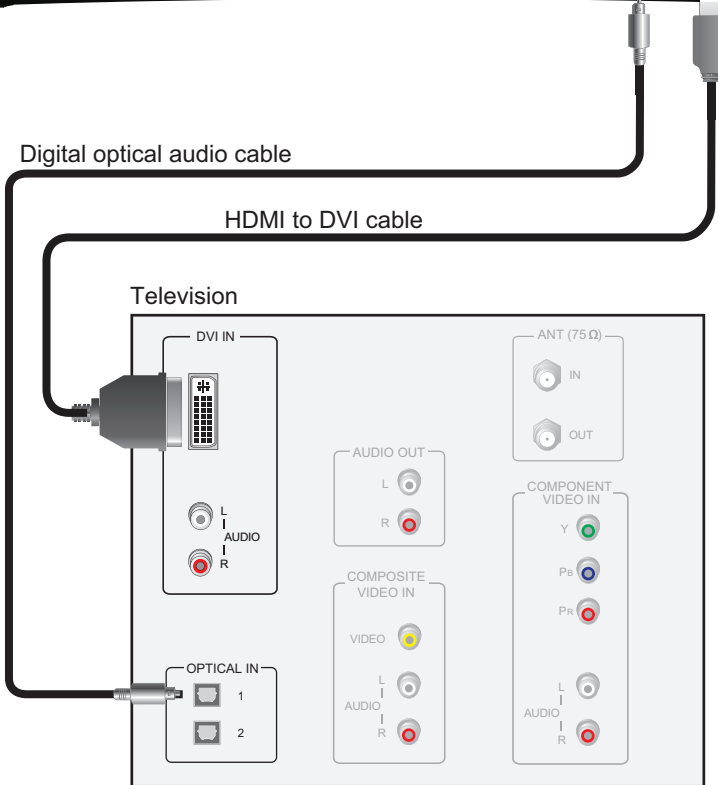
Using a DVI connection with digital audio

The HDMI connector on the set-top box can provide the connection to an HDTV with a DVI input. If your HDTV has a Digital Visual Interface (DVI) connector, you need an HDMI-to-DVI cable and a separate digital optical audio cable.

To connect the set-top box to the TV using an HDMI-to-DVI cable and digital audio cable:

1. Insert the HDMI end of the cable into the HDMI connector on the set-top box.
2. Insert the 24-pin DVI end of the cable into the DVI connector on the TV.
3. Connect the fiber optic audio cable to the OPTICAL connector on the set-top box.
4. Connect the other end of the fiber optic audio cable to an available OPTICAL IN connector on the TV.

Set-top box

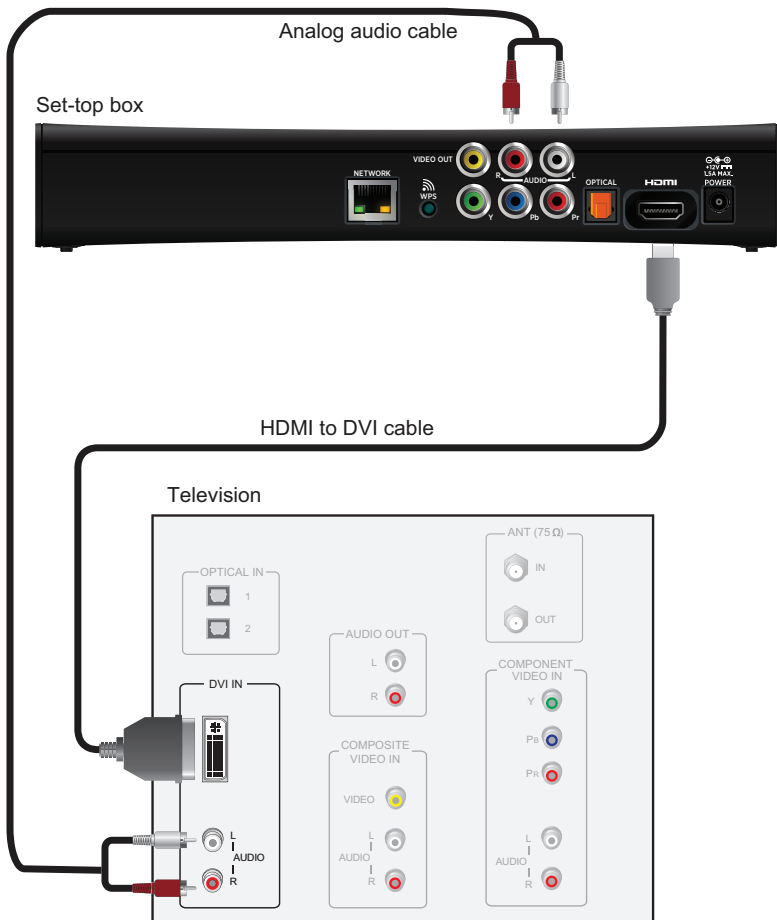


Using a DVI connection with analog audio

The HDMI connector on the set-top box can provide the connection to an HDTV with a DVI input. If your HDTV has a Digital Visual Interface (DVI) connector, you need an HDMI-to-DVI cable and a separate analog audio cable.

To connect the set-top box to the TV using an HDMI-to-DVI cable and analog audio cable:

1. Insert the HDMI end of the cable into the HDMI connector on the set-top box.
2. Insert the 24-pin DVI end of the cable into the DVI connector on the TV.
3. Connect the color-coded analog audio cable to the AUDIO L (white) and R (red) connectors on the set-top box.
4. Connect the other end of the color-coded analog audio cable to the AUDIO L (white) and R (red) connectors on the TV.



Using a component video connection with digital audio

Component video uses the Y Pb Pr (green, blue, and red) connectors to provide component video signals to an HDTV or SDTV. You must connect the audio signal separately using a digital optical audio cable.

To connect the set-top box to the TV using a component video cable and digital audio cable:

1. Insert the connectors on the color-coded component video cable into the Y Pb Pr (green, blue, and red) connectors on the set-top box.
2. Insert the other end of the component video cable into the COMPONENT VIDEO Y Pb Pr (green, blue, and red) connectors on the TV.
3. Connect the fiber optic audio cable to the OPTICAL connector on the set-top box.
4. Connect the other end of the fiber optic audio cable to an available OPTICAL IN connector on the TV.

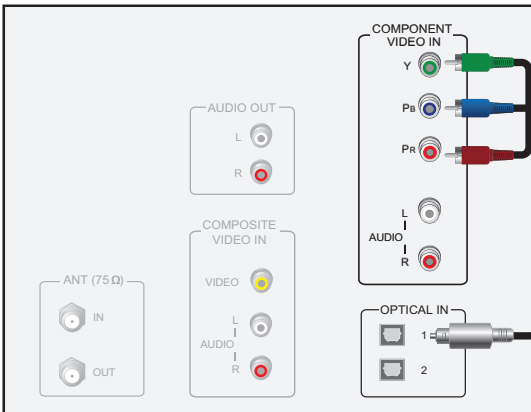
Set-top box



Component video cable

Digital optical audio cable

Television

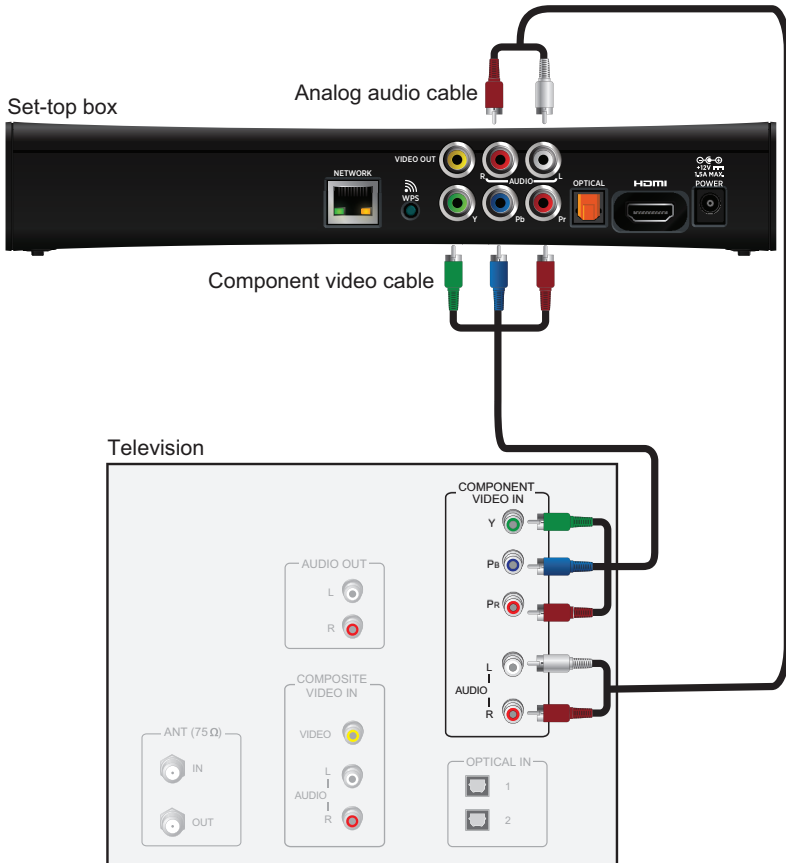


Using a component video connection with analog audio

Component video uses the Y Pb Pr (green, blue, and red) connectors to provide component video signals to an HDTV or SDTV. You must connect the audio signal separately using an analog audio cable.

To connect the set-top box to the TV using a component video cable and analog audio cable:

1. Insert the connectors on the color-coded component video cable into the Y Pb Pr (green, blue, and red) connectors on the set-top box.
2. Insert the other end of the component video cable into the COMPONENT VIDEO Y Pb Pr (green, blue, and red) connectors on the TV.
3. Connect the color-coded analog audio cable to the AUDIO L (white) and R (red) connectors on the set-top box.
4. Connect the other end of the color-coded analog audio cable to the AUDIO L (white) and R (red) connectors on the TV.

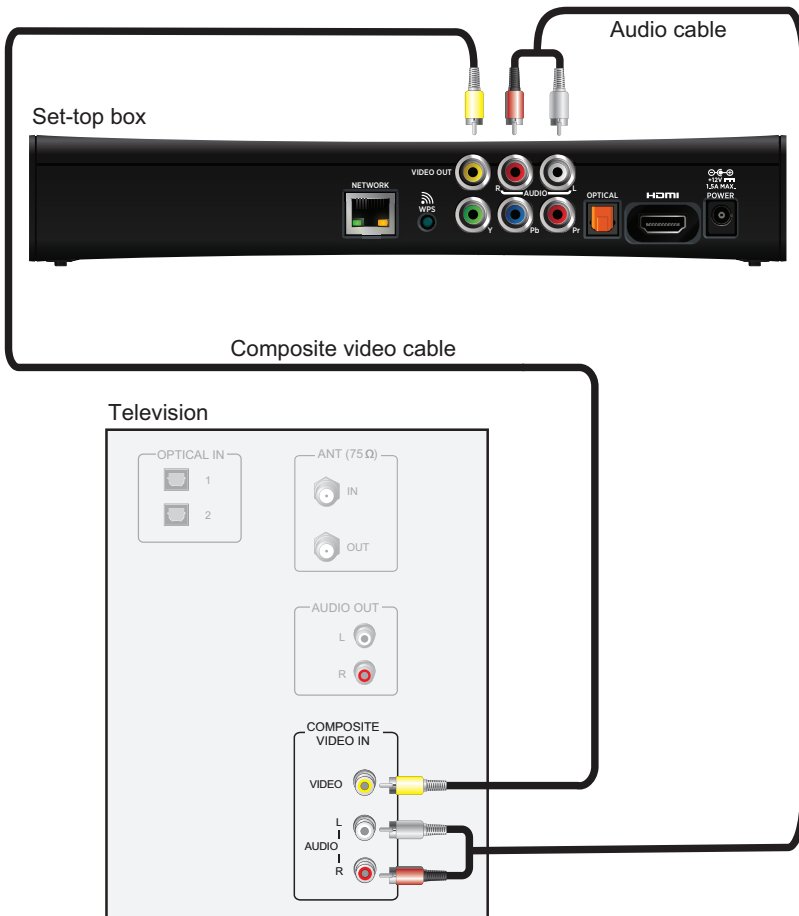


Using a composite video connection

Composite video provides the video connection to an SDTV. You must connect the audio signal separately.

To connect the set-top box to the TV using a composite video cable:

1. Insert the yellow video connector on the color-coded composite video cable into the VIDEO OUT (yellow) connector on the set-top box.
2. Insert the other end of the composite video cable into the VIDEO IN (yellow) connector on the TV.
3. Connect the color-coded audio cable to the AUDIO L (white) and R (red) connectors on the set-top box.
4. Connect the other end of the color-coded audio cable to the AUDIO L (white) and R (red) connectors on the TV.



Connecting the set-top box to a home theater system

If your television viewing configuration includes a home theater system, you can connect the set-top box directly to the home theater system receiver. The following example uses the HDMI connector to provide the video and audio signals from the set-top box to the home theater system.

Note: Consult the manual that came with your home theater system for information on connecting video and audio devices to the home theater receiver.

To connect the set-top box to a home theater receiver using HDMI:

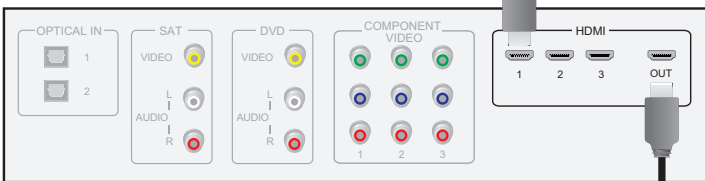
1. Insert one end of the HDMI cable into the HDMI connector on the set-top box.
2. Insert the other end of the HDMI cable into an available HDMI IN connector on the home theater receiver.
3. Connect a second HDMI cable into an available HDMI OUT connector on the home theater receiver.
4. Insert the other end of the second HDMI cable into an available HDMI connector on the TV.

Set-top box



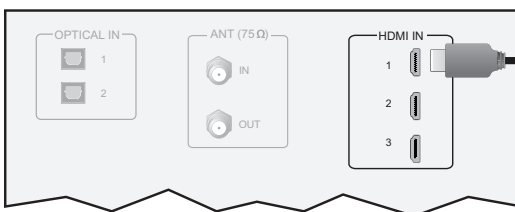
HDMI cable
to receiver

Home theater receiver



HDMI cable
to TV

Television



Plug in the set-top box

Use the power adapter included in the container to provide AC power to the set-top box.

To connect the set-top box to a power supply:

1. Insert the 12 volt connector into the POWER connector on the set-top box.
2. Insert the AC power adapter into an AC electrical outlet.
3. Verify that the LED on the AC power adapter lights green when the set-top box is receiving power from the wall outlet.



Connecting to the AC power supply

To avoid possible damage to the set-top box or to a connected TV or component, all AC power cords must be plugged into properly wired outlets. As with all electrical products, connection to faulty or defective components, or the failure to connect the apparatus to a properly wired outlet, may cause sparking, property damage, or damage to any TV or other component connected to the apparatus and pose a fire hazard.

If you are in any doubt about the power supply lead, its plug or its connection, or are not certain that the electrical outlets you are using are properly wired and grounded, consult a qualified electrician before proceeding any further.

Troubleshooting and Support

This section contains troubleshooting tips and answers to common issues and questions.

Troubleshooting

Use the information in this section to identify and resolve issues with the set-top box. If you need further assistance, contact your service provider.

No Picture

- Verify that the TV is turned on.
- Verify that nothing is blocking the path from your remote control to the front panel of the set-top box.
- Verify that your remote control is set to operate the set-top box (rather than another component in your set up). If the remote control does not operate the set-top box, replace the batteries in your remote control.
- If the set-top box is plugged into a switched power outlet, verify that the switch is on. Check the LED on the power supply unit. It lights green when the set-top box is receiving power from the wall outlet. Verify that the **Power** light on the front panel of the set-top box is green.
- Verify that all cables are properly connected.
- If WPS (Wi-Fi Protected Setup) is used to connect to the home network, verify that the network's wireless gateway has the WPS configuration setting enabled. To initiate the connection, press the **WPS** button on the set-top box, and then press the **WPS** button on the home network gateway.
- Verify that the **Link** light on the receiver is green to indicate that the receiver is connected to the home network. If the receiver is not connected to the home network, do the following:
 - Check the Ethernet cable to the **NETWORK** connector to verify that the cable to your home network is connected properly.
 - If a wireless connection is used, verify that the **WPS** indicator light on the front panel displays solid green for five minutes after pairing is successful. If pairing was unsuccessful, the **WPS** indicator light blinks green then shuts off without displaying solid green. If this occurs, wait two minutes and then press the **WPS** button on the set-top box again, followed by pressing the **WPS** button on the gateway.

If necessary, reboot the receiver by unplugging the AC power adapter from the electrical outlet, waiting ten seconds, and then plugging it back into the electrical outlet.

- If your system includes an external DVR recorder or home theater receiver, verify that you have properly connected the device to the set-top box. Verify that the **Record** light on the set-top box lights red when DVR recording is in progress.
- Verify that you are using the proper input selection on your TV or home theater receiver. If you are using a component video connection, make sure that the TV display capability settings are appropriate for your TV. If you are using the HDMI connection, make sure the connection goes directly from your set-top box to your TV (or your home theater receiver). If the set-top box detects that the link is not secure, your receiver will not transmit a picture.
- Verify that the **HD** light on the set-top box is blue when the set-top box receives a high-definition input signal.
- Verify that the set-top box is set to the proper screen type and resolution. If your TV is a 16:9 TV, you can use the **Auto Pillarbox** setting to add black borders to 4:3 transmissions, so that the picture is not stretched.

No Color or Incorrect Color

- Verify that the current TV program is broadcast in color.
- Adjust the TV color controls.
- If you are using a component video connection, check that all connectors are connected completely and properly.
- If you are using a component video connection and your HDTV has only RGB or RGB-HV connectors, you must use an adapter. You can obtain the adapter through an electronics retailer.
- Some programs may include copy protection, which means that if your set-top box is connected to your HDTV through the component video connectors, the picture is downgraded to standard TV quality. To prevent this from happening, use an HDMI connection, if it is supported on your TV.

No Sound

- Verify that all audio and video cables are connected securely and correctly. If your system includes an external DVD recorder or home theater receiver, verify that you have properly connected the device to the set-top box.
- Verify that the volume is turned up.
- Verify that the mute function is not on.
- Verify that you are using the proper input selection on your TV or home theater receiver.

Screen burn-in

Images such as letterbox bars or side bars, bright closed-captioning backgrounds, station logos, or any other stationary images may cause the display in your HDTV to age unevenly. This is known as screen burn-in. Refer to the owner's manual that came with your HDTV for more information about avoiding screen burn-in.

CAUTION: Do not display the same fixed images on your HDTV screen for extended periods of time.

Frequently asked questions

What is digital television?

Digital television (DTV) is a significant leap forward in television technology compared to analog television that has been widely available since the 1940s. DTV is delivered and displayed using digital encoding, similar to the way a computer operates. By using digital technology, there is no variation in picture and sound quality from the origination point until it is displayed on your television. You always receive a high-quality picture without the wavy lines or static that you might get from a weak analog signal. Another feature of digital television is digital surround sound using Dolby Digital technology, which is the same technology used to produce the sound you hear in movie theaters.

What is standard definition television?

Standard definition television (SDTV) is basic digital television programming delivered by your service provider. Typically, the SDTV screen is the same, nearly square shape as an analog television screen. Digital images on an SDTV set are crisp and clear, and noticeably better than on a standard analog television set using an antenna.

What is high definition television?

High definition television (HDTV) is an improved way to send and receive television broadcast signals. HDTV images are made up of pixels that are much smaller and closer together than those used in standard analog television, and there are millions of them. Thus, HDTV can display five to six times the detail of analog television to deliver picture quality that is much more realistic, dimensional, and precise. SDTV programs can be viewed on an HDTV.

Are local TV stations or other programmers broadcasting in HDTV?

Many local TV stations and programmers are transmitting digital signals. However, transmitting a digital signal does not mean transmitting an HDTV signal. Some stations are using the new bandwidth to broadcast several standard definition channels. Most stations and programmers, once they begin broadcasting in digital, are offering HD content from their parent network (for example, CBS, ABC, NBC, Fox, and PBS). Contact your service provider for more information.

Why aren't all the shows I watch in high definition?

A high definition program must originate in HD format and be broadcast in HD format. Having an HDTV system does not mean that everything you watch will be viewed in high definition. Getting the signal from a digital source also does not mean it is high definition.

What is HDMI and does it support Dolby Digital 5.1 audio?

HDMI (High Definition Multimedia Interface) is an uncompressed, all-digital audio/video interface. The Dolby Digital audio format can provide up to 5.1 separate channels of surround sound, and is the standard used for DVD-Video. HDMI supports standard, enhanced, or high-definition video, plus multi-channel digital audio, such as Dolby Digital audio, on a single cable.

Picture formats

What is the difference between a standard-screen and a wide-screen HDTV?

The type of screen your HDTV has (wide-screen or standard-screen) determines how the set-top box displays programs on the screen. The picture format for an HDTV is a combination of aspect ratio and screen resolution and is different for standard-screen and wide-screen HDTVs.

What is aspect ratio?

An aspect ratio is the ratio of the width to the height of the TV screen. The aspect ratios differ because the television industry manufactures both standard-screen and wide-screen HDTVs to appeal to consumer viewing preferences. The two aspect ratios are as follows:

- On standard-screen (4:3) HDTVs, the programming is displayed in letterbox format in the middle of the screen. There are bars surrounding the picture.
- On wide-screen (16:9) HDTVs, the programming is displayed on the full screen.

What is the screen resolution?

The screen resolution indicates the amount of detail that the picture displays. Resolution is identified by the number of display lines on the screen. The techniques that an HDTV uses to “paint” the picture on the screen are referred to as progressive and interlaced.

With the progressive scanning method, the lines are drawn on the screen one at a time in sequential order. Progressive scanning results in a more detailed image on the screen and is also less susceptible to the flicker commonly associated with interlaced scanning. The interlaced method involves refreshing pixels in alternation, first the odd lines and then the even lines.

For advanced setup, select the screen resolution that your TV can support. Refer to your Feature Guide and HDTV owner’s manuals to choose the proper screen resolution for your setup. For example, a screen resolution of 1080i indicates that the screen shows 1080 lines on an interlaced display, and 720p indicates that the screen shows 720 lines on a progressive-scan display.

Compliance Information

Regulatory information

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

Trade Name: Pace Americas

Responsible Party: 2Wire, Inc. DBA Pace Americas

Address: 1764 Automation Parkway, San Jose, CA 95131

Phone: (408) 428-9500

Declaration of Conformity

FCC / Industry Canada Compliance

This device has been tested and certified as compliant with the regulations and guidelines set forth in the Federal Communication commission - FCC part 15 and Industry Canada - ICES003 and RSS-210 Radio and telecommunication regulatory requirements / *Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada. Cet appareil numérique de la classe [*] est conforme à la norme NMB-003 du Canada.*

Manufacturer: 2Wire, Inc. DBA Pace Americas

Model(s): IPW8000

Part 15 of FCC Rules / IC RSS-210 – RSS GEN

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux normes CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment 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 this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 equipment and the receiver.
- Connect the equipment to an outlet on a circuit that is different from the circuit used by the receiver.
- Consult your dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate this equipment. Failure to heed the Safety Information provided by failing to connect to a properly wired outlet may void the manufacturer's warranty.

Users should be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5470-5725 MHz and that these radars could cause interference and/or damage to the LE-LAN device.

Les utilisateurs doivent être avisés que les radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars peuvent causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

The device for operation in the band 5150-5250MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential for radio interference to other users, the antenna type and its maximum gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

MPE/SAR/RF Exposure Information

This device was verified for RF exposure and found to comply with Council Recommendation 1999/519/EC and FCC OET-65 RF exposure requirements. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

WARNING: While this device is in operation, a separation distance of at least 20 cm (8 inches) must be maintained between the radiating antenna inside the EUT and the bodies of all persons exposed to the transmitter in order to meet the FCC RF exposure guidelines. Making changes to the antenna or the device is not permitted. Doing so may result in the installed system exceeding RF exposure requirements. This device must not be co-located or operated in conjunction with any other antenna or radio transmitter.



www.pace.com

Pace and the Pace logo are registered trademarks of Pace plc. All other trademarks are the property of their respective owners.

© 2013 Pace plc. All rights reserved.

Pace provides no warranty with regard to this manual, the software, or other information contained herein, and hereby expressly disclaims any implied warranties of merchantability or fitness for any particular purpose with regard to this manual, the software, or such other information, in no event shall Pace be liable for any incidental, consequential, or special damages, whether based on tort, contract, or otherwise, arising out of or in connection with this manual, the software, or other information contained herein or the use thereof.

504T6630001

Trademarks and licenses

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Rovi corporation, and is intended for home and other limited pay-per-view uses only unless otherwise authorized by Rovi corporation. Reverse engineering or disassembly is prohibited.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

HDMI®

HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Open source licenses

The software contained in this product may be covered by certain components consisting of free software or open source software. A list of these components and a copy of the relevant copyright notices and license term notices that are required by such licenses are available at this web page:

<http://www.pace.com/opensource/license>