



DIGITAL HDTV TUNER

OWNER'S MANUAL

MODEL : PHD-200



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PrimeDTV Technologies, Inc.



CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
 DO NOT REMOVE COVER (OR BACK)
 NO USER-SERVICEABLE PARTS INSIDE
 REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This lightning flash with arrowhead symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.



This symbol indicates “dangerous voltage” inside the product that presents a risk of electric shock or personal injury.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE

CAUTION: FCC regulations state that any unauthorized changes or modifications to this equipment may void the user’s authority to operate it.

Note to CABLE/TV Installer: This reminder is provided to call cable TV system installer’s attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I), that 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 practical.

IMPORTANT: This Digital HDTV Tuner is a table model and is designed to sit on a firm, flat, surface. Don’t place the Digital HDTV Tuner on soft carpeting or similar surface because the ventilation slots on the bottom of the unit will be blocked, resulting in reduced lifetime from overheating. To assure adequate ventilation for this product, maintain a spacing of 4 inches from the top and sides of the Digital HDTV Tuner and 2 inches from the rear of the Digital HDTV Tuner and other surfaces.

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.



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

Congratulations on choosing PrimeDTV PHD-200 Digital HDTV Tuner.
Please read this manual carefully before operation. For your convenience, this manual will provide pictures and descriptions to make operation as easy as possible. In order to use and maintain the set better, please follow its operating instructions.
Thanks for your cooperation.

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Introduction

To ensure proper use of this product, please read this owner's manual carefully and retain for future reference. This manual provides information on the operation and maintenance of your PHD-200 Digital HDTV Tuner. This chapter explains the Technical overview, unpacking, front panel, Rear panel, and Remote control.

Technical overview

This paragraph explains the technical capabilities of the PHD-200 Digital HDTV Tuner, and provides background information on digital television. Topics covered here include:

- What are Analog TV, Digital TV, NTSC, ATSC, SDTV, and HDTV?
- What kinds of TV programming can I watch with the Digital HDTV Tuner?
- What equipment is required to view HDTV programming?
- Video output options
- Aspect ratio
- Screen formats

What are Analog TV, Digital TV, NTSC, ATSC, SDTV, and HDTV?

Analog TV

Analog TV is the TV you're probably most familiar with. Most of the TV broadcasts you receive via a standard off-air antenna or from your local cable company are analog TV broadcasts.

Digital TV

Digital television (sometimes called DTV) is a newer method of broadcasting TV signals that delivers higher quality audio and video. Digital TV is broadcast in two sets of formats, SDTV and HDTV.

NTSC

NTSC (National Television Standards Committee) refers to the group that first established the standards used for conventional analog television broadcasts and TV equipment.

ATSC

ATSC (Advanced Television Systems Committee) is the group who has been working to establish the standards for digital television broadcasts and digital television equipment – including both SDTV and HDTV.

SDTV

SDTV (Standard-Definition TV) is a digital TV format that provides a high quality picture at resolutions that can be displayed on standard TV sets (see more on resolutions later in this chapter).

HDTV

HDTV (High-Definition TV) is a digital TV format that provides the highest quality picture at resolutions that can be displayed on HDTV-ready TV displays, HDTV Monitors and, computer monitors.

What kinds of TV programming can I watch with the Digital HDTV Tuner?

The PHD-200 Digital HDTV Tuner provides you with the ability to receive television programs from a wide range of sources, and to display them on general HDTV or monitor.

Using the Air/Cable jack on the back of the Digital HDTV Tuner, you can receive local analog and digital television programs.



To view cable TV programming, programming subscriptions are also required.

What equipment is required to view HDTV programming?

To view HDTV programming, in addition to your PHD-200 Digital HDTV Tuner, you will need an HDTV monitor or television set.

To receive analog and digital off-air television broadcasts, you'll need an off-air antenna.

To receive cable TV programming, you'll need a cable TV connection (provided by your local cable TV service provider).

Resolution and interlacing

Two of the elements determining the quality of a TV picture are resolution and interlacing.

Resolution

For TV equipment and broadcasts, resolution is defined by the number of horizontal lines displayed to make up each frame of a video image. The more lines of resolution used to draw each frame of video, the more detailed and sharp the picture will be. Standard TV resolution uses 480 horizontal lines to make up each of video.

HDTV uses either 720 lines, or 1080 lines to make each video frame.

Interlacing

When TVs display video, they display a new video frame at a rate that is faster than your eye can see (from 24 to 60 frames per second, depending on the TV and broadcast). Interlacing refers to whether each of those frames contains all of the lines of video for each frame or every other line. Interlaced signals take every other line frame 2 frames of video (each lasting $1/60^{\text{th}}$ of a second), and combine them into one frame lasting $1/30^{\text{th}}$ of a second. In this way, interlacing tricks your eye into thinking it is seeing twice the resolution that is actually being displayed.

In non-interlaced video, (referred to as progressive scan video), video frames are displayed every $1/60^{\text{th}}$ of a second containing all of the lines of video information for each frame.

The specifications for video resolutions are usually stated by giving the number of horizontal lines, followed by either the letter i, for interlaced video, or p for progressive scan video. Some DVDs and non-HDTV digital TV broadcasts use 480p.

The ATSC specification for HDTV broadcasts and equipment requires either 1080i or 720p while there is some debate as to whether it is better to have more lines that are interlaced than 1080i is highest quality video format.

Video output

The PHD-200 Digital HDTV Tuner is able to receive broadcasts in any of the resolutions mentioned above. It can also display programs on TVs capable of displaying any of those resolutions.

To set up your PHD-200 to handle the combinations of incoming video formats and TV display capabilities, you simply set the Resolution Switch on the rear panel to match the highest resolution your TV is capable of displaying. (If you're not sure about your TV's resolution, see your TV's manual for this specification.)

PHD-200 will then do the appropriate conversion from input signal format to display format.

Video output formats:

Output Connection	Available Formats
YPbPr	1080i/720p/480p/480i
DTV(RGB)	1080i/720p/480p
DVI	1080i/720p/480p/480i

Aspect ratio

In addition to resolution and interlacing, HDTV is also defined by the aspect ratio of its broadcasts.

Aspect ratio means the shape of the screen as defined by the ratio of the screen's width to its height. For analog TV and SDTV, the aspect ratio is 4 units wide by 3 units high (usually written 4:3).

This is familiar shape of conventional TVs----slightly wider than they are tall.

For HDTV broadcasts, the aspect ratio is 16:9 (nearly twice as wide as it is tall).

This is, not coincidentally, more like the shape of movies shown in theaters.

This makes HDTV an ideal format for broadcasting and viewing movies on a TV.

But what happens if you are watching a nearly square-shaped 4:3 broadcast on a rectangular 16:9 TV. The PHD-200 Digital HDTV Tuner allows you to choose from a variety of screen formats to help you dealing with those scenarios.

Screen formats

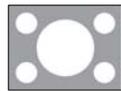
To deal with the mismatches that can occur between the shapes of TVs and the aspect ratios of program broadcasts, the Digital HDTV Tuner provides you with a set of screen format controls.

These controls allow you to pick a format to use for both 4:3 TVs showing 16:9 programs, and for 16:9 TVs showing 4:3 programs.

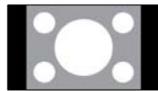
Here is an explanation of the options. (Details for setting this preference are included in page 17).

16:9 TVs showing 4:3 programs

Standard definition



Normal



Direct



Zoom



Stretch



Stretch Edges

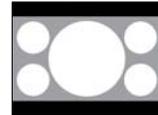


4:3 TVs showing 16:9 programs

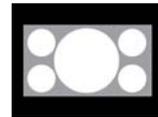
Standard definition



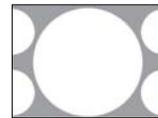
Normal



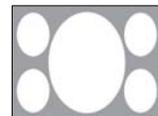
Direct



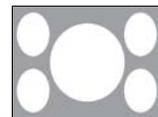
Zoom



Stretch

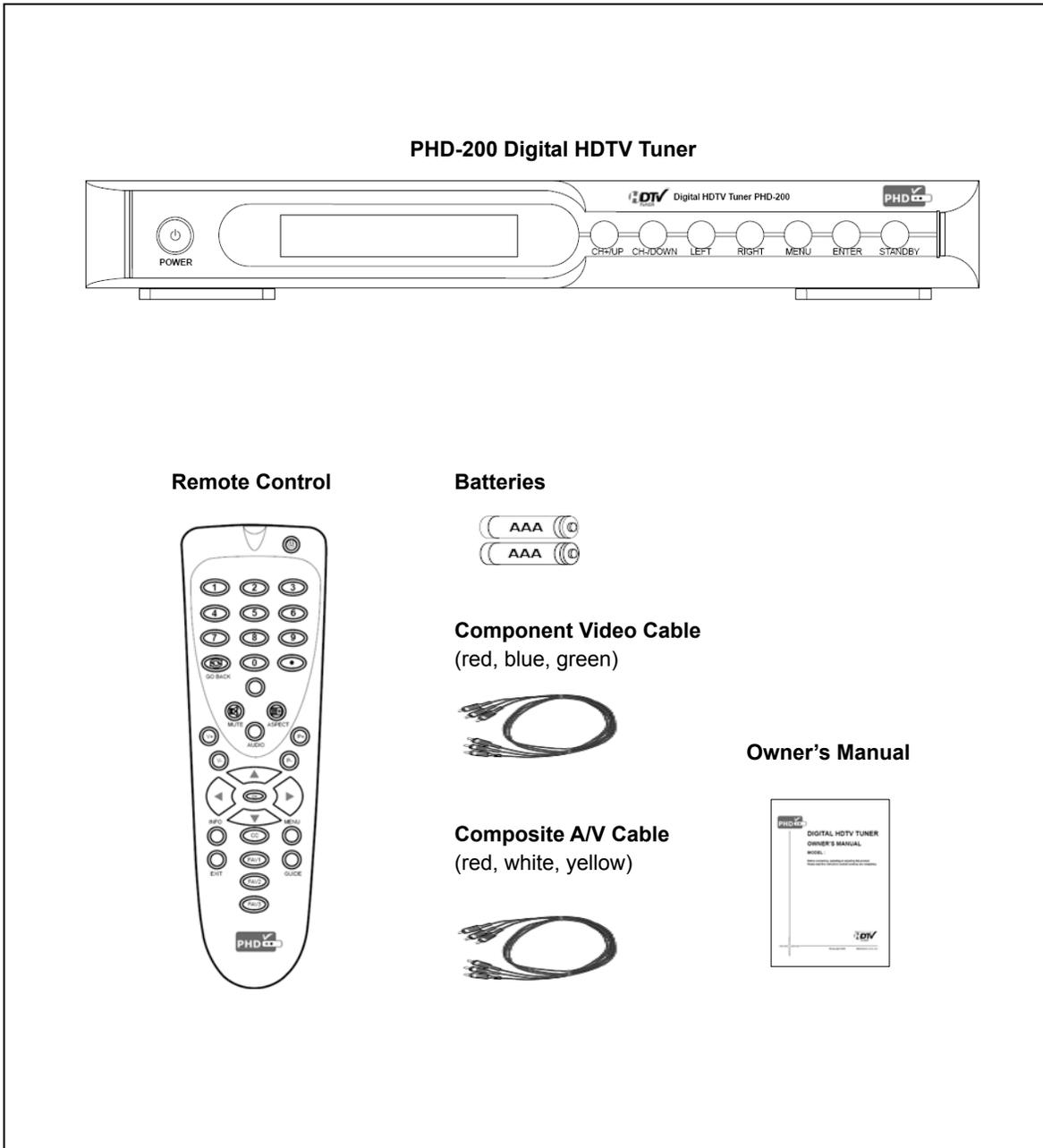


Stretch Edges

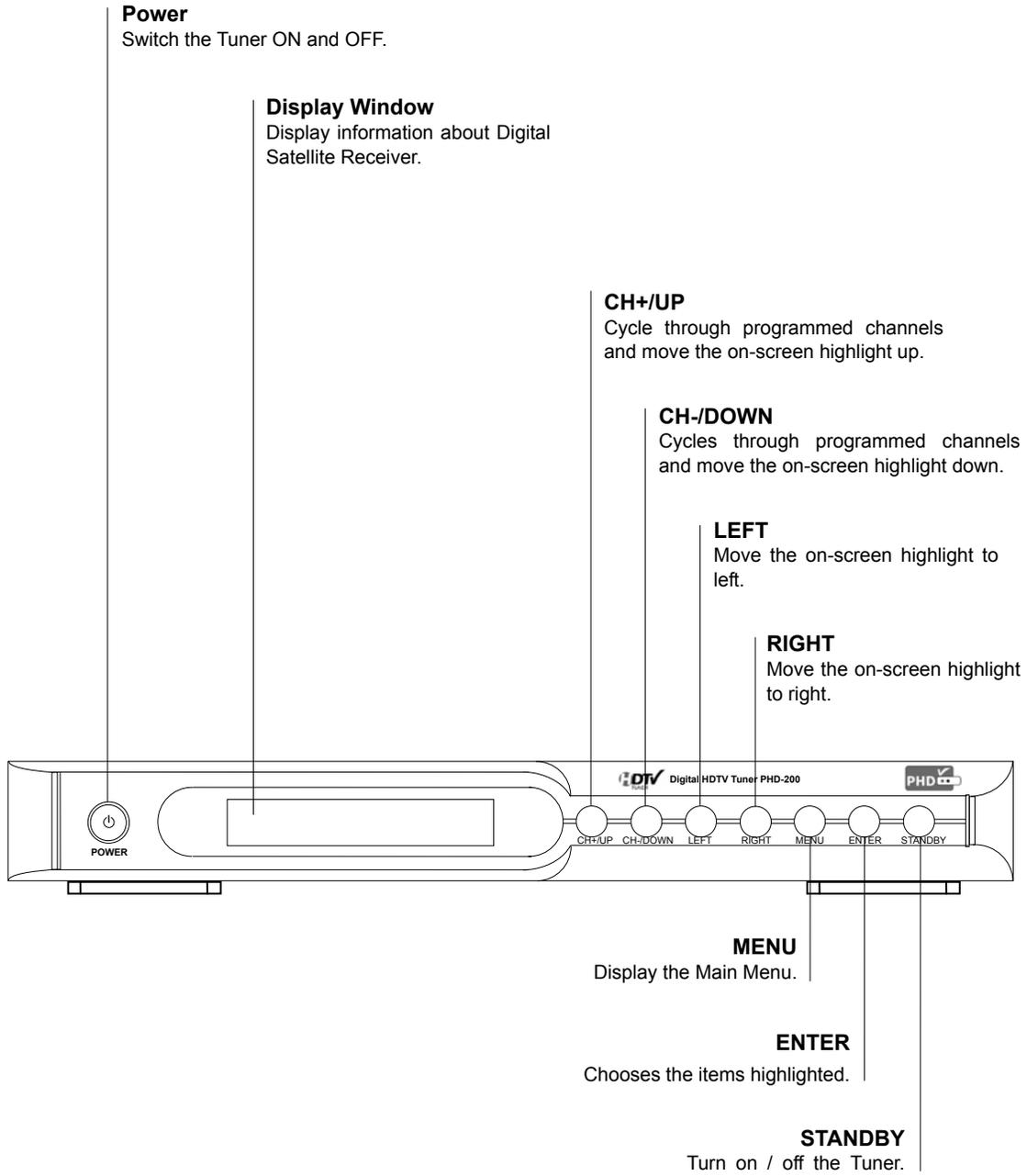


Unpacking

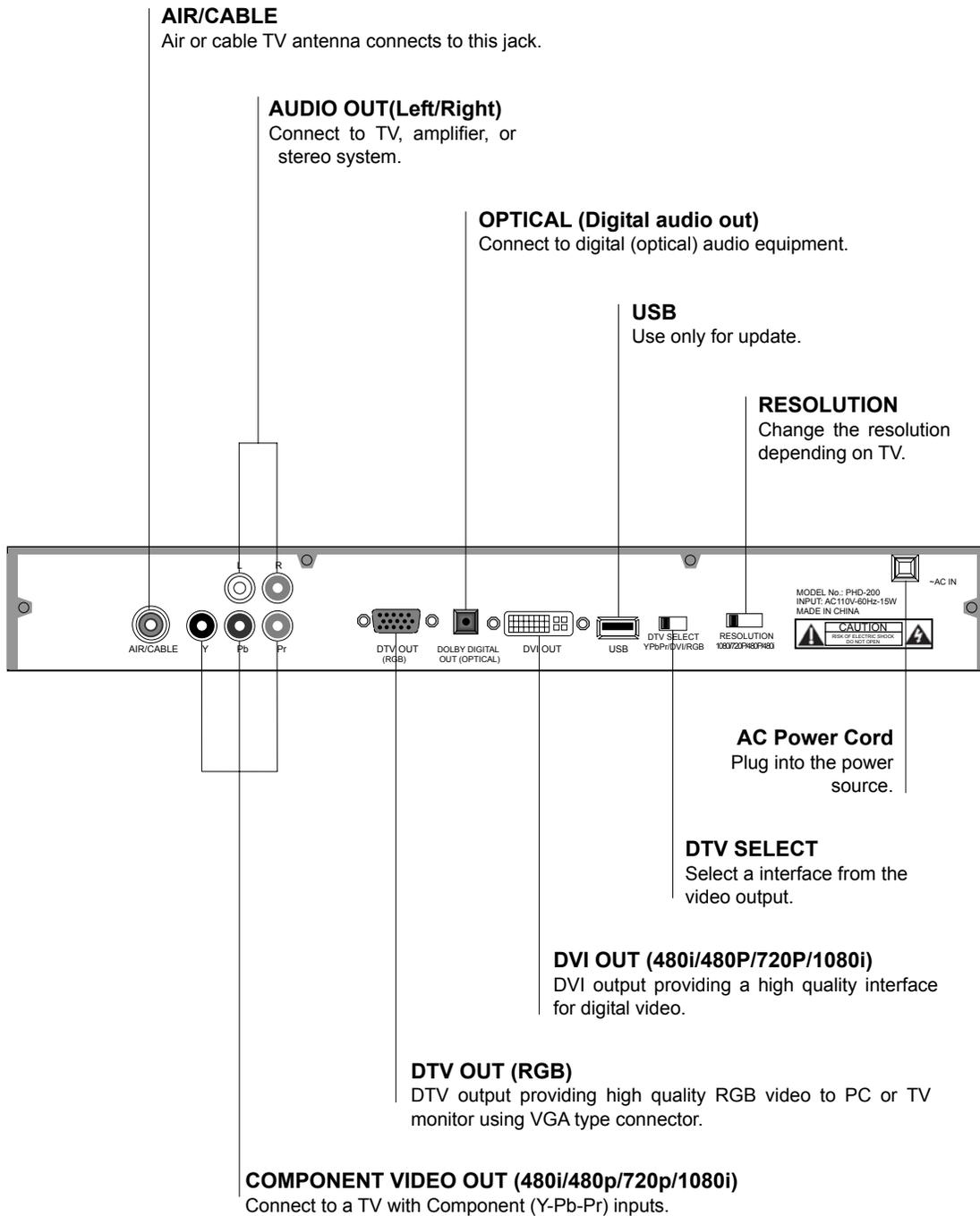
Make sure you have received all these items listed below with the PHD-200 Digital HDTV Tuner.



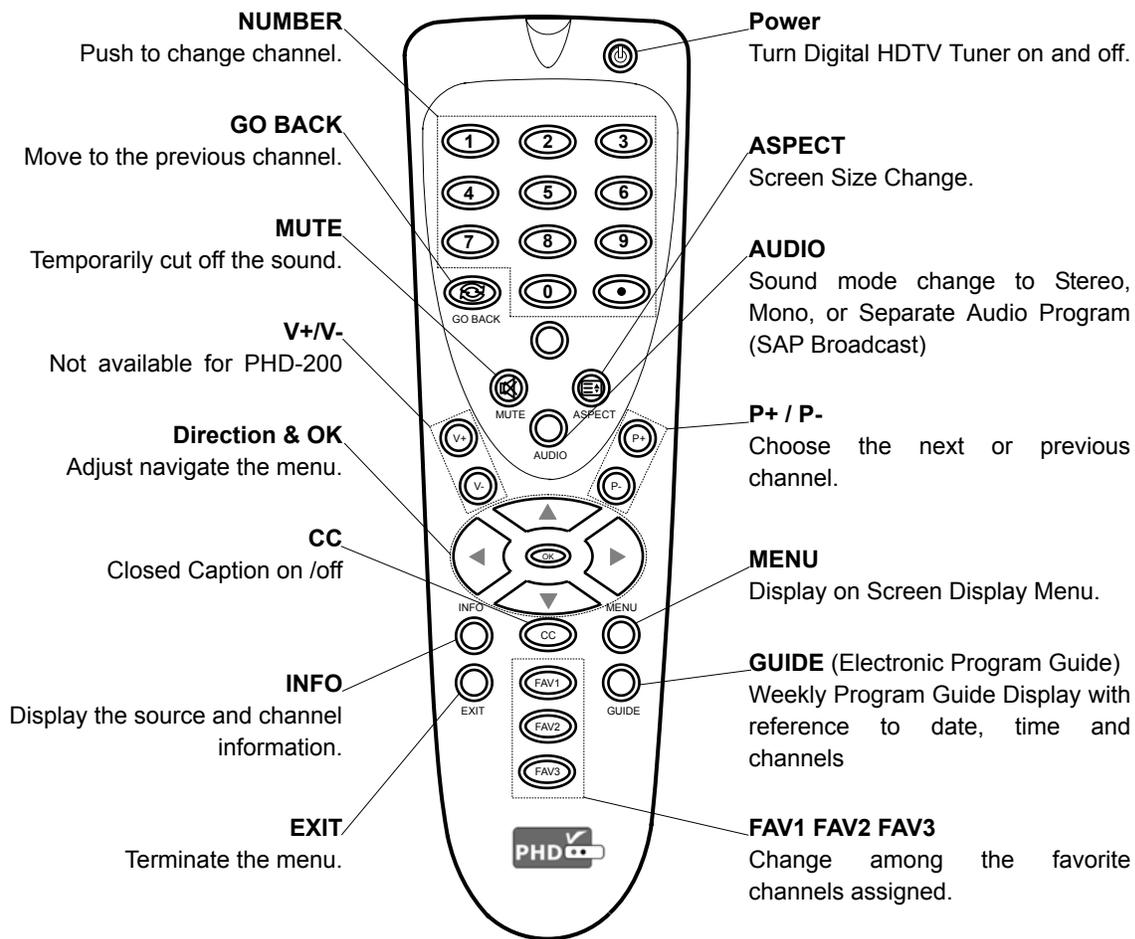
Front Panel



Rear Panel



Remote control



Remote Control Operation

Point the Remote Control at the remote sensor and press the buttons.



Do not mix old and new batteries and never mix different types of batteries such as standard, alkaline, etc.

Installing Batteries

Before the remote control can be used, the two Batteries (size AAA) need to be installed. First, unsnap the battery cover from the back of the remote control. Install each fresh battery, making sure that the \oplus and \ominus on each battery line up with the marks in the battery compartment. Next, snap the cove back onto the remote control.

Connections and Setup

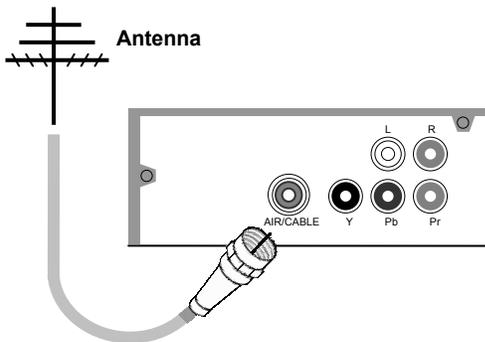
This chapter tells you everything you need to know start setting up and using your PHD-200 Digital HDTV Tuner. It includes information on Connections and Initial Settings.

Connections

This paragraph tells you connecting the PHD-200 Digital HDTV Tuner, and connects to TV, Display, the home theater and DVI to HDMI Connection.

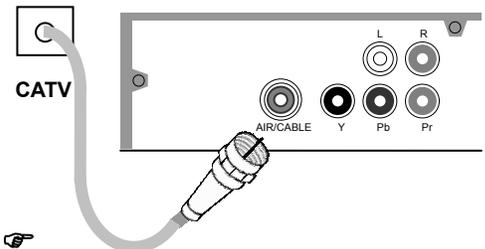
Connecting Air/Cable antenna

1. Connect an outdoor or indoor Antenna directly to this jack with a coaxial RF cable. This is to receive analog and digital TV signals from TV broadcasters.



DTV signal is 8VSB signal, which is RF modulation format utilized by ATSC.

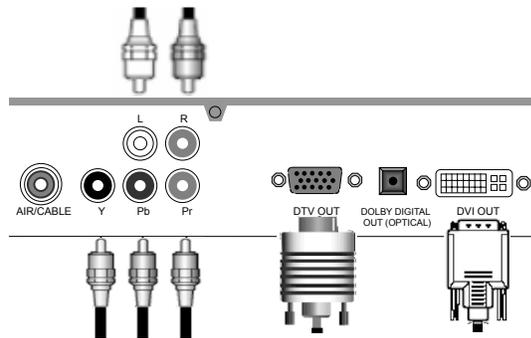
2. Connect to Cable signal source using a coaxial RF cable.



The PHD-200 Digital HDTV Tuner can receive analog cable signal as well as cable DTV signal in the event that a local cable provider is passing 8VSB through their system. This 8VSB signal can not be encrypted by Cable Company. And we call it **Clear QAM** signal from cable.

Connect to HD Ready TV or HDTV Monitor

HD Ready TV is a HDTV monitor, which can accept and display progressive video and higher resolutions video format on the screen. HD Digital Ready TV is typically including Plasma Display Panel (PDP) TV, Liquid Crystal Display (LCD) TV, DLP (Digital Light Processor) TV and High-end progressive Projection/CRT TV or Projector.



1. Connect antenna cable to AIR/CABLE jack of the Digital HDTV Tuner unit. Refer to previous section "Antenna /RF Connections".
2. Connect video component cable (Y-Pb-Pr cable) from DTV OUT (Component) jack of PHD-200 Digital HDTV Tuner to your HD ready TV component video connector inputs.
3. Or, you can connect RGB video from DTV OUT (RGB) jack to your HD ready TV or RGB video monitor (for ex. like PC monitor) from VGA connector.
4. If your HD ready TV equips the digital DVI input, you can connect DVI cable from DVI OUT jack to your HD ready TV.
5. If your HD ready TV equips the HDMI input, you can connect DVI to HDMI cable from DVI OUT jack of PHD-200 to your HD ready TV.
6. Connect an audio cable from L-AUDIO-R jacks to your HD ready TV L/R audio inputs.



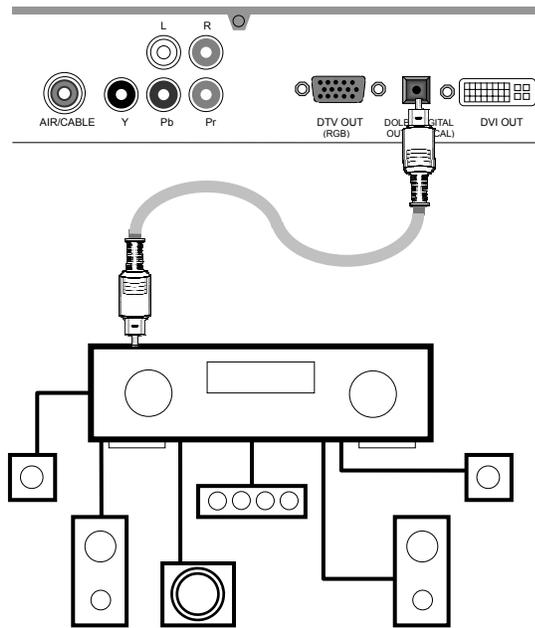
Set DTV OUT SELECT switch to proper position for correct video format output.

Connect to Home Theater.

The optical digital audio output provides the highest quality audio. You can connect it to your home theater.

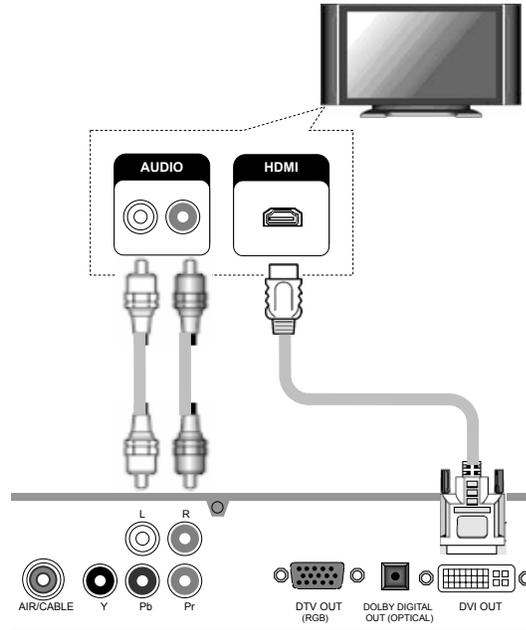
Connect an optical cable (not included) to the back of the PHD-200 Digital HDTV Tuner using the connector marked DOLBY DIGITAL OUT. Connect the other end of this cable to the optical input on the back of your Home Theater.

Check the Owner's Guide for the Home Theater for proper set-up and operation.



DVI to HDMI Connection

This is applicable if there only HDMI input exists on your HD Ready TV. In this case DVI to HDMI Cable can be used to connect each other. But DVI does not deliver sound signal. Additional sound connection should be done.



Initial Settings

After you finish connecting your PHD-200 Digital HDTV Tuner, you need to run initial setup, which automatically sets up available channels. The initial setup appears when you turn on your Digital HDTV Tuner for the first time. If you do not want to set up the channels at this time, you can do it later by selecting the CHANNEL of the MENU (see page 19).

1. Plug the Power Cable into AC In on the back of the TV
2. Press **Power** button on the Remote Control or Front Panel of PHD-200.
3. Press the **▼** or **▲** button to select language, then press **OK** button.



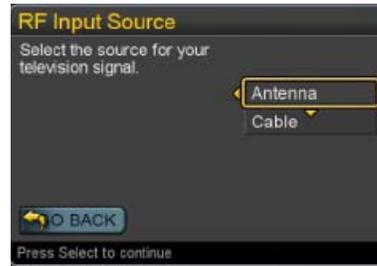
4. Press the **▼** or **▲** button to select Time Zone, then press **OK** button.



5. Press the **▼** or **▲** button to select Daylight Saving, then press **OK** button.



6. Press the **▼** or **▲** button to select television signal, then press **OK** button



- In Cable mode, you can select the correct signal source among “Cable STD”, “Cable IRC”, and “Cable HRC” by pressing the **▼** or **▲** button, then press **OK** button.
- Contact your local cable company to identify the type of cable system that exists in your particular area.

7. Press the **OK** button to finish the Channel scan.



8. Change Channel by pushing **CH+ / CH-** button or number keys on the Remote Control.



- The channel number is shown up in the top-left corner of the screen.
- Check the Antenna and Power Cable Connection if there is no display.

Operation

This chapter covers all of the things you can do with the Guides and other features that let you control the way you use PHD-200 Digital HDTV Tuner. It includes watching TV and using menu.

Watching TV

This paragraph explains simple operations for watching a TV program. It includes:

- Turning on or off the PHD-200 Digital HDTV Tuner
- Changing the channels
- Displaying the channel information
- Using the MUTE
- Seeing the Closed Caption
- Displaying the GUIDE (EPG)
- Audio Preference

Turning on or off the Digital HDTV Tuner

Preparation

Perform the following steps before you turning on the PHD-200 Digital HDTV Tuner.

1. Insert the batteries into the remote control unit. (See page 10.)
2. Connect the antenna/cable signal to the PHD-200 Digital HDTV Tuner. (See page 11.)
3. Plug in the AC cord to the AC outlet.

Turning on the power

1. Press the **POWER** switch on the front panel.
2. Press the **STANDBY** button on the front panel or press the **POWER** button on the remote control.



Power indicator

ON	Lighting(Green)
OFF/Standby	Lighting(Red)

Turning off the power

1. Press the **STANDBY** button on the front panel or **POWER** on the remote control.
2. If you are not going to use this PHD-200 Digital HDTV Tuner for a long period of time, you can press the **POWER** switch on the front panel to switch off power.

Changing the channels

You can change channels in several ways.

Method 1

Press **P+/P-** button on the remote control or **CH+/CH-** button on the front panel to change the channels.



! The channel number and name are displaying on the screen

Method 2

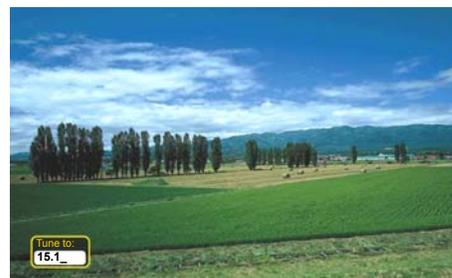
Using remote control buttons **0-9**, and **•** (DOT) to select a channel program.

e.g., channel 8:

Press **8** → **OK**

e.g., channel 15.1:

Press **1** → **5** → **•** → **1** → **OK**



Method 3

1. Press **GO BACK** to switch to the previously tuned channel.
2. Press **GO BACK** again to switch back to the currently tuned channel.



GO BACK will not work if no channel has been changed after the PHD-200 is turned on.

Displaying the channel information

1. Press **INFO** button on the remote control to display the current channel information on the screen. Channel information includes
 - Date and clock;
 - Channel number;
 - Channel label (if preset)
 - Broadcast program name
 - Program name



2. Press **INFO** again to clear the display.

Using MUTE

Mutes the current sound output.

1. Press **MUTE** button on the remote control.
2. "MUTE" will be displayed on the screen, and sound is silenced.



3. Press **MUTE** button again, and sound is output.

Seeing the Closed Caption

Closed Caption feature is to display On Screen Text Messages during watching TV. You can select on, or off.

1. Press **CC** button on the remote control.
2. Press **▲/▼** button to highlight the item from "On", or "Off".
3. Press **OK** to select an option.
4. Then Closed Caption is display or closed.



On

Captioning information always appears, when available.

Off

No captioning information displayed.

Displaying the GUIDE

Show program information for the current channel.

1. Press **GUIDE** button on the remote control once, the information will appear.
 - Date and clock;
 - Channel number;
 - Channel label (if preset)
 - Broadcast program name
 - Program name



2. Press **GUIDE** button again, more information will appear.
 - Signal strength;
 - Signal format;
 - Audio format;
 - V-CHIP mark
 - Closed Caption mark



3. Press **GUIDE** again to clear the display.

Audio Preference

In analog channel

The Digital HDTV Tuner has feature that allows reception of sound other than the audio for the program. This feature is called Multi-channel Television Sound (MTS). The TV with MTS can receive mono sound, stereo sound and Secondary Audio Programs (SAP). The SAP feature allows a TV station to broadcast other information, which could be audio in another language or something completely different like weather information.

Stereo/Mono

You can select between 'Stereo' and 'Mono' when the Stereo broadcasting is received.

-Stereo: Two speakers are used for 2 tracks

-Mono: Two speakers out both channel has the same signal (the identical sound)

SAP (Separate Audio Program)

You can select the SAP mode which is 'Main sound' or "Main + Sub sound" when the SAP broadcasting, which is usually a foreign translation, is received.

-Main sound: Listen to main sound or language.

-Sub sound: Listen to secondary sound or language instead of the main.

In digital channel

The digital-TV transmission system is capable of simultaneous transmission of many audio tracks (for example, simultaneous translations of the program into foreign languages). The availability of these additional "multi-tracks" depends upon the program.

Method

1. You can select the audio preference by pressing **AUDIO** button on the remote control.
2. Press **▲/▼** button to highlight the item.



- Select an audio preference or turn on SAP in analog channels.
- Select a language from English, French and Spanish in digital channels.



Analog channels



digital channels

3. Press **OK** to select an option.

Using the MENU

MENU provides one button access for controlling your PHD-200 Digital HDTV Tuner. It enables you to perform a variety of tasks intuitively with a control panel on the screen rather than a variety of remote control button presses.

1. Press **MENU** on the remote or front panel. MENU control panel appears.
2. Press **▲/▼** to highlight the item.
3. Press **OK** or **▶** into an option.
4. Press **MENU** or **EXIT** to exit.

Menus items

Set up	
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Set up



This item can adjust menu's language, picture's aspect ratio, and system information.

1. Highlight "Set up" on the MENU control panel and press **OK** or **▶**.
2. Press **▲/▼** to highlight the item: Language, Aspect Ratio, system Information.
3. Press **OK** or **▶** to select an option.
4. Press **EXIT** to exit.

Language

You can select the language of the menu from English, French and Spanish.

Aspect Ratio

You can select an aspect ratio of the "Normal", "Direct", "Zoom", "Stretch", and "Stretch Edges".

You can press **ASPECT** button on the remote control to select the aspect ratio.



The picture size mode see page 6.

System Information

Display important system information.

The information is including:

- Chipset
- Demod
- Version

Audio



1. Highlight "Audio" on the MENU control panel and press **OK** or **▶**.
2. Press **OK** or **▶** into "Digital Audio".
3. Press **EXIT** to exit.

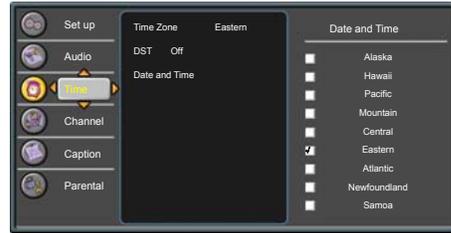
Digital Audio

You can output digital audio to home theater or similar device whose DIGITAL AUDIO INPUT terminal is connected to the DOLBY DIGITAL OUT (OPTICAL) terminal on the Digital HDTV Tuner. Please select an audio of the program you are watching and the equipment connected.

You can change the optical output to Dolby Digital or PCM.

Item	Description
PCM	The coaxial digital audio output terminal outputs audio signal in PCM form. If your digital audio system does not support Dolby Digital, select "PCM"
Dolby Digital	The optical digital audio output terminal outputs audio signal in Dolby Digital form. It reproduces sound from surround program of digital.

Time



1. Highlight "Time" on the MENU control panel and press **OK** or **▶**.
2. Press **▲/▼** to highlight the item: Time Zone, Date and Time, Sleep Timer.
3. Press **OK** or **▶** to select an option.
4. Press **EXIT** to exit.

Time Zone

You can select a time zone from Alaska/ Hawaii/ Pacific/ Mountain/ Central/ Eastern/ Atlantic/ Newfoundland/ Samoa.



- Time zone is selected before you setting up system date and time.

Date and Time

You can adjust the system date and time, daylight saving time, and auto-update time.

The default is Auto-Update Time.



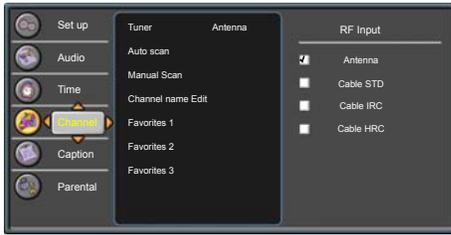
- After a power failure or disconnection of the power, the clock settings will be lost.
- If you selecting Auto-update time, you should be not adjusting the date and time.

Sleep Timer

You can use the sleep timer to turn the PHD-200 Digital HDTV Tuner off.

You can also select a sleep time from 0 minutes / 15 minutes / 30 minutes / 60 minutes / 90 minutes / 120 minutes.

Channels



1. Highlight “Channels” on the MENU control panel and press **OK** or **▶**.
2. Press **▲/▼** to highlight the item: Tuner, Auto Scan, Manual Scan, Master List, Favorites1, Favorites2, Favorites3.
3. Press **OK** or **▶** to select an option.
4. Press **EXIT** to exit.

Tuner

This item is selecting an option of RF Input. “Antenna” is over-the-air (outdoor or indoor antenna). “STD”, “IRC”, and “HRC” are the cable signal types.



- If do not know the type of cable, contact your local cable company to identify the type of cable system that exists in your particular area.

Auto Scan

You selected a type of the RF Input, than you can select “Start Scan”.
PHD-200 Digital HDTV Tuner will scan analog channels at first. Secondly scan the digital channels. You can watch the TV as finish to scan.



- This step may take 10-15 minutes.
- All the current stored channels will be deleted or replaced with new channel information after doing ‘Start Scan’.

Manual Scan

Using this option, you can find a channel on a particular frequency.

You can use the number button (0-9) on the remote

control to find analog and digital channels.

Master List

Edit the master list of all your channels. You can add or remove some channels from the master list.



- When you press CH+/CH- button to watch TV, your TV will stop only on the channels you have programmed into the TV’s channels master list.
- Removed channels in the master list will select by pressing number button only.

Favorites

Edit the list of channels in your favorites. Favorite Channel Function is for the convenience of channel change among your frequent watching or favorite channels by separately memorizing them in FAV. You can mark to add the favorite channel in each FAV. You can use “name” item to rename the FAV name also.

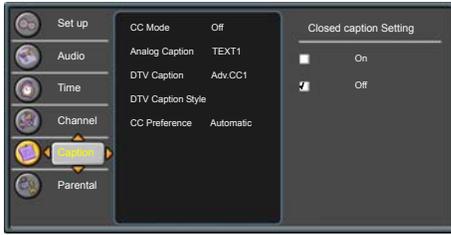
FAV name default	
FAV1	List
FAV2	Sports
FAV3	News

Using FAV1 FAV2 FAV3 button

You can use **FAV1** **FAV2** or **FAV3** button to add or remove the channels also.

1. Press **CH+/CH-** buttons to select the channel you would like to register.
2. Press **FAV1** **FAV2** or **FAV3** button on the remote control to register it as a favorite channel, select “Add” to register it.
3. In the favorite channel, you can press **FAV1** **FAV2** or **FAV3** button to remove it.
4. After you finish favorite channel registration, by each pressing of **FAV1** **FAV2** or **FAV3** button, you can change the channels between them.

Caption



Closed Caption feature is to display On Screen Text Messages during watching TV. This feature is available in both analog and digital broadcast. The PHD-200 Digital HDTV Tuner is equipped with an internal Closed Caption decoder. It allows you to view conversations, narration and sound effects as subtitles on your TV.

Digital Closed Caption service is a new caption service available only on digital TV programs (also at the discretion of the service provider). It is a more flexible system than the original Closed Caption system, because it allows a variety of caption sizes and font styles. When the Digital Closed Caption service is in use, it will be indicated by the appearance of a 3-letter abbreviation that also indicates the language of the Digital Closed Captions: ENG (English), SPA (French), FRA (French) or other language codes.



- Closed captioning is not available on all channels at all times. Only specific programs encoded with closed-captioning information are applicable.
1. Highlight "Caption" on the MENU control panel and press **OK** or **▶**.
 2. Press **▲/▼** to highlight the item: CC Mode, Analog Caption, DTV Caption, DTV Caption Style, CC Preference.
 3. Press **OK** or **▶** to select an option.
 4. Press **EXIT** to exit.

CC Mode

You can select the CC Mode from ON, OFF, and ON when mute.

You can also press CC button on the remote control. (See page 15)

Analog Caption

You can select an available in these options.

CC1: The Primary Synchronous Caption Service. These are captions in the primary language that must be in sync with the sound, preferably matched to a specific frame.

CC2: The Special Non-Synchronous Use Captions. This channel carries data that is intended to augment information carried in the program.

CC3: Secondary Synchronous Caption Service. Alternate program-related caption data, typically second language captions.

CC4: Special Non-Synchronous Use Captions. Similar to CC2.

Text1: First Text Service. This may be various non-program related data.

Text2: Second Text Service. Additional data, usually not program related.

Text3/Text4: Third Text Service. These data channels should be used only if Text1 and Text2 are not sufficient.

DTV Caption

You can select an available advance caption in DTV Caption.

This item include

- Advanced CC1
- Advanced CC2
- Advanced CC3
- Advanced CC4
- Advanced CC5
- Advanced CC6

DTV Caption Style

This will adjust advanced settings such as text style and size and etc.

It can be used into digital channel.

Text

Style	Typewriter/Storybook/ Computer/Modern/ Formal/ Cursive/Casual/ As Broadcast
Color	White/Red/Green/Blue/Black/Yellow/ Magenta/Cyan/ As Broadcast
Size	Small/ Standard Size/ Large/ As Broadcast
Opacity	Solid/ Translucent/ Transparent/ Flashing/ As Broadcast

Background

Color	White/Red/Green/Blue/Black/Yellow/ Magenta/Cyan/ As Broadcast
Opacity	Solid/ Translucent/ Transparent/ Flashing/ As Broadcast

Edge

Style	None/ Raised /Depressed/ Uniform/ Shadow left/ Shadow Right/ As Broadcast
Color	White/Red/Green/Blue/Black/Yellow/ Magenta/Cyan/ As Broadcast

*Factory default: As Broadcast

CC Preference

Choose whether to use “basic”, “advanced” or “Automatic” closed caption setting for digital TV channels. (Advanced closed caption is the priority)

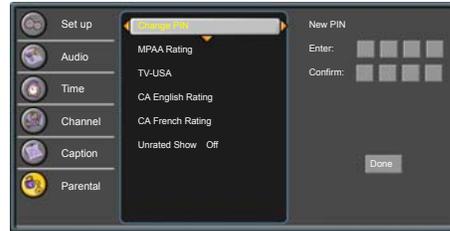


When an Analog signal is received, you can choose CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3, TEXT4 and OFF.

When a Digital signal is received, you can choose from Adv.CC1, Adv.CC2, Adv.CC3, Adv.CC4, Adv.CC5, Adv.CC6, CC1, C2, C3, C4, TEXT1, TEXT2, TEXT3, TEXT4, and OFF.

Depending on the broadcast signal, some Analog Captions will function with a Digital broadcast signal.

Parental Control (V-Chip)



In this item, you can use Ratings locks (V-CHIP), Channel locks and change PIN after setting your password. When you first enter into this menu, setup your password.

1. Press **MENU** and “MENU” screen display.
2. Press **▲/▼** to select “Parental” item.
3. Press **OK** or **▶** into the New PIN item.
4. Select and enter PIN (4 digits) using the number buttons (0-9).
5. Enter same PIN (4 digits) again and access the Parental menu.
 - In screen, ★ appears instead of the number.
 - As a precautionary measure, make a note of your password (PIN) and keep it in a familiar place.
 - System default PIN number is 2273.
6. Press **▲/▼** to highlight the item: Change PIN, MPPA-Rating, TV-USA, CA English Rating, CA French Rating.
7. Press **OK** or **▶** to select an option.
8. Press **EXIT** to exit.

V-CHIP is an electronic filtering device built into this Digital HDTV Tuner. This tool gives parents a great degree of control over broadcasts accessed by their children. It allows parents to select programs judged suitable for child viewing while blocking ones judged not suitable. It does so automatically once you activate the V-CHIP feature in your equipment.



IMPORTANT

Two conditions must be met to enable the V-CHIP.

- Password (PIN) is registered.
- V-CHIP settings have been made.

Change PIN

You can change the lock PIN.

1. Enter New PIN.
2. Confirm New PIN.
3. Select “Done” to confirm it.
4. Than your New PIN is configured.

MPPA-Rating

Movie ratings are used for original movies rated by the Motion Picture Association of America (MPAA) as watched on cable TV and not edited for television. The V-CHIP can also be set to block MPAA-rated movies.

*Restriction Categories based on six aged base.

Voluntary movie rating system (MPPA)	
G	General Audience (No Restrictions).
PG	Parental guidance Suggested.
PG-13	Parental guidance for children under 13.
R	Restricted. Children under 17 should be accompanied by an adult
NC-17	17 years old and above.
X	Adults Only



- If you block G, other will automatically be blocked and similarly.
- If you unblock X, other will automatically be unblocked and similarly.

TV-USA

The TV Parental Guidelines work in conjunction with the V-CHIP to help parents screen out inappropriate television shows from their children.

*Restriction Categories based on six aged base.

Hierarchy of Age-based Ratings	
TV-Y	All Children
TV-Y7	7 years old and above
TV-G	General audience
TV-PG	Parental guidance
TV-14	14 years old and above
TV-MA	Mature audience only



- If you block TV-Y, TV-Y7 will automatically be blocked and similarly. And you block TV-G, TV-PG, TV-14 and TV-MA will be blocked.
- If you unblock TV-V7, TV-Y will automatically be unblocked and similarly. And you unblock TV-MA, TV-G, TV-PG and TV-14 will be unblocked.

Each Restriction Category has additional options.

sub-ratings	
ALL	All restriction
FV	Fantasy Violence
D	Sexually Suggestive Dialog
L	Adult Language
S	Sexual Situation
V	Violence

V-Chip will automatically block certain sub-categories that are more restrictive. For example, if you block "L" sub-rating in TV-PG, then the "L" sub ratings in TV-14 and TV-MA will automatically be blocked.

TV Parental Guidelines

	ALL	FV	D	L	S	V
TV-Y	<input checked="" type="checkbox"/>					
TV-Y7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
TV-G	<input checked="" type="checkbox"/>					
TV-PG	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TV-14	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TV-MA	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

: Content rating can be set

CA English Rating

Restriction Categories based on five aged base.

Hierarchy of Age-based Ratings	
G	General programming.
8 ans+	Not recommended for young children.
13 ans+	Not recommended for ages under 13.
16 ans+	Not recommended for ages under 16.
18 ans+	Programming restricted to adults.

CA French Rating

Restriction Categories based on six aged base.

Hierarchy of Age-based Ratings	
C	All Children.
C8+	Children 8 years and above.
G	General programming.
PG	Parental guidance
14+	14 years old and above.
18+	Adults programming.

Reference

Troubleshooting

No power

- Is the AC power cord plugged in?

No signal

- Check your antenna input or location.
- Check your cable input.
- Check your RF connection or set up.

No picture

- Make sure that the correct format is selected.
- Adjust the "RESOLUTION" switch on the rear panel to change formats.
- Make sure that the right component type is selected.
- If the PHD-200 Digital HDTV Tuner is connected to your monitor or TV via Y/Pb/Pr port on the back panel, the "DTV SELECT" switch must be flipped to the right. If the PHD-200 Digital HDTV Tuner is connected to your monitor or TV via DVI port on the back panel, the "DTV SELECT" switch must be flipped to the left.
- Make sure the Initial Setup process has been performed. Select the correct antenna type to Auto Scan Channels if you have not already done so.
- Check to make sure all the cables are installed correctly and that the proper source is selected on your TV.
- The digital TV signal strength may be low. Check the signal strength and adjust the off-air antenna.
- Make sure the broadcaster or service provider is supplying programming on the selected channel. Use the SIGNAL button to check for digital video signals.
- You may be trying to access a pay-per-view program. Follow the on-screen instructions to order the program.
- Due to copyright restrictions, you may not be able to view some high definition programs in the high-definition format.

Cannot receive high-definition channels

- Make sure there is a good signal strength on available off-air antenna

Normal picture but no sound

- Make sure the TV or Amp is not muted.
- Check that the Digital HDTV Tuner is connected properly

Picture is distorted.

- Make sure the proper format is selected.
- Make sure the proper aspect ratio is selected.
- Adjust the aspect ratio setting of your TV or monitor if available.

Video image does not fill the TV screen

- Check the Digital HDTV Tuner's Aspect Ratio setting, press the ASPECT button on the remote control, or check your TV's aspect ratio setting.
- Check with your service provider or local broadcaster to confirm if a full video image is broadcast.

Channels are missing

- If you changed the type of antenna, please select a correct tuner option in menu and Auto scan channel again.

The remote control is not responding

- Make sure the batteries are fresh and installed properly.
- Point the remote control unit at the remote control sensor.

The timer does not work

- After a power failure or disconnection of the power, the clock settings will be lost.

Closed captions are not displayed

- Depending on broadcast provider, different types of captioning may be available. According to your preferences, you will need to set your Caption settings for Analog and Digital modes.
- Check your CC mode and Closed Caption options.
- Try to change your advanced settings (for instance, Text and Background) and CC Preference (for instance, Automatic).

Specification

Section	Contents	Spec.
TV	Video System	NTSC-M, ATSC
	Video System (ATSC)	MPEG-2 MP@HL compliant video decoder Video Type: 480i, 480p, 720p, 1080i
	Sound System (ATSC)	Dolby Digital PCM
	Auto Channel Search (Analog / Digital) EPG	Supported (Electronic Program Guide) with ATSC PSIP(Program and Service Information Protocol)
	Closed Caption	EIA-608A/EIA-708B Supported
	V-Chip and MPAA	Parental Guide Rating Support
AUDIO	MTS	Mono / Stereo / SAP
GRAPHIC	Aspect ratio	Normal / Direct / Zoom / Stretch / Stretch Edges
OSD	Multi language OSD	English, Spanish, French
	Program list/edit	Supported
External connection	SPDIF (Optical)	Dolby Digital or PCM
	TV Antenna	Antenna In (75ohm Coaxial cable) (F-connector)
	Audio Line Out (RCA)	1 x RCA Stereo (L/R) Out
	Component output (RCA)	1 x Component Out (1080i, 720p, 480p, 480i)
	RGB (D-Sub) output	1 x D-Sub (15 Pin) Out (1080i, 720p, 480p)
	DVI-HDTV (DVI-D Single Link) output	1 x DVI Out(1080i, 720p, 480p, 480i)
	Service PORT	1 x USB v.2.0 Jack for Service (ATSC Module)
	TIMER	Sleep Timer:(0 / 15 / 30 / 60 / 90/ 120min)
	Screen saver	Supported
Power	Power supply	AC 120V, 60Hz
	consumption	15W
	standby mode	0.8W
products	Size (mm)	360(W) mm×50(H) mm×250(D) mm
	Size (inch)	14.17"(W)×1.96"(H)×9.84"(D)
	Net weight	2.5kg (5.5 lb)

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