



USER'S GUIDE

INNOVATION





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1. General Information

Fortec Star's Innovation High Definition Satellite Receiver allows you to view a variety of programs provided via satellite. The Set-top-box (STB) is fully compliant with MPEG2 and MPEG4 H.264, based on DVB S and DVBS2 transmission standards for in-home reception of digital satellite services including High Definition digital television. This manual describes how to setup and operate your Fortec Star STB. Only qualified personnel should handle any problems beyond the scope of this manual.

2. Main Features

- Fully compliant with DVB S2 and DVB S
- MPEG-2 VIDEO (MP@ML)
- MPEG4 H.264
- HDMI Supported
- High definition and Standard definition compliant
- Multiple output resolution modes: 1080i,720p,576p,480p,576i,480i
- Software Upgrade through USB
- USB2.0 B Host Connection
- SCPC & MCPC from C/Ku-band satellite
- Channel Memory: 10,000 (TV: 7000 CH, RADIO: 3,000CH)
- DiSEqC 1.0 & 1.2, USALS control technology
- Teletext and Subtitle supported through VBI & OSD
- Last 5 channels recall function
- Variable aspect ratio (4:3,16:9)
- 7 Favorite Lists & Parental Lock function
- MultiFeed function
- Conax7 and X-Crypt CAS Embedded
- Multi-Language OSD
- Electronic Program Guide (EPG)
- 16 bit True-color graphic menu
- MOSAIC function
- Zoom(x2,x4,x8,x16) function
- Sleep timer function
- 10 event timer
- Sat / Channel find function
- Utility function
- 10 digit VFD (Vacuum Fluorescent Display)
- Power Switch on Front panel
- Power Search
- 2 USB Connector (Selectable from front or rear connector)
- PVR Ready via external mass storage(USB Memory, HDD)

3. For Your Protection

WARNING

To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture. Do not open the cabinet; dangerous high voltage is present. Refer servicing to qualified personnel only. Please note that the STB will be isolated completely from the main power supply only after setting the mechanical power switch to OFF on the front panel of the STB.



FCC WARNING

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. 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, the user is 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a dealer or an experienced radio/TV technician for help.

To meet FCC requirements, shielded cables are required to connect the device to a personal computer or other Class B certified device.

CAUTION

To prevent fire, shock hazard, or annoying interference, use only the recommended accessories. To prevent electric shock, do not use the plug with an extension cord, receptacle, or other outlet unless the blades/pins can be fully inserted to prevent blade/pin exposure.

To reduce the risk of electric shock, do not remove the unit cover or back.

There are no serviceable parts inside. Refer servicing to qualified personnel only.

CLOSED CAPTIONING

This television receiver provides display of television closed captioning in accordance with Part 15.119 of the FCC rules.

CAUTION

TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THE SET TO RAIN OR MOISTURE OR EQUIVALENT.

THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS OR EQUIVALENT.

THE SOCKET-OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment, and invalids the manufacturer warranty.



This symbol is intended to alert the user to the presence of non-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute risk of fire or electric shock.



This symbol is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying this product.



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IMPORTANT SAFETY INFORMATION

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 USED ON NORTH AMERICAN MODELS.** 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. If 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.
11. **ONLY USE 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.



**Portable Cart
Warning**

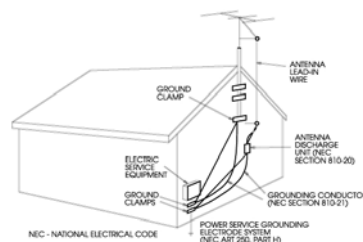
Symbol provided by RETAC



IMPORTANT SAFETY INFORMATION

POWER SOURCES - This unit should be operated 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.

OUTDOOR ANTENNA GROUNDING - If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure.



POWER LINES - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

OVERLOADING - Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

OBJECTS AND LIQUIDS - Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquids of any kind onto the unit. Should spillage occur, unplug the unit and have it checked by a technician before use.

SERVICING - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

REPLACEMENT PARTS - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or those having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY CHECK - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in safe operating order.

PRECAUTIONS

- PLEASE READ THIS MANUAL CAREFULLY BEFORE USING THE RECEIVER.
- DO NOT OPERATE THE RECEIVER IN AN UNSTABLE CONDITION SUCH AS HIGH HUMIDITY, HEATING, AND MOISTURE.
- STOP THE OPERATION IMMEDIATELY IF ANY LIQUID OR SOLID OBJECT SHOULD FALL INTO THE RECEIVER.
- DO NOT TOUCH OR OPERATE THE RECEIVER WITH WET HANDS.
- OPERATE THE RECEIVER ONLY WITH PROPER POWER SOURCE MARKED ON THE RECEIVER.
- UNPLUG THE RECEIVER POWER CORD BY GRIPPING THE POWER PLUG, NOT THE CORD.
- DO NOT OPEN THE RECEIVER COVER AND TRY FIX IT BY YOURSELF. ONLY QUALIFIED SERVICE PERSONNEL ARE ALLOWED TO MAKE REPAIRS.
- PLEASE UNPLUG THE POWER CABLE IF IT IS UNUSED FOR A LONG TIME OR DURING THE BAD WETHER SUCH AS LIGHTNING AND THUNDER STROM.



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- DO NOT STACK ANY HEAVY ITEMS ON THE RECEIVER.
- DO NOT CONNECT OR MODIFY CABLES WHEN THE RECEIVER IS PLUGGED IN.

PRECAUTIONS

This Set Top Box (STB) has been manufactured to meet international safety standards, including those set by the FCC and Underwriters Laboratories (cUL). Please read the following safety precautions carefully before handling the STB.

POWER REQUIRED	North American models - Use only 100 -120V AC 60Hz. Europe / Middle East models - Use 90 - 240V AC 50 / 60Hz
CABLE	Use standard certified cables to prevent any malfunction of the STB.
LOCATION	Locate the STB indoors. Locate STB away from potential hazards such as excessive moisture. STB should not be subjected to direct sunlight, excessive heat or power surges.
CLEANING	1. Always disconnect the STB power cord from the wall socket before cleaning it. 2. Use a lightly dampened cloth to clean the exterior of the STB. (Use no solvents.)
OVERLOADING	Do not overload wall outlets, extension cords or adapters. This can cause a fire or electrical shock.
VENTILATION	1. NEVER block ventilation slots of the receiver. 2. NEVER stand the STB on soft furnishings or carpets. 3. Ensure that a free airflow is maintained around the STB. 4. Do not use or store the STB where it is exposed to direct sunlight or near a heater. 5. NEVER stack other electronic equipment on top of the STB.
LIQUIDS	Keep liquids away from the STB.
SMALL OBJECTS	Coins or other small objects must be kept away from the STB. They can fall through ventilation slots of the STB and cause serious damage.
ATTACHMENTS	Do not use any attachments that are not recommended. These may cause hazards or damage the equipment.
LIGHTNING	The STB must remain connected at all times to the main power supply. However, Manufacturer's instructions for safeguarding other equipment connected to the STB, TV set, etc., should be followed during lightning storms.
SERVICING	1. Do not attempt to service this product yourself. 2. Refer all servicing to qualified service representatives.



4. ACCESSORIES

Please check if the following accessories are enclosed:

- Operating User Manual
- Remote Control Unit
- Batteries (AAA Type), quantity: 2.
- Power Cord
- HDMI cable

Note: If any of the accessories listed above are missing, please contact the local sales outlet where this product was initially purchased.

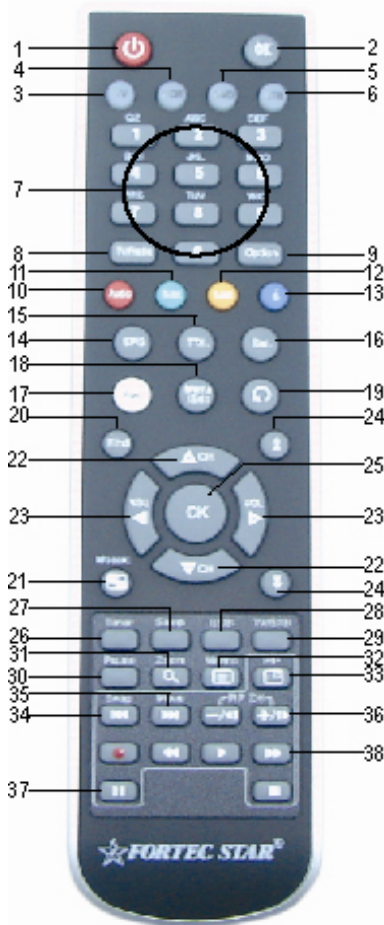


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5. UNIVERSAL REMOTE CONTROL FUNCTIONS











1. Open the battery cover on the rear of the remote control.
2. Insert the two AAA batteries and ensure that the polarities (+ and -) are aligned correctly.
3. Replace the battery cover to the original position.
4. Replace the batteries simultaneously.
5. Dispose batteries based on the local environmental regulations.
6. All features in the receiver can be controlled with the following instructions.

Remote Control Unit Button Functions:



1. **Power button:** Turns the receiver ON or to the Stand-By mode.
2. **Mute (■):** Switches sound ON/OFF.
3. **TV:** For operating the TV. (This button must be programmed.)
4. **VCR:** For operating the VCR. (This button must be programmed.)
5. **DVD:** For operating the DVD player. (This button must be programmed.)
6. **STB:** For operating this Set-Top Box.
7. **Numeric Buttons (0~9):** Enters the channel number or values in the setup menu directly.
8. **TV/Radio:** Switches between TV and Radio mode.
9. **Option Key :** Display the multifeed in live mode.
10. **Audio:** Changes the audio mode for selecting a language and the audio output mode, such as mono (L), Left mono(R) and Stereo.
11. **Subt.:** Displays DVB subtitles (On / Off).
12. **Last:** Shows last 5 viewed TV or Radio channels.
13. **Info (■):** Displays information about the channel and program.
14. **EPG:** Displays the TV / Radio program guide.
15. **TTX:** Displays Teletext by OSD.
16. **Sat.:** Selects the satellite.
17. **Fav.:** Displays the favorite channel list.
18. **Menu/Exit:** Displays the main menu on the screen and returns to viewing the TV (Exit All).
19. **Back (■):** Returns to previous status, one step back.
20. **Find:** Quick search for finding a channel.
21. **Mosaic (■):** Shows Multi-screen.
22. **Up/Down:** Moves the cursor up/down in the menus, or changes channel to next or previous in viewing mode.
23. **Left/Right:** Move the cursor left / right in the menus, or change the volume level in viewing mode.
24. **Page Up/Down (▲ / ▼):** Turns to the next or previous channel list.
25. **OK:** Confirms a selection or displays the channel list while viewing a channel.
26. **Timer:** Enters the timer menu.
27. **Sleep:** Select the automatic turn off time.
28. **USB:** Displays the external memory manager.
29. **TV/STB:** Switches between TV and Satellite mode.
30. **Pause:** Pauses the current live picture.
31. **Zoom (■):** Zooms in on the current channel. The zooming scale changes each time the button is pressed. (x2→x4→x8→x16→normal.)
32. **Memo:** Creates an event list or memorizes the selected day in the calendar. (Application as running change)
33. **PIP (■):** Picture-in-Picture - Displays two channels on the screen simultaneously (channels must be from the same transponder.) (Application as running change)



- 34. **Swap** (): Switches between the main picture and sub picture in PIP mode
Rewind jump function at HDD play.
(Application as running change),
- 35. **Move** (): Moves the location of the sub picture in PIP mode.
Forwarder jump function at HDD play.
(Application as running change),
- 36. **PIP CH** ( / ): Changes the channel in the sub picture window in PIP mode.
Slow function at HDD play.
(Application as running change)
- 37. **TimeShift** (): Start Timeshift and pause the picture.
- 38. **REC** (): Start recording
- 39. **FR** (): Fast rewind. Toggle speeds. (x1, x2, x4, x8)
- 40. **PLAY** (): Start playback
- 41. **FF** (): Fast forward. Toggle speeds. (x2, x4, x8)
- 42. **STOP** (): Stop playback or recording.

How to program the Universal Remote Control

1. Manual Setting:

1. Turn on the device (TV/VCR/DVD).
2. Press OK button and the device button (TV/VCR/DVD) simultaneously for more than 2 seconds.
3. Press the 3 digit code for your device brand.
4. If there is more than one code for your brand, please check all possible codes until the device turns off.
5. If the device turns off, it should be programmed.
6. Press the device button again to turn on the device.
7. Check the Universal Remote Control to ensure that it is operating the device.

2. Auto Setting:

1. Turn on the device (TV/VCR/DVD).
2. Press the OK button and the device button (TV/VCR/DVD) for more than 2 second
3. Press CH + button and keep it pressed until the device is turned off.
4. If the device is turned off, please press the device button.
5. Check the Universal Remote Control in operation and check if all other buttons are working.

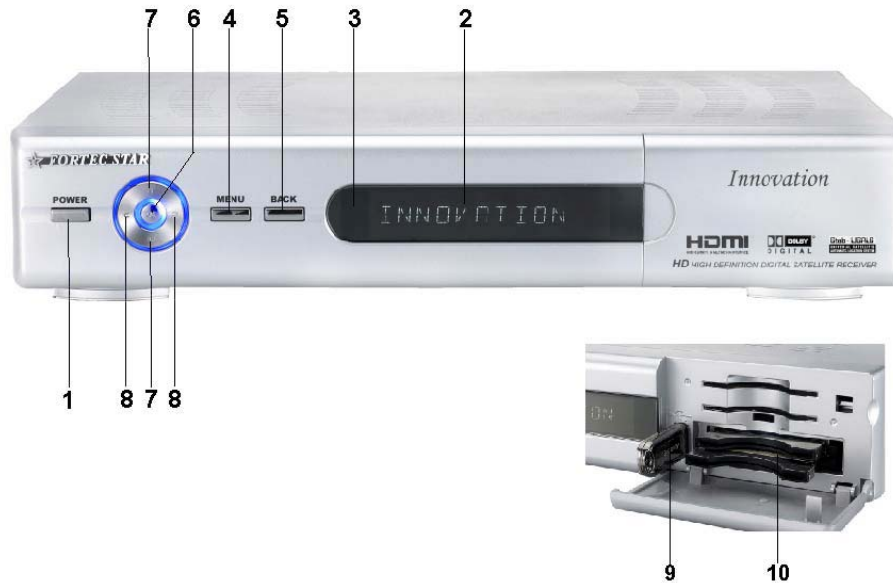
Note. Please refer to device code as attachment



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6. Front and Rear Panel Controls

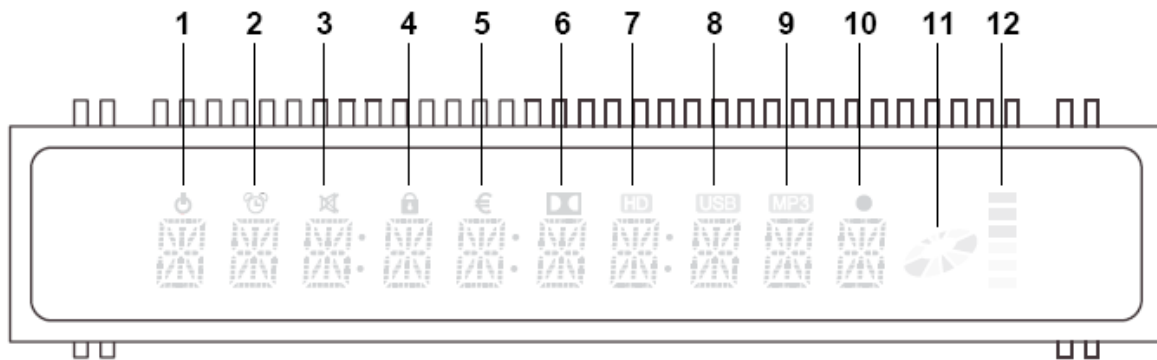
6.1 Front Panel



1. **Power Button:** Turns the receiver ON/OFF.
2. **10 Digit VFD Display:** Displays the current channel number, channel name or time.
3. **IR Sensor:** Receives the Remote Control Unit signal.
4. **Menu/Exit Button:** Displays the main menu on the screen and returns to viewing the TV (Exit All).
5. **Back Button:** Returns to previous status.
6. **OK Button:** Confirms selection and shows the TV/Radio screen.
7. **Up / Down Buttons:** Moves the cursor up/down in the menus. Changes channel to next or previous in viewing mode.
8. **Left / Right Buttons:** Changes the volume level or moves the cursor left / right in the menus.
9. **USB front Connection:** To connect external USB memory for software update, play A/V files and record (connect USB hard drive)
10. **Conditional Access Module Slots (CAM):** 2 slots for common interface CAM.
11. 2 Smart Card slots for using Conax7 and X-Crypt CAS.



6.2 Front Panel Display



1. Indicates Power ON/OFF.
2. Indicates sleep timer set.
3. Indicates mute mode.
4. Indicates locked channel.
5. Indicates scrambled channel.
6. Indicates Dolby Digital channel.
7. Indicates HD broadcasting channel.
8. Indicates USB connection.
9. Indicates MP3 play.
10. Indicates IR sensor.
11. Indicates operation status, such as channel search, software upgrade, etc.
12. Indicates signal / quality level.



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6.3 Rear Panel Connections



1. **AC Main Connection:** The input AC voltage range is 95V to 250V, 50/60Hz supply.
2. **RS-232 Data Interface:** Connection to a PC or other receiver for software update and channel list data transfer.
3. **Digital Audio Output (Optical):** Optical digital audio output for connection to a Home Theatre System with integrated audio digital decoder (Dolby Digital).
4. **SPDIF:** Digital audio output (Coaxial).
5. **S-Video Output:** Super Video output to TV.
6. **CVBS / Audio (L) / Audio (R):** Composite video, audio (L, R) output.
7. **Component Video Output (Y/Pb/Pr):** Y/Pb/Pr (Green, Blue, Red) connection to a TV or VCR that accepts HD component video input.
8. **SCART Connector (TV):** Connection for audio and video signals to the TV set.
9. **SCART Connector (VCR):** Connection for audio and video signals to a VCR.
10. **LNB Input:** Connects the coaxial cable from the LNB.
11. **LNB Loop-Through Output:** If you have another satellite receiver and you wish to use the same LNB, you can connect it to this "LNB loop-through" output jack.
12. **HDMI**
13. **USB Rear Connection:** To connect external USB memory for software update, play A/V files and record (connect USB hard drive)

Note: Selectable from USB Front or USB Rear.

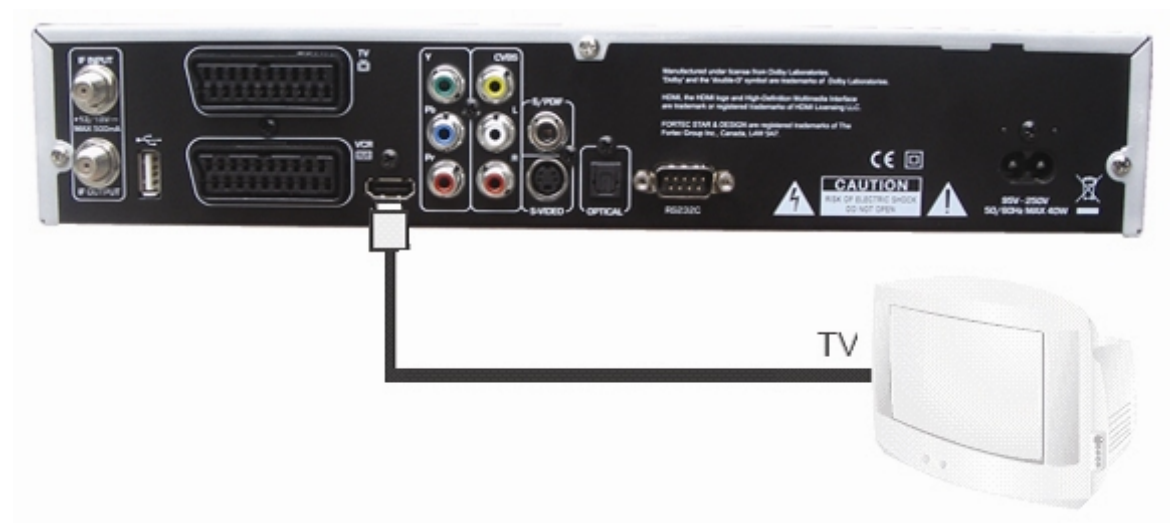


7. Connection Diagrams

7.1 Connect your STB to various systems

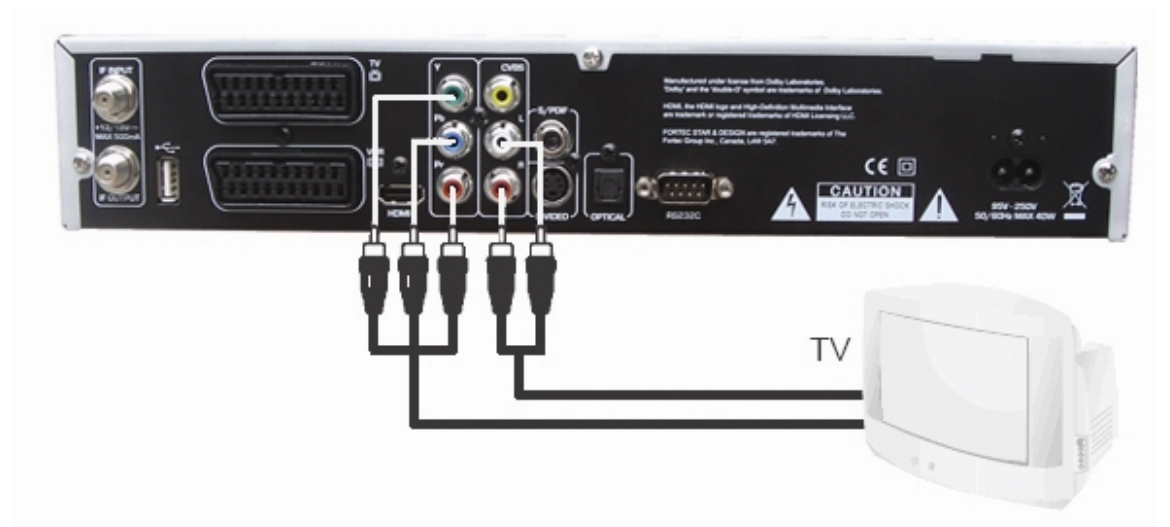
7.1.1 Connect STB to Digital TV Set - HDMI

- Connection to digital TV which can support HD resolution using HDMI port.
- Set STB's video output mode to 1080i or 720p or 576p or 480p from the menu
- When connecting via HDMI, you do not need to connect audio cables.



7.1.2 Connect STB to Digital TV set - COMPONENT

- Connection to digital TV which can support HD resolution using YPbPr port.
- Component video separates the video into Y (green), Pb (blue), Pr (red) for enhanced video quality.
- Set STB's video output mode to 1080i or 720p or 576p or 480p from the menu.

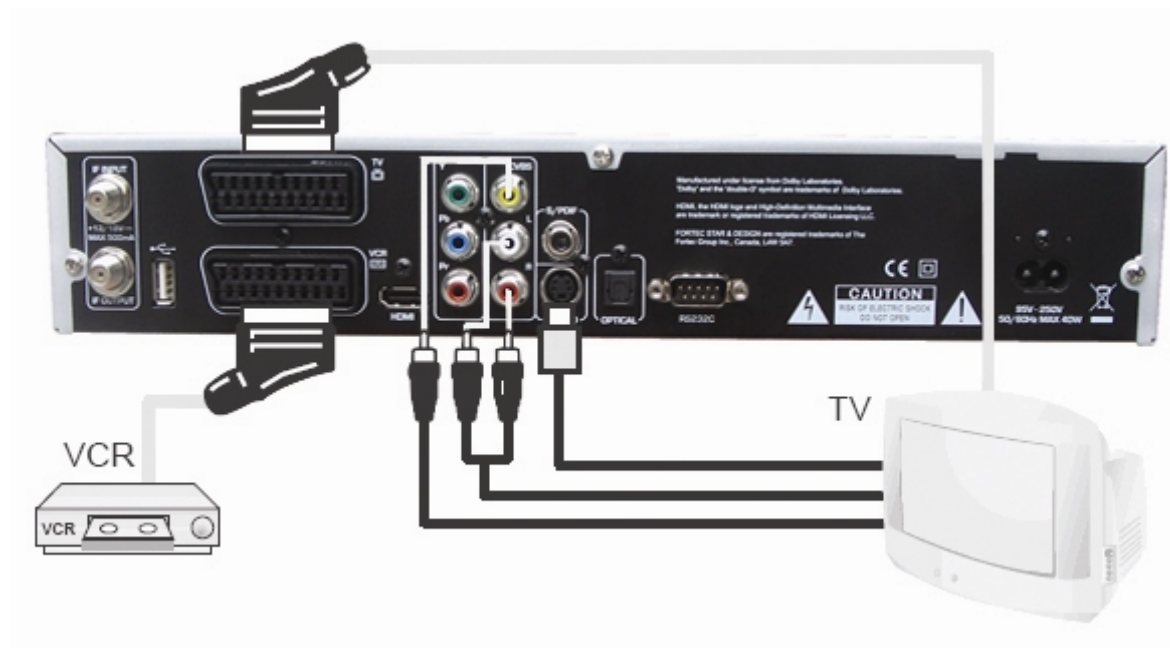




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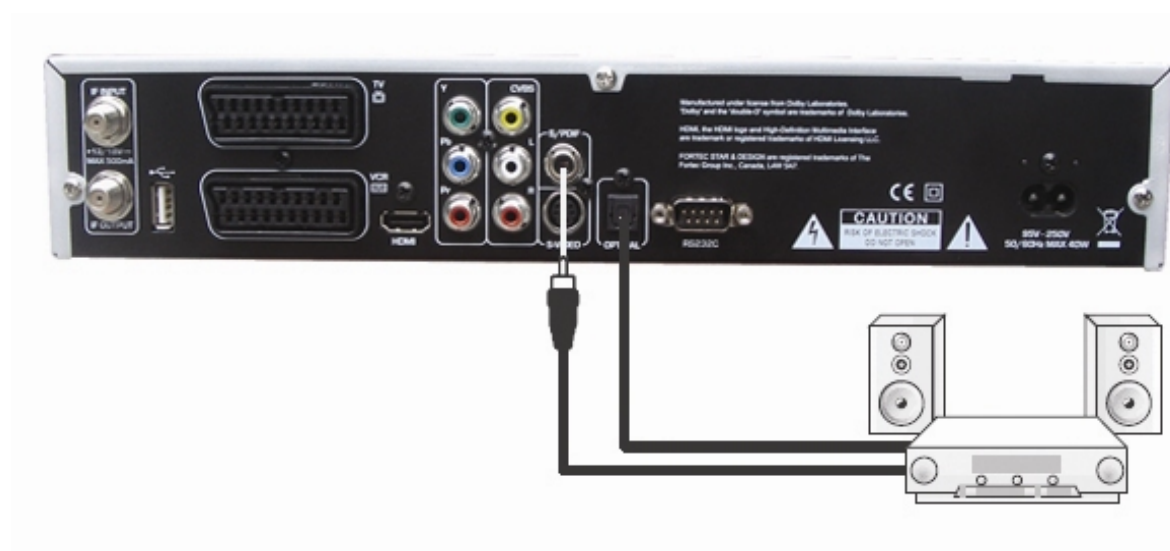
7.1.3 Connect STB to Digital TV and VCR set – SCART or S-VIDEO

- Connect your STB to a TV set with a SCART cable.
- Connect your STB to a VCR set with SCART cable.
- Connect your STB to Digital TV set with an S-Video cable.



7.1.4 Connect STB to an Audio System – Optical

- If you have an AUDIO DAC with S/PDIF Optical or Coaxial cable input, you can connect the STB to it for receiving Digital Audio sound.
- Connect S/PDIF Optical and Coaxial cable to a digital amplifier (Dolby Digital).

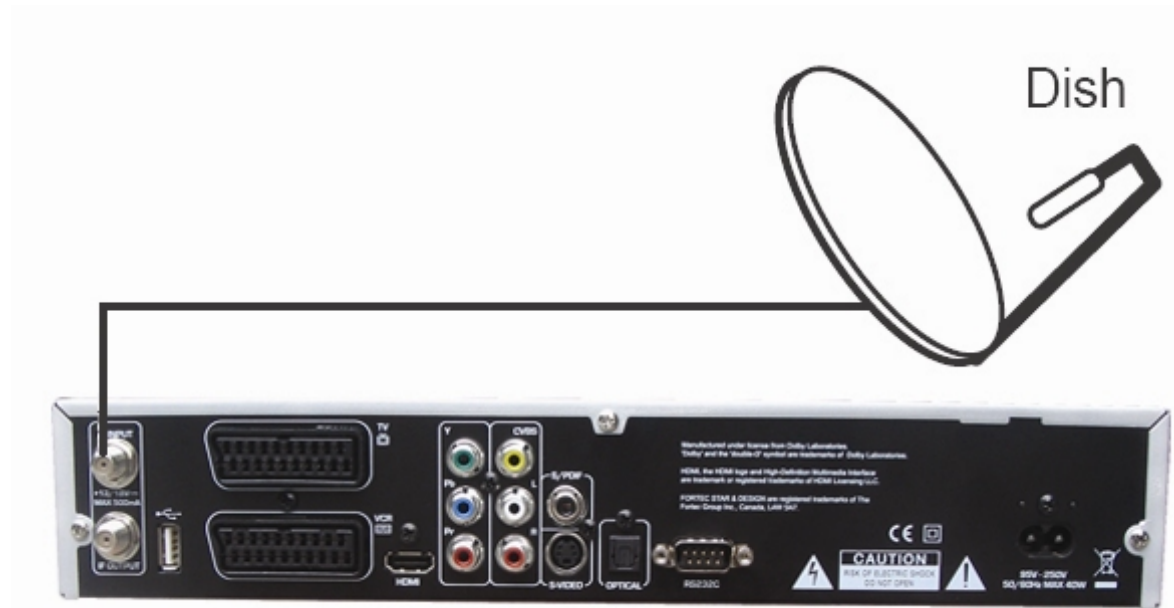




7.2 Connect your STB to Dish

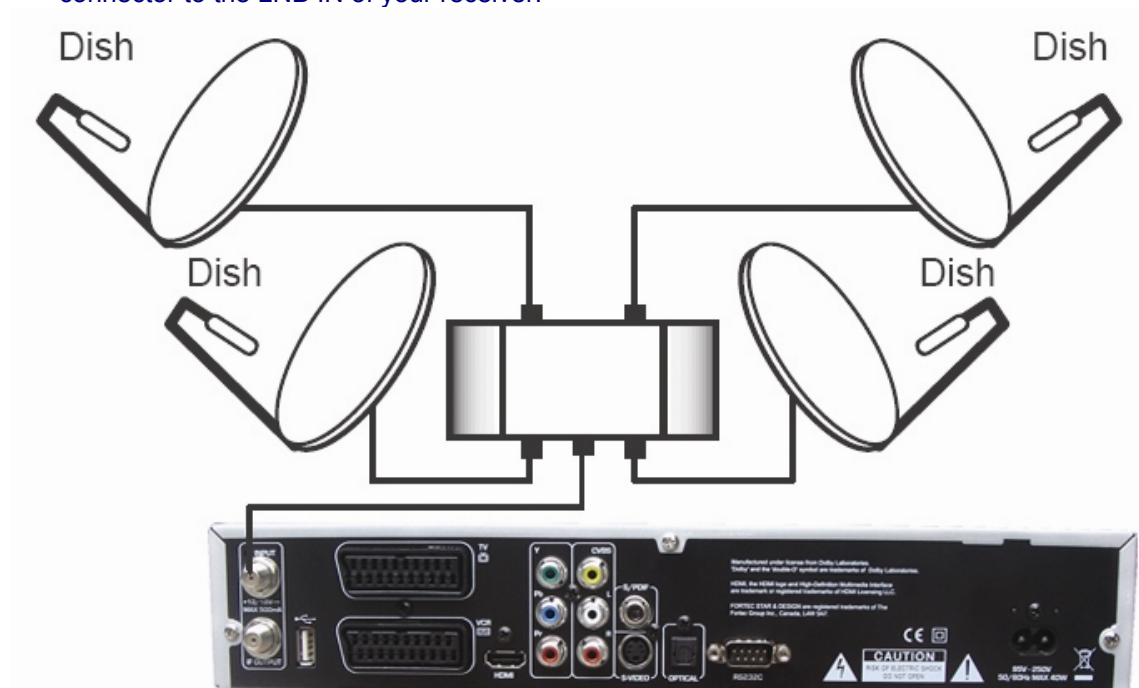
7.2.1 Single Dish

- Connect the satellite antenna cable to IF Input port on your STB.



7.2.2 DiSEqC 1.0 Connection

- If you want to use a DiSEqC switch for more than one satellite, connect the LNB OUT from the satellite dishes to the DiSEqC switch IN connectors, and connect the DiSEqC switch OUT connector to the LNB IN of your receiver.

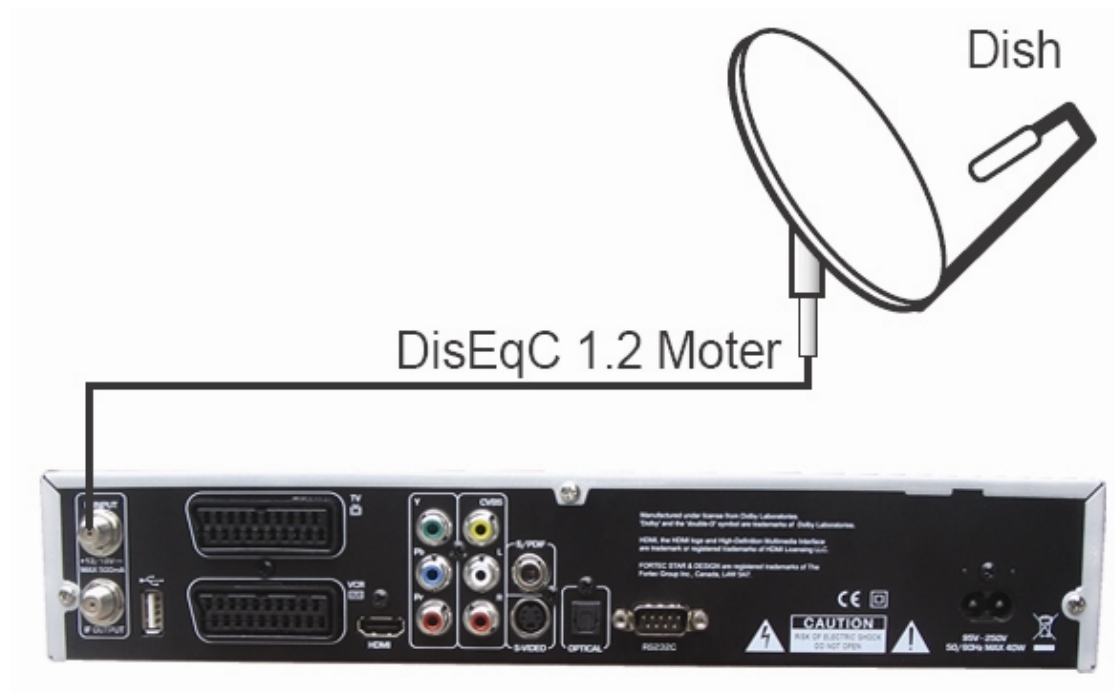




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7.2.3 DiSEqC 1.2 or USLALS (STAB) Connection (motorized dish system)

- Connect the output of DiSEqC 1.2 or STAB motor to IF Input port of your STB.
- For more complete instructions in installing a motor or assembling a dish, you can view instructional videos on Fortec Star's web site (www.fortecstar.com).





8. Menu Structure

8.1 Installation

Antenna Setup
Multisat Scan
Advanced Scan
Sat/TP Edit



8.2 Channel Edit

Channel List
Parental Control
Delete Channels
Factory Setting
S/W Transfer



8.3 System Setting

Language Setting
TV Setting
Time Setting
Other Settings



8.4 Common Interface

Slot 1: Shows information about the CAM in this slot
Slot 2: Shows information about the CAM in this slot
Card 1: Shows information about the card in this slot
Card 2: Shows information about the card in this slot



8.5 Utility

Calendar
Calculator
Game – Tetris





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9. Installation

9.1 Welcome to Fortec Star HD World

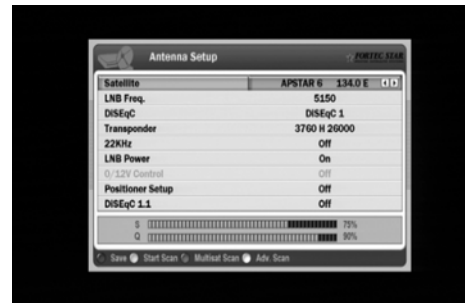
- The very first time you turn your receiver on, or after a Factory Reset, the language selection menu appears on your TV screen.
- Use the ◀/▶/▲/▼ buttons to select the language.
- Press OK button to go to next step.



9.2 How to Set Up your Antenna

9.2.1 Antenna Settings

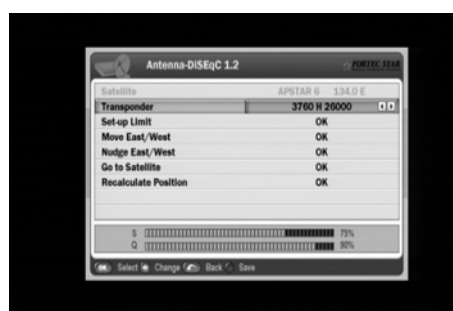
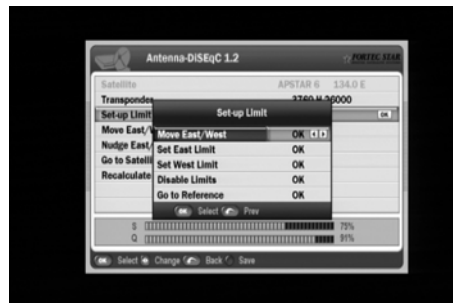
- Select the satellite by pressing ◀/▶ buttons and choose from the list.
- Select your LNB type using the ◀/▶ buttons.
- Select the correct DiSEqC setting for your antenna. If you have a single antenna, choose OFF. Otherwise, choose the corresponding DiSEqC output.
- Select DiSEqC 1.1 setting if you are using 4 or more LNB's.
- Choose an active TP for the selected satellite (You will only get a signal from an active TP. If in doubt, please check www.lyngsat.com or www.satcodx.com for a TP that is broadcasting a channel. These Web sites provide a full list of all satellites and the channels available on each satellite.)
- Use Power ON if the receiver is going to feed the LNB. (This is typically the case.)
- Select DiSEqC 1.2 or USALS if you are going to use a motor. If so, after selecting it press OK in order to set up the motor parameters.
- If the setting is completed, your antenna is set up properly and pointed correctly to the selected satellite the two bars will show the level and quality of the signal.
- Save the current setting using the Red button on the remote control.





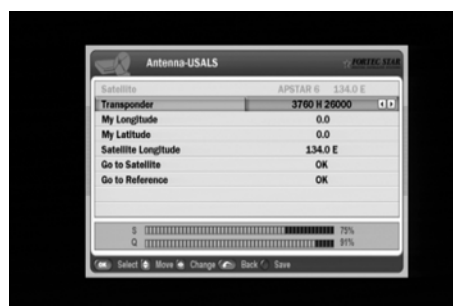
9.2.2 DiSEqC 1.2

- Select Antenna-DiSEqC 1.2 using ◀/▶ buttons in Antenna Setup mode.
- Press OK to access the DiSEqC 1.2 set up menu.
- To define the Set-up limits, press OK on the corresponding row.
 - Move East/West: Press ◀/▶ buttons to move the motor.
 - East Limit: Press OK button to fix East Limit.
 - West Limit: Press OK button to fix West limit.
 - Disable Limits: Press OK button to disable East/West Limits.
 - Go to Reference: Press OK button to move the motor to center (0) position.
- Press ▶ button to move west or ◀ button to move east on the corresponding row. Press OK button to stop.
- Nudge East/West: Fine tune the position using ◀/▶ buttons by adjusting 1 step.
- Go to Satellite: Press OK button to move to the stored satellite position.
- To recalculate the satellite positions, move to the corresponding row and press OK button.
- Press the RED button on the remote control to save the current settings.



9.2.3 USALS

- Select USALS in Positioner Setup and press OK.
- Select an active transponder using ▶ button.
- Set your Longitude using 0~9 buttons and specify East/West using ◀/▶ buttons.
- Set your Latitude using 0-9 buttons and specify South/North using ◀/▶ buttons.
- Move to 'Go to Satellite' and press OK button to move the motor to the satellite position.
- To move the motor to the center (0) position, move the cursor to the 'Go to Reference' row and press OK.
- Press the RED button to save the current setting.





9.3 Default Channel loading

The receiver has the most popular channels already downloaded in the memory (this feature will vary for the different regions and may not be available for all regions). To load the pre-stored channels, simply press the GREEN button on the remote control. If your antenna settings don't support the satellites for all channels, you can delete the channels from the satellite you are not using by using the Channel Edit menu (Delete the Channels by Satellite).

9.3.1 Satellite Scan Function

- After completing the Antenna Set up, you can press the yellow button for a quick satellite scan. All channels from the selected satellite will be scanned (FTA + Scrambled).

9.3.2 Multi-Satellite Scan Function

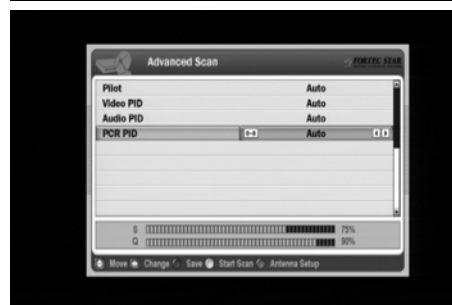
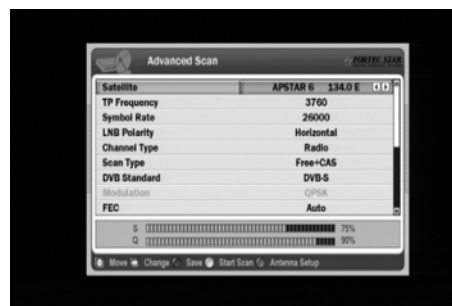
- If you would like to scan more than one satellite, after completing the antenna setup menu, press the BLUE button to access the Multi-Satellite Scan menu.
- Select the satellite you want to scan by using ▲/▼ & ⬆/⬇ buttons and then press OK button.
- Check mark indicates which satellites have been selected for scanning.
- Select the type of channels to search (FTA, scrambled, ALL or Network) by moving to the right with the ► button.
- If you need to go back to the satellite list (left column), press the Back(◀) button.
- Press the RED button to start the scan.





9.3.3 Advanced Scan Function

- To access the Advanced Scan menu from the Antenna Setup, press the WHITE button on the remote control.
- In this menu, you can scan a specific transponder from the list.
- You can scan a new transponder as well by adding its frequency, symbol rate, and polarity.
- Select the satellite by using the ◀/▶ buttons. Choose from the list and confirm the selection with OK.
- Select the TP by using ◀/▶ buttons. Choose from the list and confirm the selection with OK.
- If you need to search for a TP which is not in the data, input a proper frequency using NUMERIC buttons.
 - Symbol Rate: Input a proper symbol rate if needed using the Numeric buttons.
 - DVB Standard: Select the DVB Standard of the TP (DVB-S or DVB-S2) using ◀/▶ buttons.
 - Please refer to following table for selection for Modulation, FEC, Pilot in DVB-S or DVB-S2.



Parameter	DVB-S	DVB-S2	
Modulation	Disabled	QPSK	8PSK
FEC	Auto, 1/2, 2/3, 3/4, 5/6, 7/8	1/2, 2/3, 3/4, 3/5, 4/5, 5/6, 8/9, 9/10	2/3, 3/4, 3/5, 5/6, 8/9, 9/10
Pilot	Disabled	Auto, off, on	Auto, off, on

- If you know the PID channel information you can scan for a specific channel.
 - Enter the PID of the channel you want to search.
 - Set the channel's Video PID using Numeric buttons.
 - Set the channel's Audio PID using Numeric buttons.
 - Set the channel's PCR PID using Numeric buttons.
 - Press the RED button to save.
 - Press the YELLOW button to start the scan.
 - Press the MENU button to return to viewing mode or Back(⏪) button to return to previous menu.



9.4 Sat / TP Edit

9.4.1 To edit a TP

- Select a satellite from the list.
- Press the ► button to move to the TP section.
- Press the RED button to choose delete, edit or add a TP.



9.4.2 Modify TP Information

- To modify the TP information, move to the satellite you want and then press the ► button to move to the TP list.
- Select the TP information you want to modify using ▲/▼ buttons and then press the RED button.
- Choose delete to delete the selected TP.
- If you want to edit the selected TP, choose Edit. A pop up menu will appear where you can edit the TP information. To add a new TP choose the Add option and follow the same steps as above.
- Modify the TP information, such as Frequency, Polarization, Symbol Rate, etc. (Use the NUMERIC buttons to enter Frequency and Symbol Rate information, and use the OK button to enter other information).
- After the changes are made, press the OK button to update the TP information.



9.4.3 Add TP Information

- To add TP information, move to the satellite you want and then press the OK button.
- Press the RED button to be able to add TP information.
- Enter the TP information you want to add, such as Frequency, Polarization, Symbol Rate, etc. (Use the Numeric buttons to enter Frequency and Symbol Rate information, and use the OK button to enter other information).
- Press the OK button to register the TP information.




9.4.4 Delete TP Information

- To delete TP information, move to the satellite you want and then press the OK button.
- Select the TP you want to delete using ▲/▼ buttons.
- If you want to delete, press the OK button. Otherwise, press the Back (◀) button.



9.4.5 Edit a Satellite


- Use the ▲/▼ buttons to select the satellite you want to edit.
- Press the RED button.
- Choose Delete if you want to delete the satellite.
- Choose Edit if you want to rename the satellite.
- Type the new name you want, press OK to Save and press Back () button.



9.4.6 Add a Satellite

- Press the RED button in the satellite list of SAT/TP Edit and select Add in other to add the satellite.
- Add the name of satellite when pop up window and press OK to Save.
- Add TP when showing pop up window for additional of TP.
- Satellite could be added up to a total of 100 satellites.

9.4.7 Delete a Satellite


- Use the ▲/▼ buttons to select the satellite you want to delete.
- Press the GREEN button.
- If you want to delete, press the OK button.
- Otherwise, press the Back () button.
- Only additional satellite could be deleted but default satellite could not be deleted.



10. Channel Edit

10.1 Channel Lists

The default Channel List is for the channels from all satellites. If you want to list the channels by an individual satellite, press the Sat button and select the satellite.

In this menu you can delete, edit, move or add channels to the favorite lists. To do any of these functions you have to select the channel first with the Mosaic () button. Multiple channel editing is also possible except renaming function.



10.1.1 Channel Edit

- Press the RED button to delete the selected channels.
- Press the GREEN button if you want to Lock, Skip or Rename a channel.
- Press the BLUE button to move the marked channel. You can then move the channel to the new location.
- Press the WHITE button if you want to add the selected channel(s) to one or more of the Favorite lists. Please select the Favorite list and press OK to move the channels to the list.



10.1.2 Channel Sorting

- Press the YELLOW button in the Channel Edit menu and display the sub menu for sorting (Rearrange/Alphabet/Scramble/Satellite/Lock/Provider/Theme/HD/SD).
- Select the way you want to sort the channels and confirm the selection by pressing OK.





10.2 Parental Control

10.2.1 Parental Control (Channel Lock)

- Press the Menu button.
- Select "Parental control" from the Channel Edit Menu using the ▲/▼ buttons and press the OK button.
- When the "Enter Password" message appears, enter the password.
- The factory default user password is '0000'.
- This allows you to lock particular channels. For example, you may want to prevent others from accessing adult programs using this function.



10.2.2 Access Lock

- If you want to lock the receiver when it is powered on, select Access Lock "On" using ◀/▶ buttons.
- The password will be required before being able to use the receiver when turning it on.

10.2.3 Menu Lock

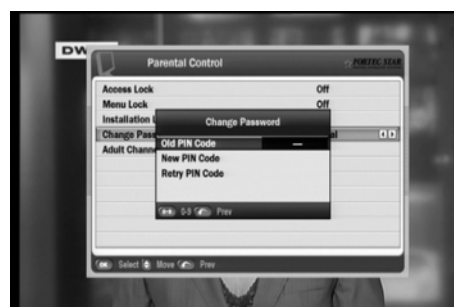
- If you want to lock the Main Menu, Select Menu Lock "On" using ◀/▶ buttons.
- The password will be required to enter the Main Menu.

10.2.4 Installation Lock

- If you want to lock the Installation Menu, Select Installation Lock "On" using ◀/▶ buttons.
- The password will be required to enter the Installation Menu.

10.2.5 Change Password

- The factory default user password is '0000'.
- You can change password both system and adult channel.
- To set your new password, select Change Password using ▲/▼ buttons and press the OK button.
- Input the current password using the Numeric buttons.
- In the highlighted new password field, input a new password.
- To verify the new password, re-enter a new password in the highlighted Confirm Password field.
- If you have lost your individual password you will need a master password which will unlock your system again. Please contact your dealer or your nearest service station for the Master Password.





10.2.6 Adult Channels

- If you want to sort adult channel, please select Adult channels “On” using ◀/▶ buttons.
- To select On in Adult channels, the adult channel from current channel move to the adult channel folder in favorite.

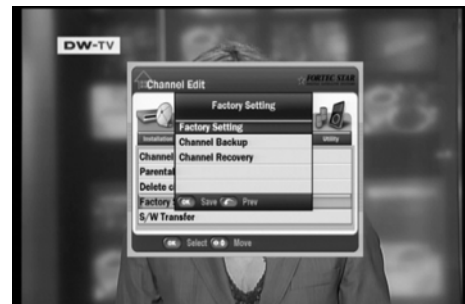
10.3 Delete Channels

- Go to the Main Menu. Select "Channel Edit", then select "Delete Channels".
- Enter password upon request.
- You have the option to delete all channels or to delete the channels from one satellite only.
- Choose the option you need.
- Press "Back" to cancel or OK to confirm and delete.



10.4 Factory Setting

- This function will delete all channel data and all individual settings, restoring the default values.
- Go to the Main Menu, select "Channel Edit", and then select "Factory Setting".
- Enter password upon request.
- To go back to the default factory settings, choose Factory Reset. This will delete all channels.
- If you want to save your channel list first, press Channel Backup.
- After doing a Factory Reset, if your channel list is saved with Channel Backup, you can restore it by choosing Channel Recovery.
- Press "Back" to cancel or OK to confirm.



10.5 S/W Transfer

10.5.1 Channel Data Transfer

- Select the connection for channel data transfer - USB or RS232C, using ◀/▶ buttons and confirm with OK.
- If you are using a USB memory stick:
 - Select USB memory stick and show USB menu.
 - Insert the USB memory stick in the USB connection in the front panel.
 - Select Write or Read using ◀/▶ buttons.
 - To Write, press OK button to transfer memory file from USB memory stick.
 - To Read, press OK button to transfer channel data from STB to USB memory stick.



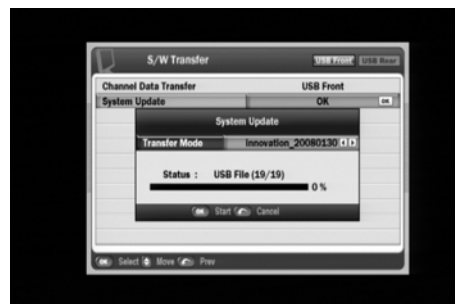


10.5.2 System Update

Never transfer software or data from a different model receiver or from a source other than the official Fortecstar websites. If transferring software to the receiver using your PC, be sure to use the correct file. Software for most Fortec Star receivers can be found on Fortec's Web site at www.fortecstar.com.

If required, the receiver can be upgraded with the latest version of software in three different ways: from USB memory stick, PC, or other Fortec Star Innovation receiver.

- Press OK button to enter the S/W Transfer sub menu.
- To select USB, PC to STB, or STB in transfer mode using ◀/▶ buttons.
- When using a USB memory stick:
 - Insert the USB memory stick into the USB connection on the front panel.
 - Press OK and select the file you want to use for upgrading with ◀/▶ buttons.
 - Note: The file has to be out of any folders in the main directory of the USB stick.
 - Press OK button to start the upgrade.
 - Remember to disconnect the USB stick after the process is finished.



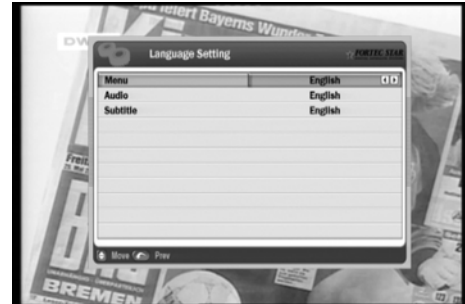


11. System setting

11.1 Language Setting

11.1.1 Menu Language

- Press the ◀/▶ buttons to see a list with the available languages.
- Select your language and confirm it with OK.
- The selected menu language will be applied to the entire menu.



11.1.2 Audio Language

- Press the ◀/▶ buttons to see a list with the available languages.
- Select your language and confirm it with OK.

11.1.3 Subtitle Language

- Press the ◀/▶ buttons to see a list with the available languages.
- Select your language and confirm it with OK.

11.2 TV Setting

11.2.1 Video Output

- Select the TV output options for TV SCART using ◀/▶ buttons (CVBS, S-Video, RGB).

11.2.2 TV Aspect Ratio

- In accordance to the type of your TV, you can adjust the screen aspect ratio.
- Select your TV screen type using ◀/▶ buttons (4:3 or 16:9).



11.2.3 TV Display Format

- Select the TV Display Format using ◀/▶ buttons.
- In case of 4:3 format: Select your TV Display format (Letterbox, Center mode, Auto).
- In case of 16:9 format: Select your TV Display format (Pillar Box, Full Mode, Auto).

11.2.4 Digital Audio

- Turn the Digital Audio output through the optical and coaxial jack ON or OFF using ◀/▶ buttons.

11.2.5 Resolution

- Select the correct resolution for your TV set.



11.3 Time Setting

11.3.1 Time Zone

- Press the ◀/▶ buttons to see a list with different time zones.
- Select your Time Zone and confirm with OK.
- Current time and data are automatically set by the broadcasting signal from the satellite.



11.3.2 Summer time

- Select "On" if your country is using Daylight Saving Time.
- Select "Off" if your country doesn't use Daylight Saving Time at the moment.

11.3.3 User Time Setting

- If you prefer, you can set the time manually. This may be necessary if the satellite you are watching does not transmit the correct time, which is common for FTA broadcasts.
- Change the setting to ON using the ◀/▶ buttons.
- Press OK to open the time setting Popup Menu.
- Use the Numeric or ◀/▶ buttons to enter the data.
- When finished, press OK button to save.
- You may need to adjust the manually entered setting over time.



11.4 Other Settings

11.4.1 Banner Time

- Set the time duration for banner display (2, 4, 6, 8sec) using the ◀/▶ buttons.

11.4.2 Transparency

- Set the OSD transparency level (0%~50%) using the ◀/▶ buttons.

11.4.3 Radio Screen

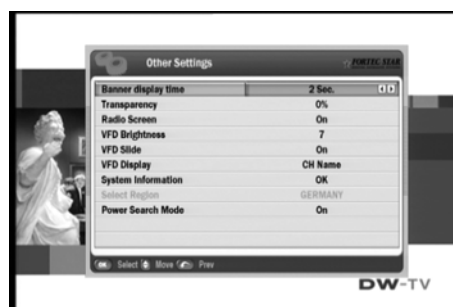
- You can set "On" or "Off" using the ◀/▶ buttons.

11.4.4 VFD Brightness

- Set the VFD Brightness level (0~7) using ◀/▶ buttons.

11.4.5 VFD Slide

- Set to "On" or "Off" using the ◀/▶ buttons. If you select ON the long channel names will scroll on the display.





11.4.6 VFD Display

- Select the display option using the ◀/▶ buttons. Choose from displaying the channel name only, the channel name and the channel number, or the time.

11.4.7 System Information

- This shows the information for the current software status.
- Use this to check the software version or release date of the current software before upgrading.
- Display the system information: Model name, Loader Version, Software Version, and Software date.

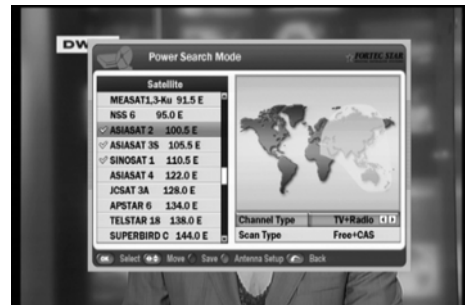


11.4.8 Select Region

- To select the location using ◀/▶ buttons.
- To change default channel based on Region.

11.4.9 Power search mode

- To select On/Off from power search mode using ◀/▶ buttons.
- To reference the details on Power Search in 14.16 .



12. CAS

12.1 CI Slot

This HD receiver has 2 CI (Common Interface) slots for using CA modules.

- To read the information about the installed CA module and Smart Card, select the CI slot you are using and press OK.

12.2 Smart Card

This HD receiver has 2 Smart Card slots for using CONAX and X-Crypt CAS.

- To read the information about the installed Smart Card, select the Card slot you are using and press OK.





13. Utility

13.1 Calendar

- Press ◀/▶ buttons to change the month.
- Press ▲/▼ buttons to change the year.



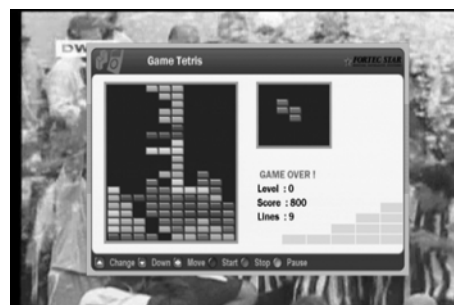
13.2 Calculator

- Press ◀/▶ or ▲/▼ buttons to select numbers.
- Confirm the numbers by pressing OK.
- You can type the numbers from the remote control as well using the numeric buttons.



13.3 Game Tetris

- **Play:** Start game by pressing the RED button on the RCU.
- **Stop:** Use the BLUE button.
- **Pause:** Use the GREEN button.
- To change the positions of the figure, use the ▲ button.
- To move it to the left or to the right use the ◀/▶ buttons.
- To drop it quickly, press ▼.






14. Basic Function

14.1 General Information


14.1.1 Info Bar

The info bar is displayed with the following information when pressing the Info () button.

1. Channel number and name.
2. Indicates TV or Radio channel.
3. EPG for current and next program.
4. Satellite name for current channel.
5. CAS.
6. Signal level.
7. Signal quality.
8. Current time.
9. Frequency and symbol rate for current channel.
10. Icons: Subtitle, Teletext, Density, Scramble, Channel Lock, Dolby, Stream Resolution.




14.1.2 Detailed Program Information

- You can see detailed information about the current program by pressing the Info () button a second time.



14.2 EPG Information

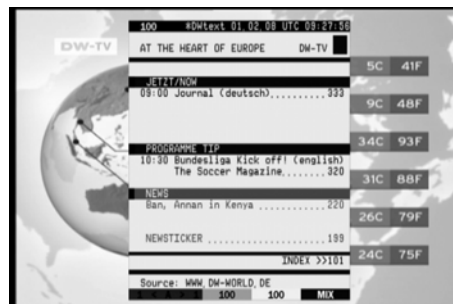
- Press the EPG button while watching a TV channel or listening to a Radio channel.
- Select a program which you want to see more information on.
 - ▲/▼: Select an event by channel. If there are multiple channels, use the ▲/▼ buttons to move the channel list by page.
 - After selecting a channel you can select an event using the ◀/▶ buttons.
 - Press OK to view the information of the selected event.
 - Press the RED button to see the EPG information for the next 7 days.
 - Press the BLUE button to scroll to next page of the extended information.
 - You can access the reservation menu with using the GREEN button.
- To exit from the EPG mode, press the Back () or EPG button.





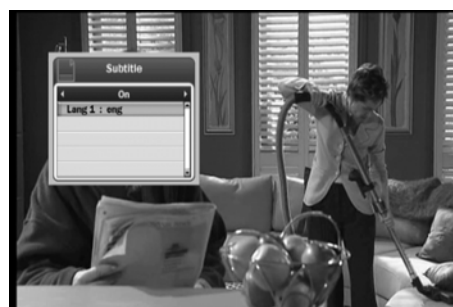
14.3 Teletext

- Press TTX button to enter "OSD Text" display.
- If the channel broadcasts teletext, the teletext icon on the info bar will be highlighted.
- The "OSD Text" is utilizing the built-in teletext decoder of this receiver. It can be used also with TV monitors or projectors that don't have an integrated teletext decoder.
- The other option is called "VBI Text" that leaves decoding up to a teletext decoder that is included into the TV set. In this case, an entire teletext function is to be operated through the remote control unit of the TV set.
- Press [0~9] buttons: Change Page number.
- Press [▲/▼] buttons: Change Page up and down.
- To exit from the Teletext, press the Back (⏪) or TTX button.



14.4 Subtitle

- Press the Subt.(GREEN) Button to display the subtitle menu.
- Set the subtitle function to ON or OFF using the ◀/▶ buttons.
- Select the subtitle language using ▲/▼ buttons.
- To exit from the Subtitle menu, press the Back (⏪) or Subt.(GREEN) button.



14.5 Timer Menu

- Press the Timer button to display the Event List.
- Press OK to display the Event Setting menu.
- Press the ◀/▶ buttons to show the channel list, chose the channel and confirm with OK.
- To set the date use the Numeric (0~9) buttons.
- To set the start time use the Numeric (0~9) buttons.
- To set the finish time use the Numeric (0~9) buttons.
- To set the period of recording use ◀/▶ buttons.
- To set the mode, use the ◀/▶ buttons.
- Press OK to save.



14.6 Audio Mode

- Press the Audio (RED) button to display the menu.
- Change the audio language by using ▲/▼ buttons to select one of the languages provided by the broadcaster.
- Use the ◀/▶ buttons to select the audio mode.





14.7 Listening to the Radio

- To listen to the radio, press TV/Radio button on the Remote Control.
- To return to TV viewing, press TV/Radio button again.



14.8 Last Channel

- Press the Last (YELLOW) button to display the Last Channel List menu.
- It displays the last 5 channels viewed.
- If you want to go back to one of the last five channels, select it using the ▲/▼ buttons and press the OK button.



14.9 Find Function

- Press the Find button to view the Quick-find Menu.
- Search channels by full name or simply by initial letter, type the name by using the ▲/▼ or ◀/▶ buttons to select the letter and press OK to confirm it.
- When you see the channel you are looking for in the list, you can move to the channel list by pressing the Back (◀) button.
- You can scroll to the channel and press OK to start watching it.



14.10 Satellite Function

- You can access the channel list by satellite after pressing the Sat button on the remote.
- Press the Sat. button to display the satellite list menu.
- Select the satellite using the ▲/▼ buttons and press the OK button.





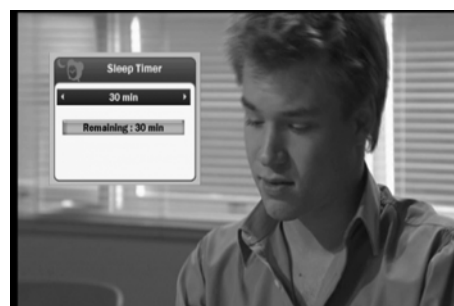
14.11 Favorite Function

- If you are looking for a channel which is already in one of your Favorite lists, you can find it easily by pressing the Fav.(WHITE) button on the remote control.
- Press the Fav.(WHITE) button to display the favorite lists.
- By repeatedly pressing the Fav.(WHITE) button, the list will change to the next Favorite list.
- To start watching the channel you are looking for, you have to select it from the list and press OK.
- To rename a favorite list press the Fav.(WHITE) button on the remote control and then press the Option button. You will now be able to use the keyboard menu to rename.



14.12 Sleep Timer

- Press the Sleep button to display the menu for the Sleep Timer.
- Select the Sleep time using the ◀/▶ buttons and press the OK button.
- Selection time: Off, 5, 10, 20, 30, 40, 50, 60, 120min.

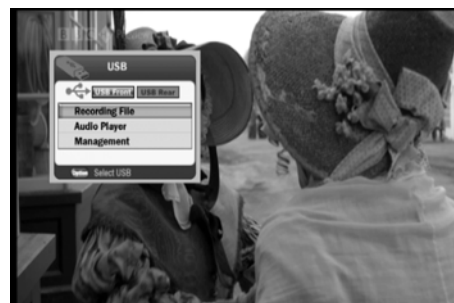


14.13 USB Function

Insert the External memory into USB Connector and press USB button, USB file list is shown.

3 Items : Recording file, Audio Player, Management

- To select menu using ▲/▼ button.
- To select USB Connector from front or rear connector using OPTION button.



14.13.1 Recording file

To play the file in recording from external memory.
To refer to PVR function in 14.17.

14.13.2 Audio Player

To play MP3 File from external memory.

- To select file using ▲/▼, OK buttons.
- **RED button:** To play selected file.
- **GREEN button:** To pause MP3 file in play.
- **YELLOW button:** To stop MP3 file and to play next MP3 file.
- **BLUE button:** To play MP3 repeatedly.
- **Mosaic (■) button:** To select all of MP3 file.
- **Option button:** To select Front USB, Rear USB, with toggling.
- **Find button:** To change to simple MP3 player.
- To go Live mode by pushing Back (⏪) or Menu button in audio player.





14.13.3 Management

- **HDD Information:** To read information on External memory.(total size, used size, free size)
- **Format HDD:** To format external memory with FAT32.
- **Remove Device Safely:** To select “Remove device safely” before remove external memory.
Note: If external memory is removed without Selection of “Remove Device Safely” there will be damages on external memory
- **Select USB:** To select USB front and USB rear by using ◀/▶ buttons



14.14 Zoom Function

- Press the Zoom () button on the remote control.
- Select the position using ▲/▼ and ◀/▶ buttons.
- Press BLUE or Zoom () button to change Zoom x2, x4, x8, x16 and press OK button to confirm.
- To exit from Zoom, press the Back () button.



14.15 Mosaic Function

- Press Mosaic () button to display the Mosaic menu.
- Select the mosaic channel number you want (4 or 9 or 16 channel) using ▲/▼ and press OK button.
- Select the channel to be live using ▲/▼/◀/▶ buttons.
- Change the Live channel using the PIP CH (+/-) button.
- Re-tune the mosaic function to the next group of channels using the Info () button.
- To exit from Mosaic, press the Back () or the Mosaic () button again.
- Please note that if you are using SCART or RCA connection to your TV, you have to select Mosaic Display: Aux Video. If you are using other video outputs, you have to select Mosaic Display: Main Video.

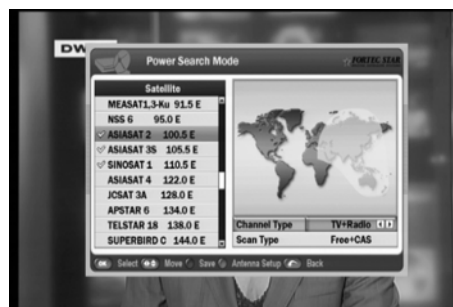




14.16 Power Search

Enables the receiver while in “STANDBY MODE” to rescan satellite details in order to add or adjust Transponder Frequency data and individual channel data. This is extremely useful if the various satellites make regular changes to data. I.e ASTRA 28.2; ASTRA 19.2; HOTBIRD 13.

- In the “SYSTEM SETTING” Menu.
- Go to “OTHER SETTING” press OK.
- Go to “POWER SEARCH MODE” press ◀/▶ buttons to switch on.
- Select the satellite(s) to be reviewed by pressing OK.
- Next while on the particular satellite press ◀/▶ buttons.
- You now have the option to adjust the type of scan to complete.
- After you have selected the type of scan press the RED button to “SAVE” the settings.
- Now use the Back () button to go out of the menu and back to “OTHER SETTING”.



Note: POWER SEARCH starts 1minute after going into standby and there is a slight delay in turning on (2seconds) if receiver is in the middle of scanning satellites. Additionally if you have a motorized system the receiver will move the motor when in “STANDBY” with the POWER SEARCH setting ON.

14.17 PVR Function

14.17.1 Recording File

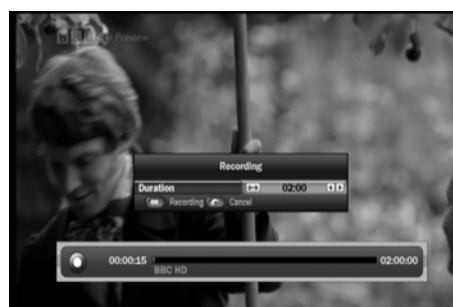
To see a list of the recorded files, push USB button and select recorded file or push Play button in live mode.

- To select file using ▲/▼, OK buttons or Mosaic () buttons.
- **Play () button:** To play selected file.
- **Green button:** To edit selected file.(Play, Rename, Delete, Lock, Unlock)





14.17.2 Recording

- To press REC () button on the RCU and begin recording.
- The recording will be stored on the External memory and will be shown on the "Recording File".
- If you push “REC button” one more time, there will be menu for recording duration.
 - You can change the duration of recording time by using the ◀/▶ buttons or numeric buttons.
- While recording a program, you can't change other channel.
- Default recording time is 2hours.




















14.17.3 Time shift

- While watching TV, just press the Timeshift () button.
- Default time of timeshift is 30 min.
- The picture will freeze, no sound will be heard and the timeshift recording will start.
- To start the play of the Time Shift recording by pressing the Play () button.



14.17.4 Trick Mode

- **Slow** ( / )
 - When playing file, you can press Slow ( / ) buttons to adjust playing speed.
 - The speed will change to x1/2, x1/4, **1/8**.
- **Pause** ()
 - This button will pause the playing file until you play again using Play () or Pause () buttons.
- **Fast Forward** ()
 - When playing file, you can press Fast Forward () button to adjust playing speed.
 - The speed will change to x2, x4, x8.
- **Fast rewind** ()
 - When playing file, you can press Fast rewind () button to adjust playing speed.
 - The speed will change to x1, x2, x4, x8.
- **Jump** ( / )
 - It can be moved rapidly by using Jump ( / ) buttons in Play file.





15. Troubleshooting

There may be various reasons for the abnormal behavior of the receiver. Check based on the procedure shown in the table below.

Problem	Solution
No display VFD on the front panel.	Connect power cord properly into the power outlet and turn on the front panel AC power switch.
No picture	Ensure that the STB is switched on. Check connections to the receiver.
No sound	Check the volume level of the TV and STB. Check the mute status of the TV and STB. Check the connection for audio cable.
Poor picture quality	Check the signal level, if this is considered as too low then try adjusting the alignment of your dish.
Remote Control does not operate	Aim the remote control at the receiver. Check and replace batteries. Press the STB button.
Service is not running or scrambled	Check whether the common interface module and smart card is correctly inserted. Check that the smart card is an appropriate card for the selected service.
Poor HD picture quality connected by YpbPr or HDMI	Change the HD output resolution in the TV Setting Menu.
Not working	Remove the power cord or AC switch OFF/ON in front panel.



16. Technical Specifications

Tuner & Demodulator

Input Connector	F-Type, Female, IEC 169-24
Input Frequency Range	950MHz ~ 2150 MHz
RF Input Signal Level	-65dbm ~ -25dbm
LNB Power & Polarization	Vertical: +12V ~ +14V Horizontal: +17V ~ +19V Current: Max.500mA with overload protection
22KHz Tone	Frequency: 22KHz, +/-4KHz Amplitude: 0.6V, +/-0.2V
DiSEqC Control	DiSEqC 1.0, 1.2, 1.3 compatible
Demodulation	QPSK & 8PSK
Input Symbol Rate	DVB S: 2~45Ms/s DVB S2: 10~30Ms/s
FEC Code Rate	DVB S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB S2(QPSK) : 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB S2(8PSK) : 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

MPEG Transport Stream A/V Decoding

Transport Stream	According to ISO / IEC 13818-1
Video Resolution	1920x1080i, 1280x720p, 720x576p, 720x576i
Input Rate	Max. 15MB/s
Video	MPEG2 <u>MP@HL</u> , MPEG AVC/H.264 <u>HP@L4</u>
Audio	ISO / IEC 13818-3 Layer I & II
Audio Mode	Single/Dual Channel
Audio Sampling Frequency	32 / 44.1 / 48KHz

Main System

Main Processor	STi7100
Graphic(MPEG) & System Memory	64Mbytes + 64Mbytes
Flash Memory	8Mbytes
EEPROM	8Kbytes

A/V & Data Input/Output

Video	TV-Scart (CVBS out, S-Video out) VCR –Scart (CVBS in/out, RGB in) RCA Jack(CVBS out),Component Jack(YpbPr out) Din Jack(S-Video out)
Audio	TV-Scart(L/R out) VCR-Scart(L/R in/out) RCA Jack(L/R out, Digital audio out) Optical Jack(Digital audio out)
Digital A/V Output	HDMI Digital A/V Output
Serial Port	Transfer rate 115200bps
USB A type	USB 2.0 HOST (Selectable one of Front or Rear)

Front Panel

KEYS (8 Button)	AC Power, Ch Up/Down, Volume Up/Down, Menu, OK, Back
VFD (10Digit Alpha Numeric)	Channel Numbers, Name and Time
PCMCIA	2Slot Common Interface
USB 2.0 Host	USB A type connector



Power Supply

Input Voltage	AC 95 ~ 250V, 50/60Hz
Type	SMPS
Power Consumption	Running Max 40 watts

Physical Specification

Dimension (W x D x H)	340 x 230 x 65 mm
Weight	2.7 kg
Operating Temperature	0 ~ 40 degree
Storage Temperature	-20 ~ 60 degree



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
ACCENT	049 063
ACEC	112
ACURA	195
ADMIRAL	065 076 163 171 190 307 324 369
ADYSON	379
AGASHI	076 379
AGEF	324
AIKO	049 063 076 102 141 172 195 225 379
AIM	049 063
AIWA	376 377
AKAI	019 049 050 055 063 076 102 107 123 133 139 141 150 172 174 182 195 209 225 326 333 379 428 432 433 437
AKIBA	006 049 063 123 380
AKITO	049 063 106
AKURA	006 049 076 096 123 195 419 426
ALARON	042 334
ALBA	018 044 049 050 107 123 134 163 179 184 195 225 228 232 239 379 413 421 431
ALBIRAL	121 326 372
ALCYON	407
ALLORGAN	050 094 236 334
ALLSTAR	049 063
AMPLIVISION	113 379 421 425
AMSTRAD	004 011 049 063 076 123 131 172 195 225 426
ANAM	049 063 195
ANGLO	076 195
ANITECH	049 063 076 195 407
ANSONIC	045 049 063 107 112 195 210 242 391 413 421
APOLLO	165
ARC EN CIEL	029 034 074 182 186 415 424
ARCAM	029 379 424
ARDEM	392
ARISTONA	049 050 063 065 079 112 158 160 188

BRAND NAME	CODE LIST
A.R.SYSTEM	049 063
ARTHUR MARTIN	075 107 127 133 136 139 148 153 307 425
ASA	003 020 065 078 080 091 117 146 171 197 235 307 319 324 341 375 406 408
ASBERG	049 063 407
ASORA	195
ASTRA	195
ASUKA	006 050 076 123 379
ATLANTIC	049 050 063 113 236 242 379
ATORI	195
AUCHAN	107 425
AUDIOSONIC	031 049 063 074 076 195 213 379 392 421
AUDIOTON	050 076 379 392 421
AUSIND	075 090 407
AUTOVOX	050 071 078 079 080 083 090 147 156 236 254 305 319 323 324 379 407 413 416
AWA	018 049 063 131 195 206 320 379 426 433
AYOMI	411
BAIRD	074 102 182 209 321 329 379 409
BANG & OLUFSEN	324
BARCO	107 355 371 372 422
BASIC LINE	006 031 049 107 123 159 195 207 226
BASTIDE 379	
BAUR	012 049 053 063 107 150 172 244 245 246 247 301 357 414 416
BAZIN	379
BEKO	063 184 240 241 392 421 433
BEON	049 063 163
BEST	213 421
BESTAR	049 063 421
BINATONE	379
BLACK STAR	413
BLACKTRON	006
BLACKWAY	006



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
BLAUPUNKT	019 053 057 060 113 118 244 245 246 247 248 249 308
BLUE SKY	006 049 063 123 195 232
BLUE STAR	006
BONDSTEC	413
BOOTS	050 106 379
BPL	006 049 063
BRANDT	074 182 218 415 424 436
BRANDT ELECTRONIQUE	029 034 074 182 186
BRINKMANN	049 063 163
BRION VEGA	049 063 065 083 167 172 173 181 196 324 356
BRITANNIA	379
BROTHER	076
BRUNS	056 065 324
BSR	094 107 110 139 168 314
BTC	123
BUSH	006 018 049 076 094 106 107 123 134 139 142 143 172 179 195 209 223 225 226 232 239 307 379 416
BUSH(UK)	107 147 168
CAPSONIC	076
CARAD	049 063
CARENA	049 063 380
CARREFOUR	018 406
CARVER	177
CASCADE	049 063 064 195
CASIO	049 063
CATHAY	049 063
CCE	049 063 379
CENTURION	049 063
CENTURY	044 054 065 163 189 324 411 413
CGE	002 044 054 090 093 094 096 107 139 142 163 168 189 369 407 413 421
CIHAN	111
CIMLINE	031 123 134 195
CITY	195
CLARIVOX	056 121 125 163 406
CLATONIC	076 123

BRAND NAME	CODE LIST
CLATRONIC	031 045 049 063 076 113 123 195 225 379 407 413 421 431
CMS HIGHTEC	379
COMTEL	111 125
CONCORDE	195
CONDOR	006 045 049 050 063 113 163 195 210 379 413 421
CONTEC	018 131 195 206 302 320 379
CONTINENTAL EDISON	029 034 074 182 186 232 415 424
COSMEL	195 213
CROSELY	044
CROSLEY	054 065 090 093 094 104 107 139 324 407 413
CROWN	049 063 154 163 170 195 209 232 372 407 419 421 431
CS ELECTRONICS	031 123 379 413
CTC	413
CTC CLATRONIC	045
CURTIS MATHES	126 190 212
CYBERTRON	123
DAENYK	042
DAEWOO	063 123 140 145 161 193 195 379
DAINICHI	123 379
DANSAI	063 076 141 195 379
DANSETTE	426
DANTAX	392 421
DATSURA	209
DAWA	049 063
DAYTRON	049 063 195 226
DE GRAAF	023 107 122 139 209 307
DECCA	049 063 102 106 111 120 200 331 379
DECCA(UK)	046 050 102 106 131
DEITRON	049 063
DENKO	076
DENON	126 212
DER	321
DERWENT	105
DESMET	049 063 113
DIAMANT	049 063



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
DIGILINE	049 063
DIGITAL-DEVICE	025
DIXI	063 195 379 413
DOMLAND	423
DORIC	104 105
DREAN	049 063
DTS	195
DUAL	049 050 063 095 107 139 156 168 182 242 243 379 414 416 423 424
DUAL-TEC	195 168 050 040
DUMONT	045 065 080 102 139 146 319 324 339 341 375 379 406 408
DUMONT-FINLUX	020 045 061 075 078 091 104 117 147
DUX	049 063 112
DYNATRON	049 063
ELBE	049 063 107 121 123 172 194 210 242 337 368 369 391 411 421 435
ELBIT	111
ELCIT	045 046 047 062 065 104 107 150 168 324 413
ELECTA	006 076
ELECTRO TECH	195
ELEKTA	006 076
ELEKTRONSKA	318
ELG	049 063
ELIN	003 020 049 063 107 139 172 195 379 408 416
ELITE	031 049 063 123
ELMAN	045 168
ELTA	076 195 379
EMERSON	004 006 042 044 049 063 065 113 225 324 327 406 413
EMPEROR	006
ERRES	063 112
ESC	049 063
ETRON	049 063 107 139 195
EURO-FEEL	076
EUROMANN	049 063 076 379 421
EUROPA	049 063

BRAND NAME	CODE LIST
EUROPHON	044 045 046 049 050 063 068 107 120 168 318 336 379 413
EXPERT	107 236 242 425
EXQUISIT	049 063 413
FAMILY LIFE	049 063
FENNER	063 195
FERGUSON	001 032 050 073 074 076 080 082 102 103 121 158 182 204 218 244 245 246 251 306 319 321 322 328 329 344 409 411 436
FIDELITY	049 050 063 076 107 158 225 307 364 379
FIDELITY(UK)	133
FILSAI	050 379
FINHER	359
FINLANDIA	033 122 139 172 197 209 223 307 375 419
FINLUX	003 020 042 045 049 061 063 075 078 080 090 091 102 104 107 117 139 146 147 163 197 210 235 319 324 339 341 375 379 406 407 408 428 429 437
FIRST LINE	045 049 063 094 102 107 134 139 191 195 209 210 379 411 413 416
FISHER	018 041 050 056 065 069 102 104 107 117 139 143 156 172 189 206 209 320 324 379 408 414 416 421
FLINT	031 049 063 102 123 379 380
FNR	045
FORGESTONE	158
FORMENTI	090 107 113 139 307 324 379 407
FORMENTI-PHOENIX	050 075 104 113 148 307
FORTRESS	190 324
FRABA	049 063 421
FRIAC	045 049 063 195
FRONTECH	076 139 195 307 379 413 416
FUJITSU	042 045 102 107 195 236 327 379



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
FUJITSU GENERAL	195 379
FUNAI	042 076 094 314 327
GALAXI	045 049 063
GALAXIS	045 049 063 163 421
GBC	031 104 107 139 143 168 195
GE	006 074 182 218
GEANT CASINO	107 425
GEC	049 063 102 104 107 120 171 172 192 307 379 416
GEC(UK)	046 050 102 107 150 162 192
GELOSO	031 047 062 104 107 139 168 171 195 307 413
GENERAL	064 074 182
GENERAL TECHNIC	195
GENEXXA	049 063 123 307 426
GOLDHAND	379
GOLDLINE	213
GOODMANS	018 042 063 076 102 134 139 141 143 155 182 195 218 225 232 379 428
GORENJE	124 189 421
GPM	123
GRADIENTE	049 063 170 177
GRAETZ	049 063 090 104 136 139 153 159 162 171 172 198 225 307
GRANADA	013 018 033 041 063 102 104 105 112 120 148 164 165 171 209 218 237 238 240 241 252 307 325 363 379 407 418 419
GRANADA(UK)	046 050 090 107 139 143 162 307
GRANDIN	006 031 049 063 107 113 123 195 379 380 425 431 435
GRONIC	045
GRUNDIG	005 019 049 053 063 080 090 101 115 118 166 232 244 245 246 247 248 249 308 340 341 406 407
HALIFAX	076 379
HAMPTON	379
HANIMEX	094
HANSEATIC	006 018 049 050 063 094 104

BRAND NAME	CODE LIST
HANSEATIC	107 113 143 172 195 324 379 391 416 421 423
HANTAREX	045 046 049 063 195
HANTOR	049 063
HARLEY DAVIDSON	042
HARWOOD	049 063 195 426
HAUPPAUGE	049 063
HCM	006 031 049 063 076 123 163 195 379 426
HEMA	195 379
HEMMERMANN	150 416
HIFIVOX	029 034 074 182 186 304 424
HIGASHI	050
HIGHLINE	049 063 076
HIKONA	123
HINARI	004 018 042 049 066 094 107 119 123 133 134 139 143 179 195 209 232 307 327
HISAWA	006 031 123 380 425
HIT	342
HITACHI	007 009 018 020 023 033 049 050 063 074 086 102 104 107 110 126 127 139 143 150 162 168 171 176 182 185 186 192 212 218 231 304 307 309 315 333 334 344 361 379 416 418
HITASHI FUJIAN	013 164 252
HITSU	123 195 379
HORNYPHON	049 063 112
HOSHAI	123 379
HUANYU	379
HYGASHI	379
HYPER	050 168 195 254 361 379 413
HYPERSONIC	172
HYPSON	006 049 063 076 379 380 411 425
IBERRIA	049 063
ICE	049 063 076 123 195 225 379
ICES	123 379
IMPERIAL	002 044 049 054 063 090 093 094 107 142 163 168 189 301 307 369 407 413 416 421



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
INDIANA	049 063
INGELEN	090 104 136 139 153 159 162 171 198 232 435
INGERSOL	195
INNO HIT	044 046 049 050 063 066 102 123 155 195 217 379 407 413
INNOVATION	049 063
INTERACTIVE	210
INTERBUY	076 195 413
INTERFUNK	049 063 065 067 074 090 104 107 112 139 150 153 159 172 182 301 302 324 363 421
INTERVISION	006 045 049 055 063 076 107 123 225 232 378 379 380 381 382 384 385 386 387 388 389 413 421 423
IRRADIO	031 049 063 066 075 090 123 155 195 254 407 413
ISUKAI	006 049 063 123
ITC	379
ITS	006 031 049 063 076 123 225 379
ITT	042 090 107 117 134 139 150 157 159 162 165 171 172 193 197 198 209 301 307 343 350 375 416 428
ITT-NOKIA	042 090 097 104 107 117 134 136 139 150 153 159 162 165 171 172 185 193 197 198 209 301 307 343 350 375 416 428 433 435 437
ITV	049 063 076 413
JEAN	018
JEC	141
JET POINT	365
JVC	018 103 123 129 143 158 170 174 182 225 364 409 433
KAISUI	006 031 049 050 063 123 195 207 379 380
KAMOSONIC	050
KAMP	379
KAPSCH	107 172 236 242 408

BRAND NAME	CODE LIST
KARCHER	003 006 020 031 045 049 050 063 068 076 107 195 207 217 421 435
KATHREIN	124
KAWASHO	379
KB ARISTOCRAT	107
KENDO	044 045 049 055 063 134 172 210 413 421 435
KENNEDY	071 079 104 107 139 236 305 323 369
KINGSLEY	379
KLARMAX	371 372
KNEISSEL	049 063 210 242 369 391 411 421 435
KOLSTER	045 049 063 416
KONKA	031 049 063 123 225 232
KORPEL	049 063
KORTING	027 065 094 113 324 421
KOSMOS	049 063
KOTRON	076 426
KRAKING	411
KRIESLER	050 063 065 079 112 158 160 188
KTV	050 379
KYOSHU	076 163
KYOTO	107
KYUSHU	426
LECSON	049 063
LEMAIR	210
LENCO	049 063 107 195 408
LENOIR	050 195
LESA	413
LEYCO	049 063 076 094 102 431
LEYEO	076
LG(GOLDSTAR)	023 049 050 055 063 107 139 152 155 168 172 195 202 203 219 254 379 413 421
LIESENKOTTER	049 063 112
LIFETEC	049 063 076 123 195
LLOYD'S	195
LOEWE	049 063 089 324 391 421
LOEWE OPTA	035 046 049 052 063 065 120



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
LOEWE OPTA	144 213 324
LOGIC	331
LOGIK	032 131 158 225 364
LOGIX	195
LUMA	063 107 110 133 171 172 195 210 236 242 307
LUMATRON	049 063 076 107 172 236 242 329 379
LUX MAY	049 063 195
LUXOR	042 050 090 107 122 127 133 139 150 155 159 165 172 185 197 209 307 312 330 416 418 428 429
LYCO	076
M ELECTRONIC	003 235 375
MAAZ	371 372
MADISON	049 063
MAGNADYNE	045 046 047 062 065 104 107 120 139 150 168 318 324 413
MAGNAFON	045 046 050 068 075 090 120 235 336 379 407
MAGNAVOX	018 042 049 063
MANDOR	076
MANESTH	063 076 094 113 134 141 379
MANHATTAN	049 063 195
MARANTZ	063
MARELLI	324
MARK	063 195 379
MASUDA	123 195 225
MATSUI	001 004 018 041 049 050 063 094 100 102 106 107 131 134 141 143 150 171 179 180 195 209 218 225 229 232 244 245 246 307 314 331 379 380 416 431
MAXIMAL	119 139
MAXWELL	371 372
McMICHAEL	192
MEDIATOR	049 063 112
MEDION	049 063 195
MEGAS	435
MEGATRON	126 212

BRAND NAME	CODE LIST
MELECTRONIC	003 049 063 074 182 195 210 375 379 408 413 416 428 429
MELVOX	425
MEMOREX	099 195
MEMPHIS	102 195 213
MERCURY	049 063 195
METZ	019 049 051 053 065 067 070 092 118 244 245 246 247 324 412
MICROMAXX	049 063 195
MINERVA	019 053 080 090 118 232 244 245 246 247 248 249 340 341 406 407
MINOKA	049 063 419 426
MISTRAL	158
MITSUBISHI	013 018 019 021 049 063 065 105 124 131 132 143 157 164 183 190 244 245 246 252 326 330 331
MIVAR	043 046 050 058 072 081 090 120 155 318 337 379 391 407 421 434
MONACO	195
MORGAN'S	049 063
MOTION	407
MOTOROLA	190
MTC	049 063 379 416 421
MTEC	106
MULTISTANDARD	045
MULTITEC	049 063 195
MULTITECH	031 045 046 049 050 063 120 189 195 379 392 413 416 421
MURPHY	102 104 105 107 117 171 254 307 379 408
MURPHY(UK)	162
MUSIKLAND	123
NAD	172 209
NAIKO	049 063
NAKIMURA	049 063
NAONIS	036 040 071 079 110 171
NAT	085 149 151
NATIONAL	033 085 104



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
PHILHARMONIC	379
PHILIPS	015 022 049 050 063 065 079
	089 111 112 157 158 160 175
	182 188 192 215 217 220 221
	247 250 313 324 337 342 350
	363 374 427
PHOENIX	049 050 063 075 102 104 107
	113 148 324 379 392 421
PHONOLA	022 050 063 065 079 112 158
	160 188 250 324 379
PILOT	049 063
PIONEER	049 063 074 172 182 209 218
	227 307 421 427
PIONIER	392 421
PLANTRON	049 063 076 195
PLAYSONIC	379
POLICOM	074
POPPY	195
POWERPOINT	232
PRANDONI-PRINCE	044 046 075 090 120 171 172
	307 407 413
PRECISION	379
PREMIER	142
PRIMA	076 195 307
PRINCE	044 046 075 171
PRINZ	102 185 416
PROFEX	107 139 195
PROFI-TRONIC	045 049 063
PROLINE	030 049 102 112 191 366 436
PROSONIC	049 063 085 149 151 195 225
	379 421 431
PROTECH	045 063 076 139 163 195 379
	413 416
PROVISION	049 063
PYE	050 063 065 079 112 157 158
	160 188 250
PYMI	049 063 112 195 324
QUADRA VISION	425
QUASAR	045 046 068 075 099 155 413
QUELLE	003 018 019 020 049 050 053
	063 074 075 076 078 080 090
	091 094 113 115 117 118 131

BRAND NAME	CODE LIST
QUELLE	139 146 147 150 153 155 172
	195 206 235 244 245 246 247
	254 301 319 320 340 341 379
	406 408 413 416
QUESTA	018
RADIALVA	049 063 074 107 123
RADIOLA	050 063 065 079 112 158 160
	188 250 342
RADIOMARELLI	045 046 047 062 063 065 104
	105 150 168 324 413
RADIONETTE	003 020 117 150
RADIO SHACK	049 063
RADIOTONE	049 063 076 163 195 421 426
	431
RAMK	341
RANDT	029
RANK	147 406
RBM	341
RBM(UK)	147
RCA	190 218 436
RECOR	049 063
RECTILIGNE	049 063
REDIFFUSION	018 059 105 139 171 172 307
	343
REDIFFUSION(UK)	150 162
REDIFUSION	104 105
REDSTAR	049 063
REFLEX	049 063
REVOX	049 063 421
REX	036 040 063 071 079 095 107
	110 171 210 236 242 243 305
	307 323 338 413
RFT	076 102 390 391 392 393 394
	395 421
RHAPSODY	
R-LINE	049 063
ROADSTAR	031 049 063 076 163 195
ROBOTRON	056 065 324
RODEX	049 063
ROTEL	302
ROWSONIC	050
ROYAL LUX	421 426



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
NEC	018 049 063 113 131 143 177
	195 379 380
NECKERMANN	002 012 049 050 063 065 107
	133 139 163 180 189 210 247
	250 307 312 324 357 379 413
	416 421
NEDIATOR	063
NEI	063 125 225
NESCO	042 413
NETSAT	049 063
NETWORK	213
NEUFUNK	049 063 195 435
NEW WORLD	123
NEWTECH	049 050 063 182 195 379
NICAMAGIC	379
NIKKAI	018 049 063 076 102 123 139
	141 195 213 379
NIKKIA	066
NOBLEX	049 063 076 359 360
NOBLIKO	044 045 050 075 080 090 235
	379 406 407
NOGAMATIC	029 034 074 182 186 424
NOKIA	090 104 107 117 134 136 139
	150 153 157 159 162 165 171
	172 193 197 198 209 301 307
	330 343 350 416 419 428 429
	433 437
NORDMENDE	017 029 034 038 049 063 074
	083 130 150 165 174 182 186
	218 244 245 246 304 307 333
	334 424
NOVATRONIC	003 020 049 063
OCEANIC	086 094 104 107 108 109 116
	139 159 172 209 425
OCEANIC(F)	150
ODEON	076
OKANO	049 063 076 102 421
OMEGA	076
ONCEAS	050
ONWA	031 123 225 432
OPERA	049 063
OPTIMUS	099 315

BRAND NAME	CODE LIST
OPTONICA	190
ORBIT	049 063
ORION	004 042 045 049 051 063 076
	094 113 131 134 139 150 179
	191 195 199 216 314 331 366
	367 426
ORLINE	049 063 123
ORMENTI-PHOENIX	104
ORMOND	195
OSAKA	066
OSAKI	049 063 066 076 102 106 123
	379 426
OSIO	049 063 155
OSO	123
OSUME	018 102 123 302
OTTO VERSAND	012 018 049 050 053 063 074
	094 104 107 113 134 139 143
	172 190 244 245 246 247 250
	312 357 362 379 413 414 416
P.T ACTRON	111
PAEL	050 075 379
PALLADIUM	012 049 063 107 163 210 247
	324 357 379 413 416 421
PALSONIC	049 055 063 076 379 426
PANAMA	049 063 076 195 379 413
PANASONIC	049 063 099 104 107 137 139
	149 151 172 397 398 400 401
	405
PANAVISION	049 063 210
PATHE CINEMA	107 113 121 379 391 411 416
	425
PATHE CINEMA(F)	050 168
PATHE MARCONI	029 034 074 182 186 415 424
PAUSA	195
PAUZA	195
PERDIO	049 063 102 107 113
PERFEKT	049 063
PERSHIN	425
PHILCO	002 016 044 049 054 063 065
	090 093 094 104 107 126 142
	163 168 189 212 324 369 407
	413 421



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
PHILHARMONIC	379
PHILIPS	015 022 049 050 063 065 079
	089 111 112 157 158 160 175
	182 188 192 215 217 220 221
	247 250 313 324 337 342 350
	363 374 427
PHOENIX	049 050 063 075 102 104 107
	113 148 324 379 392 421
PHONOLA	022 050 063 065 079 112 158
	160 188 250 324 379
PILOT	049 063
PIONEER	049 063 074 172 182 209 218
	227 307 421 427
PIONIER	392 421
PLANTRON	049 063 076 195
PLAYSONIC	379
POLICOM	074
POPPY	195
POWERPOINT	232
PRANDONI-PRINCE	044 046 075 090 120 171 172
	307 407 413
PRECISION	379
PREMIER	142
PRIMA	076 195 307
PRINCE	044 046 075 171
PRINZ	102 185 416
PROFEX	107 139 195
PROFI-TRONIC	045 049 063
PROLINE	030 049 102 112 191 366 436
PROSONIC	049 063 085 149 151 195 225
	379 421 431
PROTECH	045 063 076 139 163 195 379
	413 416
PROVISION	049 063
PYE	050 063 065 079 112 157 158
	160 188 250
PYMI	049 063 112 195 324
QUADRA VISION	425
QUASAR	045 046 068 075 099 155 413
QUELLE	003 018 019 020 049 050 053
	063 074 075 076 078 080 090
	091 094 113 115 117 118 131

BRAND NAME	CODE LIST
QUELLE	139 146 147 150 153 155 172
	195 206 235 244 245 246 247
	254 301 319 320 340 341 379
	406 408 413 416
QUESTA	018
RADIALVA	049 063 074 107 123
RADIOLA	050 063 065 079 112 158 160
	188 250 342
RADIOMARELLI	045 046 047 062 063 065 104
	105 150 168 324 413
RADIONETTE	003 020 117 150
RADIO SHACK	049 063
RADIOTONE	049 063 076 163 195 421 426
	431
RAMK	341
RANDT	029
RANK	147 406
RBM	341
RBM(UK)	147
RCA	190 218 436
RECOR	049 063
RECTILIGNE	049 063
REDIFFUSION	018 059 105 139 171 172 307
	343
REDIFFUSION(UK)	150 162
REDIFUSION	104 105
REDSTAR	049 063
REFLEX	049 063
REVOX	049 063 421
REX	036 040 063 071 079 095 107
	110 171 210 236 242 243 305
	307 323 338 413
RFT	076 102 390 391 392 393 394
	395 421
RHAPSODY	
R-LINE	049 063
ROADSTAR	031 049 063 076 163 195
ROBOTRON	056 065 324
RODEX	049 063
ROTEL	302
ROWSONIC	050
ROYAL LUX	421 426



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
RTF	056 065
SABA	014 017 029 034 038 046 065
	074 077 107 120 133 139 172
	182 186 218 304 307 324 333
	334 424 436
SACCS	121
SAGEM	006 380 435
SAISHO	004 050 076 084 107 131 132
	134 179 195 233 307 330 331
	379
SALORA	033 075 107 127 133 136 139
	148 150 153 171 172 185 198
	209 301 307 312 416 418 419
SAMBERS	045 046 068 075 090 120 155
	336 407
SAMSUNG	050 063 066 076 102 155 189
	195 217 359 360 365 379 421
SANDRA	379
SANELA	411
SANSUI	049 063 225
SANTON	195
SANYO	003 018 020 041 049 050 056
	063 065 102 107 117 131 143
	189 195 198 201 206 209 302
	320 325 331 351 379 391 408
	421
SAVE	049 063
SBR	063 112 157 158 192 313
SCHAUB LORENZ	090 104 136 139 153 159 162
	171 198 307 416 433
SCHNEIDER	031 040 050 063 065 069 079
	095 104 107 112 114 139 148
	156 158 160 168 172 182 188
	195 225 242 243 250 307 328
	342 379 413 414 416 423
SCOTT	042 327
SEARS	042
SEG	018 045 049 050 056 063 076
	107 172 195 232 379 413
SEI	004 045 049 051 063 094 107
	139 236 314 324 357 416
SEL SINUDYNE	250

BRAND NAME	CODE LIST
SELECO	036 040 063 071 079 095 107
	110 171 172 210 236 242 243
	305 307 323 338 339 369
SENCORA	195
SENTRA	123 139 141 195
SERINO	380 435
SHARP	018 094 143 170 190 206 214
	302 362 364
SHORAI	042 094
SIAM	049 063
SIAREM	045 046 065 104 107 120 139
	324
SICATEL	121
SIEMENS	003 018 019 023 049 053 063
	066 113 118 206 244 245 246
	247 248 249 302 307
SIERA	050 063 065 079 112 158 160
	188
SIERRA	049 063 112
SIESTA	421
SILVA	049 063 379
SILVER	018 042 049 063 076 172
SINGER	045 047 049 063 065 104 195
	324 369 413 425
SINUDYNE	004 031 045 051 063 065 094
	104 107 134 139 150 172 210
	216 236 314 324 357 366 367
	416
SKANTIC	307 418
SKY	049 063
SOGERA	113
SOLAVOX	066 102 107 123 139 172 307
SONITRON	209 379 421
SONNECLAIR	049 063
SONOKO	006 050 063 076 195 379
SONOLOR	012 107 139 159 172 209 357
	425
SONTEC	049 063 094 421
SONY	012 018 028 045 131 143 204
	208 211 331 357 358 370
SOUND & VISION	031 045 123
SOUND WAVE	049 113 163



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
SOUNDESIGN	042
SPECTRA	195
SSANGYONG	195
STANDARD	049 050 063 113 123 195 379
STARLIGHT	049 063 076 107 195
STENWAY	006 031 123
STERN	036 040 063 071 079 095 107 110 171 236 242 243 305 307 323 338
STRATO	049 063 076 195
SUNKAI	049 063 094 123 134 179 191 232 314 367
SUNSTAR	049 063 195 225 431
SUNWOOD	049 063 195
SUPERLA	379
SUPERTECH	049 063 123 195 379
SUPRA	195
SUSMU	218
SUTRON	195
SWISSLINE	413
SYDNEY	379
SYTONG	425
TACTUS	106
TANDBERG	065 074 078 172 182 210 213 304
TANDY	050 096 102 123 190 307 379 413
TASHIKO	018 050 107 143 177 192 201 379 419
TATUNG	049 050 063 102 106 111 120 131 200 253 331 379
TEAC	049 063 076 195 380 416 426
TEC	040 050 064 168 195 213 218 242 243 379 413
TECH LINE	049 063 195
TECHICA	123
TECHNEMA	113
TECHNICS	099 315
TEDELEX	379
TEIRON	195
TEKNIKA	042 327
TELEAVIA	029 034 074 182 186 415 424

BRAND NAME	CODE LIST
TELECOR	049 063 107 123 242 379 423
TELEFUNKEN	032 049 063 064 074 082 182 186 187 218 392 424 436
TELEFUSION	049 063
TELEGAZI	049 063 076 107 123 242
TELEMEISTER	049 063 113
TELESONIC	049 063
TELESTAR	049 063
TELETECH	049 063 195 213 413
TELETON	018 067 107 236 242 379 416
TELEVIDEON	050 075 104 107 113 148 379
TELEVISIO	425
TEMCO	094
TEMPEST	049 063 195
TENNESSEE	049 063
TENSAI	003 020 050 055 063 094 113 117 123 195 225 379 408 413
TETUNG	046
TEVION	049 063 195
TEXET	050 195 379
THOMSON	008 010 017 024 029 034 049 063 064 074 134 147 174 182 186 218 230 234 304 309 333 334 415 424 436
THORN	049 053 063 103 106 141 158 218 222 321 329 408 409 411 419
THORN-FERGUSON	032 073 074 076 080 082 103 121 158 306 319 321 322 328 329 357 358 364 375
THRON	117
TMK	143
TOKAI	049 063 102 107 195 213 379
TOKYO	141 379
TOMASHI	006 031 123
TOSHIBA	001 018 045 128 141 143 147 205 341 369 379 406
TOWADA	045 379 416
TOYODA	195
TRAKTON	076
TRANS CONTINENS	044 046 049 063 075 171 307 379



Device Code of Universal Remote Control (Europe)

TV

BRAND NAME	CODE LIST
TRANSONIC	049 063 380
TRANSTEC	379
TRIDENT	379
TRISTAR	123 364
TRIUMPH	004 046 049 063 128 147 197 235 339 375
UHER	049 063 069 080 090 113 147 148 163 236 242 307 392 407 414 421
ULTRAVOX	044 045 047 049 050 063 065 104 107 133 139 324 379 413
UMA	305
UNIC LINE	049 063 165
UNITED	049 063
UNIVERSUM	003 004 012 018 020 049 063 074 076 094 107 131 155 163 165 172 195 202 206 210 213 235 244 245 246 320 357 375 379 406 407 408 413 416 421 428 429 437
UNIVOX	049 063 107 121 213 324 409 411
UTAX	050
VEGAVOX	163
VESTEL	049 063 107 125 364 379
VEXA	063 195
VICTOR	174
VIDEO SYSTEM	049 063
VIDELOGIQUE	031 123 379
VIDEO SYSTEM	049 063
VIDEOTECHNIC	113 379
VIDEOTON	107 418
VIDIKRON	045
VIDTECH	018
VIPER	213
VISIOLA	379
VISION	049 063 113
VISTAR	172 236
VOLTEC	074
VORTEC	063
VOXSON	049 063 065 090 163 171 307 324 407

TV

BRAND NAME	CODE LIST
WALTHAM	049 063 163 182 307 379 418
WATSON	049 063 107 113 123 195 244 245 246 423 431
WATT RADIO	045 050 068 104 107 121 139 150 336 379 416
WEGA	018 049 063 139 143 324
WEGA COLOR	065 088
WEGAVOX	195
WELTBlick	063 113
WESTINGHOUSE	063 094
WESTON	168
WHARFEDALE	049 063
WHITE	045
WHITE WESTINGHOUSE	049 050 063 113 213 379
WINCO	426
WINDSTAR	006
WINTERNITZ	361
XRYPTON	049 063
YAMISHI	006 049 063 123 379 380
YOKAN	049 063
YOKO	049 050 063 076 123 195 379 413 421
YORX	123
ZANUSSI	036 040 063 071 079 095 110 171 236 305 307 323 338 379
ZOPPAS	036 040 071 079 110 171 307

VCR

ADELSOUND	078
ADIBA	029
ADYSON	029
AIWA	004 033 039 055 090 116
AKAI	028 053 061 090
AKIBA	029
AKURA	029 090
ALBA	004 029 033 039 061 119 120
ALLSTAR	065
AMBASSADOR	061
AMSTRAD	029 039 119
ANITECH	029
ANSONIC	078
ARC EN CIEL	090



Device Code of Universal Remote Control (Europe)

VCR

BRAND NAME	CODE LIST
ARISTONA	065 091
ASA	055 065
ASUKA	029 036 039 055 065
AUDIOTON	061
AWA	053 055
BAIRD	015 039 090 104
BASIC LINE	029 061
BESTAR	021 061
BIRNKMANN	004
BLAUPUNKT	001 002 052 065 091 137
BLUE SKY	004 029 055
BONDSTEC	029 061
BOSCH	001
BRANDT	003 090
BRANDT ELECTRONIQUE	090
BIRNKMANN	004
BUSH	004 028 029 033 039 061 119 120
CAPEHART	061
CARENA	065
CARREFOUR	009
CASIO	039
CATRON	061
CGE	039 090
CIMLINE	029
CLATRONIC	029 061
COMBITECH	033
CONDOR	061
CONTINENTAL EDISON	090
CRAIG	008
CROWN	009 061
DAEWOO	009 061
DANSAI	029 055
DAYTRON	061
DE GRAAF	015 018 039 065
DECCA	004 039 047 065 090
DENKO	029
DIAMANT	055
DIXI	078
DUAL	039 065 090
DUMONT	015 039 065
DYNATECH	039

BRAND NAME	CODE LIST
ELBE	036
ELCATECH	029
ELSAY	029
ELTA	029
EMERSON	009 029 039
ESC	021 061
ETZUKO	029
EUROPHON	061
FENNER	061
FERGUSON	003 039 090 104
FIDELITY	029 039
FINLADIA	015 018 039 065
FINLUX	015 018 039 053 065
FIRST LINE	004 009 018 029 053
FISHER	008 015 036 061
FRONTECH	061
FUJITSU	039
FUNAI	039
GALAXI	039
GALAXY	039
GBC	029 061
GEC	065
GELOSO	029
GENERAL	061
GENERAL TECHNIC	004
GENEXXA	015
GOLDHAND	029
GOODMANS	004 029 039 055 061 065
GRAETZ	015 090
GRANADA	015 018 039 055 065 091
GRANADA(UK)	018
GRANDIN	029 039 055 061
GRUNDIG	002 003 004 065 091
HANSEATIC	055 065
HANTOR	061
HARMAN/KARDON	036
HARWOOD	029
HCM	029
HIFIVOX	090
HINARI	029 033 072 078 090
HISAWA	033
HITACHI	015 018 039 065 078 090



Device Code of Universal Remote Control (Europe)

VCR

BRAND NAME	CODE LIST
HORNYPHONE	065
HYPSON	029
IMPEGO	061
IMPERIAL	039
INGELEN	090
INGERSOLL	078
INNO HIT	029 061
INTERBUY	029 055
INTERFUNK	015 065
INTERVISION	004 039 055
IRRADIO	029 055 065
ITT	015 090
ITT-NOKIA	015 090
ITV	021 055 061
JVC	047 090
KAISUI	029
KENDO	004 029 055
KENWOOD	036 047 090
KIMARI	008
KNEISSEL	004 055
KORPEL	029
KRIESLER	091
KUBA	008
KYOTO	029
LEYCO	029
LG(GOLDSTAR)	036 039 055
LIFETEC	004
LLOYD	039
LOEWE	055 065 078 091
LOEWE OPTA	091
LOGIK	029 078
LUMATRON	021
LUXOR	008 015 029 053
LXI	055
M ELECTRONIC	036 039 055
MAGNAVOX	065
MANESTH	009 029 065
MARANTZ	036 065 091
MARK	061
MATSUI	004 033 039 055 078
MEDIATOR	065
MEDION	004 033

BRAND NAME	CODE LIST
MEMOREX	008 015 039 055
MEMPHIS	029
METZ	002 065 091
MGA	053
MICROMAY	004
MIGROS	039
MINERVA	002
MINOLTA	018
MITSUBISHI	047 053 065
MTC	039
MULTITECH	015 021 029 039 061
MURPHY	039
NAD	015
NAONIS	090
NEC	015 036 047 055 090
NECKERMANN	051 052 065 081 090 091
NESCO	029 039
NIKKAI	029 061
NOGAMATIC	090
NOKIA	015 018 065 090
NORDMENDE	003 014 020 039 047 090
OCEANIC	015 039 065 090
OKANO	004 021 028 029
ORION	004 033 078
ORSON	039
OSAKI	029 039 055
OTTO VERSAND	051 052 065 081
PALLADIUM	029 055 078 090 091
PALSONIC	029 039
PANASONIC	089 137
PATHE CINEMA	053 078
PATHE' MARCONI	090
PENTAX	018
PERDIO	039
PHILCO	029 036
PHILIPS	065 091
PHONOLA	065 091
PIONEER	018 047 065
PORTLAND	061
PRINZ	039
PROFITRONIC	065
PROLINE	003 039



Device Code of Universal Remote Control (Europe)

VCR

BRAND NAME	CODE LIST
PROSONIC	039
PROTECH	065
PYE	065 091
QUELLE	029 055 065 091
RADIOLA	065 091
RANK	090
REALISTIC	008 015 039
REX	090
RFT	029 061
ROADSTAR	029 055
ROYAL	029
SABA	003 009 012 014 047 090
SAISHO	004 078 090
SALORA	015 053
SAMSUNG	009 067
SAMURAI	061
SANSUI	004 029 047 090
SANWA	078
SANYO	008 015 047
SAVILLE	021 033
SBR	065
SCHAUB LORENZ	015 039 090
SCHNEIDER	029 039 055 065 091
SEG	029
SEI-SINUDYNE	065 078
SELECO	055 061 090
SEMIVOX	009
SENTRA	029 061
SETRON	029
SHARP	055
SHINTOM	015 029
SHIVAKI	055
SHORAI	078
SIEMENS	002 015 055 065 091
SIERA	065 091
SILVA	055
SINUDYNE	065 078
SOLAVOX	061
SONITRON	008
SONNECLAIR	029
SONTEC	055
SONY	039 051 052 081

BRAND NAME	CODE LIST
SOUNDWAVE	055
SSANGYONG	029
STANDARD	021
STARLITE	015 055
STERN	090
STS	018
SUNKAI	004
SUNSTAR	039
SUNTRONIC	039
SUNWOOD	029
SUPRA	055
SYLVANIA	039 053
SYMPHONIC	029 039 053
TAISHO	078
TASHIKO	039 055 065
TATUNG	004 039 053 065 090
TEAC	039 055 065 090
TEC	029 061
TECHNI SAT	004
TEKNIKA	039
TELEAVIA	090
TELEFUNKEN	003 090
TELETECH	029 039
TEMPEST	061
TENOSAL	029
TENSAI	029 039 055 078
TEVION	004
THOMSON	003 020 047 090
THORN	015 055 090
THORN-FERGUSON	090 104
TOKAI	015 029 055 090
TOKIWA	029
TOPLINE	004
TOSHIBA	009 053 065 090
TOWADA	029
TRAKTON	061
TVA	061
UHER	055
UNITED QUICK STAR	021
UNIVERSUM	002 004 039 051 052 055 065 081 091
VICTOR	047



Device Code of Universal Remote Control (Europe)

VCR

BRAND NAME	CODE LIST
VICTOR RESEARCH	036
WATSON	065
WELTBlick	055
YAMAHA	036
YAMISHI	021 029
YOKAN	029
YOKO	029 055 061
ZANUSSI	090
ZENDER	090

DVD

3 DLAB	072
AIWA	075
ALBA	087
AMSTRAD	085
A-TREND	086
BLUE SKY	080
BUSH	078 079 082 085
CINE ULTRA	082
CYBER HOME	086
DAEWOO	083
DENON	002 019 022 034 051
DENVER	082
DENZEL	077
DIGITOR	079
DIVIDO	083
DUAL	076 077
ELTA	079
ENZER	077
GE	003 004
GRUNDIG	072 080
HARMAN KARDON	001 066
HITACHI	077
JMB	080
JVC	006
KENWOOD	007 034 043 050 069
KISS	077
LAWSON	083
LECSON	081
LENCO	082
LG(GOLDSTAR)	005 055 064 070
LIFETEC	076

DVD

BRAND NAME	CODE LIST
LOGIX	083
MAGNAVOX	009 033 056
MANHATTAN	083
MARANTZ	033 059 072
MATSUI	076 080
MEDION	076 083
MICROMEDIA	009
MICROMEGA	072
MINOWA	083
MITSUBISHI	023 036
MONYKA	077
NAD	010 062
NEUFUNK	077
ONKYO	009 015 048
OPTIMUS	050
ORION	080
ORITRON	076
PANASONIC	024 025 030 034 035 044 052
PHILIPS	009 033 056 072
PHONOTREND	082
PIONEER	010 012 020 038 041 046 065 071 074
PROLINE	076
PROSCAN	003 004 037
PROVISION	082
RAITE	077
RCA	003 004 018 037
REC	034 078
REVOY	082
ROADSTAR	078 079 082
SANSUI	080
SCAN	083
SCHNEIDER	076
SEG	077 085
SHARP	021 028 050
SHINCO	087
SM ELECTRONIC	079
SONY	015 029 043 045 067
STANDARD	076
TEAC	087
TECHNICS	034
TENSAI	076 079



FORTEC STAR®

Device Code of Universal Remote Control (Europe)

BRAND NAME	CODE LIST
TEVION	076
THOMSON	003 004 073
TOKAI	077
TOKIWA	083
TOSHIBA	009 010 033 057 058
TV PROJECT	008
UNIVERSUM	085

BRAND NAME	CODE LIST
WALKVISION	087
WESDER	082
WHARFEDALE	081
YAMAHA	016 017 030 034 063
YAMAKAWA	077 084
ZENITH	005 009 033 055 064 083

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