



HD Set-Top Box

User Guide

HD Set-Top Box

Important Safety Instructions

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 a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Ensure that the power cord receptacle is accessible such that power can be easily disconnected if required.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT. APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

FCC Information

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 re-

Disconnection Device

Disconnect the main plug from the apparatus, if it's defective. And please call a repair man in your location. When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

These servicing instructions 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.



CAUTION
RISK OF ELECTRIC SHOCK
NO NOT OPEN



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

ception which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the user's authority to operate such equipment.

EXPLANATION OF GRAPHICAL SYMBOLS

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Thank You for choosing the High-Definition Set-Top Box (HD STB). You can now enjoy viewing Standard-Definition (SD) or High-Definition (HD) programming on an analog or digital television set. When connecting the Set-Top Box with an HDMI cable to your HDTV, you will be able to view HD programming with easy-to-use on-screen menus and navigation.

1 setup

Setup your HD STB by following the connection diagrams on page 6-8.

2 activate

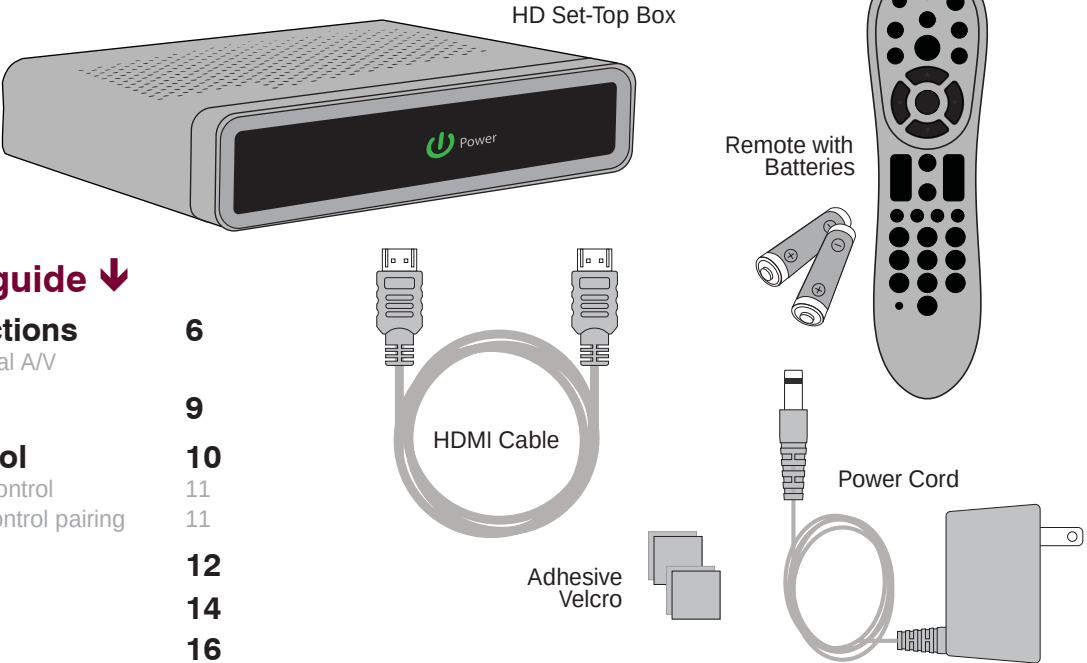
Activate your HD STB by calling your cable provider or going online (if available).

3 pair remote

Pair your remote with your HD STB and TV by following the directions on page 11.

Let's get started! ➔

In the box ↓



In the user guide ↓

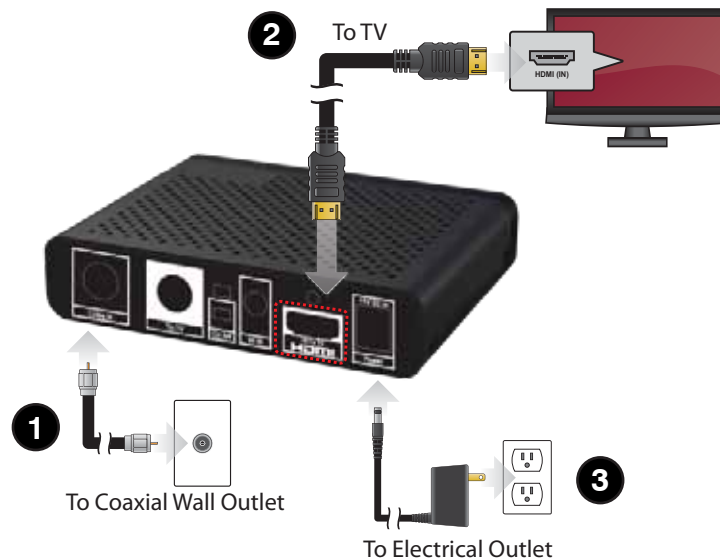
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HDTV or SD Coaxial A/V	
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HDMI Connection →

HDMI allows you to take full advantage of the HD Set-Top Box high-definition digital features.

1. Connect a coaxial cable to the cable wall outlet and the "CABLE IN" port on the HD Set-Top Box.
2. Connect the HDMI cable to the "HDMI" port on HD Set-Top Box and the "HDMI" port on your HDTV.
3. Connect the power cord to the electrical wall outlet and the "DC 5V IN" port on the HD Set-Top Box.

Note: HDMI cables carry audio and video to the TV.



SD Coaxial Audio/Video Connection →

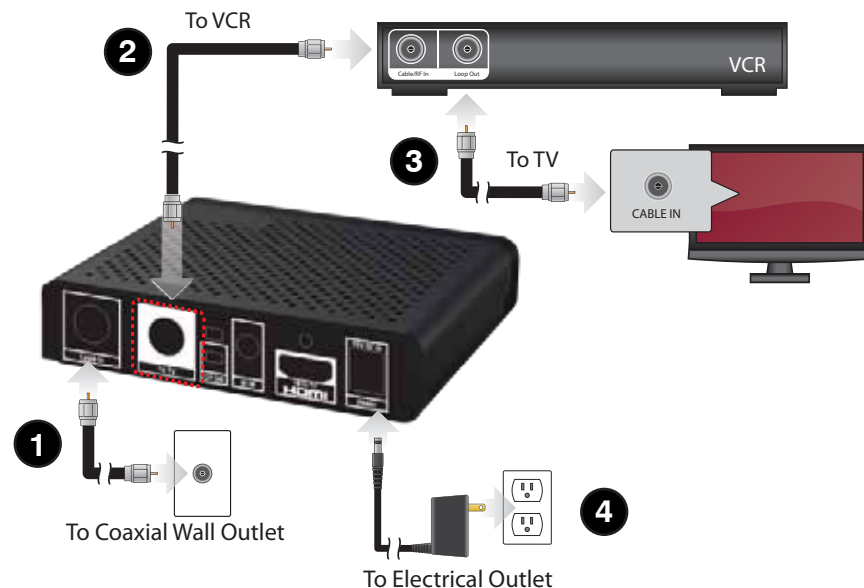
1. Connect a coaxial cable to the cable wall outlet and the "CABLE IN" port on the HD Set-Top Box.
2. Connect another coaxial cable to the "RF OUT" port on the HD Set-Top Box. Connect the other end to the input port on the TV.
3. Connect the power cord to the electrical wall outlet and the "DC 5V IN" port on the HD Set-Top Box.

Note: Make sure the channel 3/4 switch matches the channel on your TV. For example, if your cable box is set to "3", make sure your TV is on channel "3".



VCR/DVD Player Connection →

1. Connect a coax cable to the cable wall outlet and the "CABLE IN" port on the HD Set-Top Box.
2. Connect another coax cable to the "To TV" port on your HD Set-Top Box to the "Cable/RF In" port on your VCR/DVD Player.
3. Ensure coax cable is still connected from the output port on your VCR/DVD Player to the "Cable/RF In" port on your TV.
4. Connect the power cord to the electrical wall outlet and the "DC 5V IN" port on the HD Set-Top Box.



Note: Make sure the channel 3/4 switch matches the channel on your TV and VCR/DVD Player. For example, if your cable box is set to "3", make sure your TV and VCR/DVD Player is on channel "3".

Activate your HD Set-Top Box

Activation essentially "turns on" your digital box in your home and on your cable provider's network.

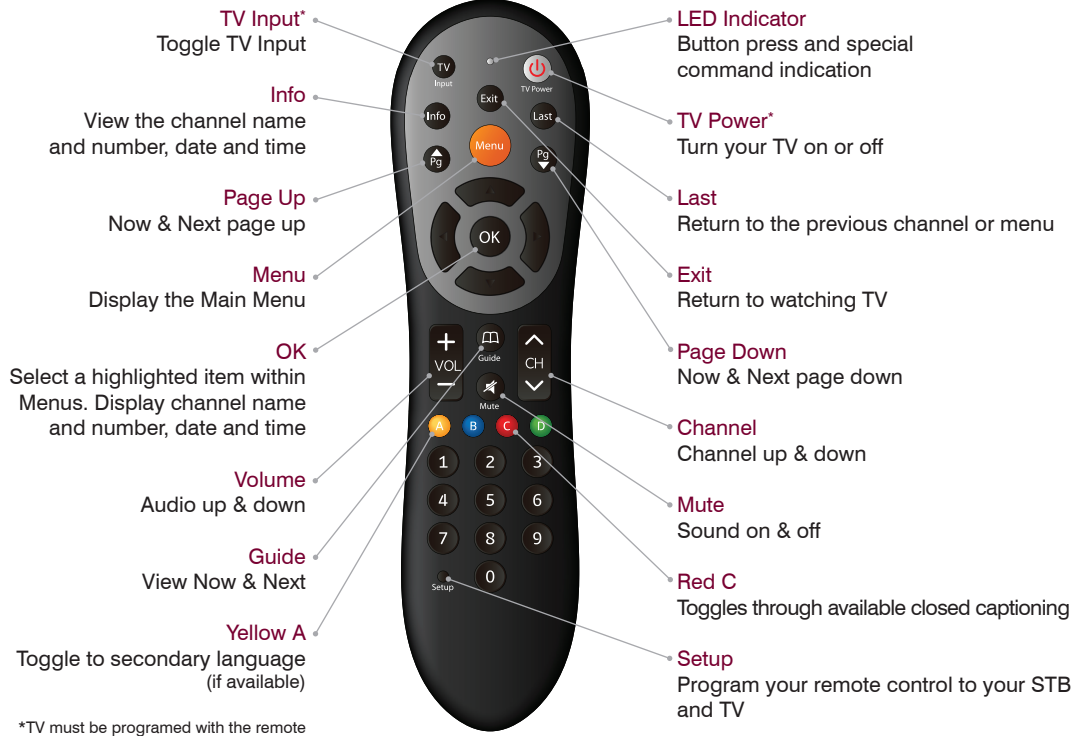
1. Complete the Cable Connection steps prior to activating.
2. Have the HD STB Serial Number available. This can be found on the bottom of the HD STB or on the side panel of the product packaging.
3. Have your cable provider customer account number accessible. This is typically found on your cable provider billing information.
4. Activate your HD STB by calling your cable provider directly.

Note: Installation and activation will not impact your current existing cable service.



NOTE

- When inserting batteries, make sure that the polarity (+/-) is correct.
- The LED on the top of the remote is a visual indicator that confirms the remote has power when a button is pressed.
- Your remote may vary slightly from the one pictured here. However, basic functions should remain the same.

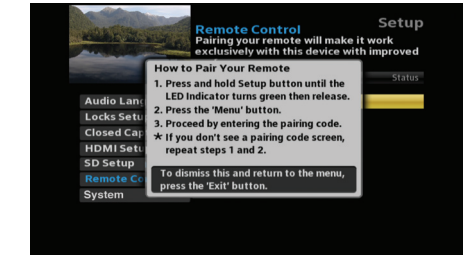


Installing your HD Set-Top Box out of sight (pair remote) ↓

Your remote control can be paired directly with your HD STB, allowing you to place the device out of sight (in an entertainment center or behind your TV, for example). Once your remote is paired to a specific HD STB, it will not control any other set-top box in your home.

Pair your remote control with your HD STB

1. Press the **Menu** button.
2. Select Remote Control and then select Remote Control Pairing.
3. Press and hold **Setup** button until the LED Indicator turns green.
4. Press the **Menu** button.
Please allow a few seconds for the menu to display
5. Proceed by entering the pairing code displayed in blue on the pairing code pop-up screen.



Note: If you don't see a pairing code screen, repeat steps 1 and 2.

To force remote control to send volume control commands to the TV

1. Press and hold **Setup** button until the LED Indicator turns green.
2. Press the **volume up** button

Note: Refer to the Remote Control Programming and Operating instructions, provided with your remote control, to program your remote to work on your TV and for more detailed information regarding pairing your remote.

To force remote control to send volume control commands to the HD STB

1. Press and hold **Setup** button until the LED Indicator turns green.
2. Press the **volume down** button

Remove remote control pairing

If you would like to use your remote control for a different set-top box, you must first un-pair the remote control from the current device. Follow the steps below to remove the pairing.

- 1 Press and hold the Setup button until the LED Indicator turns green.
- 2 Enter 9-8-7 on the remote control.
- 3 The LED Indicator will blink green twice.

Menu

Press the **Menu** button on your remote control to access the main menu. The menu will allow you to update your HD set-top box settings. Press the arrow buttons to navigate through the menu. Press **Exit** at anytime to return to watching live TV.

Audio Language →

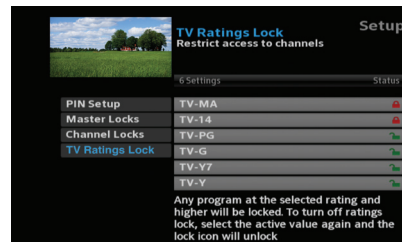
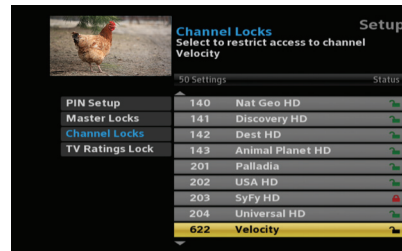
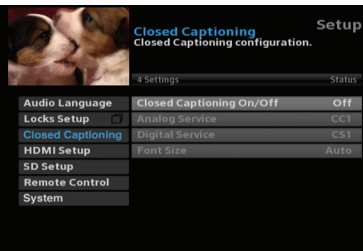
Select **Audio Language**, press the **OK** button on your remote. Scroll to select the desired Audio Language (if available).

Closed Captioning →

Select **Closed Captioning**, press **OK** to change status from **On/Off**. When Closed Captioning is turned On. The following options are available; Analog Service, Digital Service, Font Size. Scroll through the available settings using your arrow buttons. Ensure you select **Apply** to change the CC setting.

HDMI Setup →

Select **TV Aspect Ratio** and press the **OK** button. Select Auto (recommended), 4:3, or 16:9 and press the **OK** button to select, scroll to **Apply** and select. Select **TV Output Resolution** and press the **OK** button. Scroll to highlight Auto (recommended), 1080i, 720p, or 480p and press the **OK** button to select, scroll to **Apply** and select.



Locks Setup ←

The first time you enter Locks Setup, it will prompt you to Create Locks PIN. Enter your desired PIN and keep that in a safe place to refer to later. This PIN will be needed to Change PIN, Clear PIN and set Channel Locks.

Set Channel Locks ↩

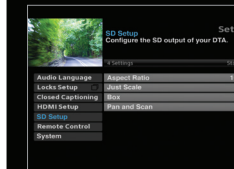
Select **Channel Locks**, a channel list will appear. Scroll up/down to highlight the channel you would like to lock. Press the **OK** button and you will see the unlock icon change to lock. This will indicate the channel has been locked and will require a PIN to be entered to view.

TV Ratings Lock ↩

Choose TV Ratings Lock to lock programs by their TV Rating. Use the **Arrow** (▲/▼) buttons to highlight the TV Ratings you want locked and select **OK** to lock/unlock the ratings. When you select a rating it will lock all programs with that rating and higher. For example if you lock TV-14 it will lock all programs with TV-14 as well as those with TV-MA.

NOTE: Not all programs will have a TV rating and any unrated programs will never be locked regardless of the TV Ratings Lock selected.

Using the RF output?



SD Setup

Use SD Setup to scale video to your TV.

Select **SD Setup** and press **OK**. The following options are available; Aspect Ratio, Just Scale, Box, and Pan and Scan.

FAQs

Why won't my HD Set-Top Box turn on?

- Double check that the power cord is connected to the HD Set-Top Box and the AC wall outlet.
- If the HD Set-Top Box is connected to another unit (such as a switched outlet or DVD player), verify that the unit is powered on.

Why do I have no sound when viewing cable channels?

- Verify that the MUTE button on remote control has not been pressed; try pressing the MUTE button to restore sound for both the HD Set-Top Box and television.
- Verify that the volume on the HD Set-Top Box is not turned down. Press the volume up on the Set-Top Box remote. Volume level will be displayed on the bottom of the screen.
- Double check your audio connections. Refer to the CABLE CONNECTIONS section on page 3 to verify the correct cables are being used for the audio ports. If they match the diagrams, make sure they are firmly connected to the ports on both the TV and HD Set-Top Box.

What should I do if there is no video or picture on the TV screen?

- Try another channel or enter your PIN code, this channel may be restricted from viewing.
- Verify that your TV is matching the setting on the HD Set-Top Box. For instance, if you've connected using the coaxial jumper cable, make sure you have the same channel selected on the TV and 3/4 switch on the back of the HD Set-Top Box. Refer to CABLE CONNECTIONS section on page 3 for more details.
- Double check all your cable connections, including verifying your coaxial cable is securely tightened onto both the cable wall outlet and the INPUT port of your HD Set-Top Box. Verify that all video cables between the HD Set-Top Box and the TV are firmly connected. Refer to the CABLE CONNECTION section on page 3 for more detailed information regarding the correct connections and alternative video cable options.
- If the HD Set-Top Box video output is connected to a home theater unit, verify that the home theater unit is

powered on and set to the appropriate input source. Refer to your home theater manual for more detailed instructions.

Why won't my HD Set-Top Box respond when I press a button on the remote control?

- Check the batteries for possible replacement. Refer to pages 5-6 for more detailed instruction on the remote control and batteries.
- Refer to page 6 for instructions to pair your remote control.

What if I forgot my PIN Code?

- Contact your cable provider and they will be able to reset them back to the default. That will allow you to enter a new PIN code. Refer to page 8 to learn how to change your PIN code.

How do I control what my child watches?

- You can restrict viewing of certain material on your TV in the Locks Setup menu. Refer to page 8 for instructions.

Is it necessary to get a new TV to watch HDTV?

- To view HD channels from your cable provider in their native resolution, a high-definition "capable" or "ready" television is required.
- You will also need to use a digital cable connection such as the HDMI cable to view HD channels. Refer to the CABLE CONNECTIONS section on page 3 for more information.

Specifications

GENERAL FEATURES

- MPEG-2 / MPEG-4 Part 10 / H.264
- Video Display format with NTSC/480p/576p/720p/1080i
- Favorite channel, Parental Lock
- Dolby Digital AC3
- HDMI 1.3a with HDCP 1.1
- Automatic search for newly added transponder (Network Auto Search)
- Stores up to 5000 channels
- Plug-and-play data transfer system (DSR to DSR)
- Timer function, automatically turns On/Off by setting function (daily, weekly, monthly and one time)
- Automatic reserved channel moving system
- Provide Electronic Program Guide (EPG)
- More than 800 pages OSD Teletext (DVB ETS 300 706) and Subtitle function support
- Support for various video output : HDMI, RF 3/4 Mod.
- 256 colors On-Screen-Display
- PAL/NTSC automatically conversion
- Last channel automatically saving

ENGINEERING SPECIFICATION

1. Front-End

1-1. Tuner Input

- Input frequency : 105 to 1002 MHz
- Connector : F-Type (1 Input)

1-2. Demodulator

- Demodulation type :demodulation and FEC decoding in accordance with ITU-T J.83 Annex-A/B/C
- Demodulation - 64/256-QAM
- Symbol rate : 5.5Msps max
- IF Bandwidth : 6,7,8 MHz

2. Demultiplexing

- In accordance with ISO 13818-1.
- Maximum input band transport stream rate supported is 100 Mbps.
- Maximum combined transport stream burst rate can be greater than 262Mbps based on usage.
- Maximum combined transport stream average rate after PID filtering is 262Mbps.
- Supports 256 PID filters via 128 PID channels.

3. Video Processing

- Decompression
 - H.264/AVC main and high profile to level 4.1
 - VC-1 advanced profile @ level 3
 - VC-1 simple and main profile
 - HD MPEG-2 and SD MPEG-2
 - AVC/MPEG-2/VC-1 still picture decode simultaneous with live decode
- Video buffer
 - 512 Mbits of DDR DRAM is provided
- Video output
 - 480i/480p/576i/576p/720p/1080i/1080p (24/30 Hz) output formats
 - Macrovision 7.1 Support
- Video format
 - 4:3, 16:9

4. Audio Processing

- Decompression
 - MPEG I Layer 1, 2 / MPEG I Layer 3 (MP3)
 - AAC LC, AAC LC + SBR Level 2, AAC + Level 2, AAC + Level 4
 - Dolby Digital, Dolby Digital Plus
- Outputs
 - Windows Media Audio (WMA)
 - Stereo Channel
 - Dual Mono
 - Joint Stereo Channel
 - Mono
 - Spdif with AC-3

5. Baseband Inputs / Outputs

- RF Output Signal
 - NTSC
- Video Carrier Frequency
 - 61.25 ± 90 KHz US 3 CH
 - 67.25 ± 90 KHz US 4 CH
 - IEC169-24, 1 x F-Type

6. HDMI Outputs

- Connector type
 - 1 x HDMI 1.3a
 - 19 pin Type-A HDMI connect

7. Microprocessor

- Microprocessor
 - BCM7572QKFEB03G
- Clock frequency
 - 432MHz
- DDR-RAM Memory
 - 128Mbyte (DDR2-RAM 1G x 1)
- Flash memory
 - 16Mbyte(Serial Flash)

8. Remote Control unit

- Transmission Type
 - Infrared
- Number of keys
 - 21 Keys
- Operating distance
 - 15 m
- Batterys
 - AA

MEMO

9. Power Supply

Type	- Wallmount Type External Adapter (100 V ~ 120 V AC @ 50 Hz/60 Hz, 0.18 A)
Main Output voltage	- 5V DC / 1.5A
Nominal power consumption	- 5Watts

10. Physical Characteristics

10-1. Front Panel

Display	- 2 color LED
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10-2. Rear Panel

Connectors	- 1 RF Input (F-type) - 1 x CH 3/4(Slide Switch) - 1 x RF Modulator (1 F-type) - 1 x IR Input(3.5mm) - 1 x HDMI - 1 x DC Power Jack
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The information should preferably be on the exterior of the apparatus, excluding the bottom. It is, however, permissible to have it in an area that is easily ACCESSIBLE BY HAND, for example under a lid, or on the exterior of the bottom of a PORTABLE APPARATUS or an apparatus with a mass not exceeding 7kg, provided that the location of the marking is given in the instructions for use.