User's Manual
Digital HD TV

Please read the entire manual thoroughly and retain it for future reference.
Contents

Instructions .......................................................................................................................... 3

1. Before Using the TV ...................................................................................................... 6
   1.1 Remote control ........................................................................................................ 6
   1.2 Front Panel Controls ................................................................................................. 8
   1.3 Rear Panel Jacks ....................................................................................................... 8
   1.4 CAM (Conditional Access Module) and Smart Card (Option) .......................... 9

2. Connections ....................................................................................................................10
   2.1 Connecting the TV to Various Other Systems ..................................................... 10

3. Easy Installation .............................................................................................................13
   3.1 Language ................................................................................................................ 13
   3.2 Local Time/GMT ..................................................................................................... 13
   3.3 Channel Search ...................................................................................................... 14

4. Operation .......................................................................................................................16
   4.1 Basic Operation ....................................................................................................... 16

5. TV Menu ........................................................................................................................17
   5.1 PICTURE ............................................................................................................... 17
   5.2 SOUND ................................................................................................................. 19
   5.3 MENU (in DTV mode only) .................................................................................... 21
   5.4 SCREEN .................................................................................................................. 28
   5.5 SETTING ............................................................................................................... 30
   5.6 CHANNEL (in Analog TV mode only) .................................................................. 32

6. Function Description .....................................................................................................35
   6.1 Basic Function Usage ............................................................................................. 35
   6.2 Teletext Feature ..................................................................................................... 36

7. Appendix ..........................................................................................................................37
   7.1 Preparing before installing Wall-Mount on the wall .......................................... 37
   7.2 Troubleshooting ...................................................................................................... 38
   7.3 Specifications ......................................................................................................... 39
**Instructions**

**Safety Warnings**

**Attention:** In order to prevent fire or electrical shock, do not open the casing or rear panel.

A lightning bolt with an arrowhead in an equilateral triangle should indicate to the user that dangerous voltage inside the product is strong enough to give a person an electrical shock.

**CE Certification Symbol:** We have conducted tests and demonstrated our compliance with all relevant EU guidelines and requirements.

An exclamation mark in an equilateral triangle should indicate to the user that important usage, maintenance and service instructions are located in the manual accompanying the device.

A laser product symbol on the back of the device indicates that this device is a certified laser product. The laser is weak outside of the device and only emits innocuous radiation.

**Keep Electrical Devices Out of the Hands of Children**

Never allow children to use electronic devices unsupervised. Batteries can be deadly if swallowed. Therefore, keep the device and batteries where children cannot reach them. If a battery is swallowed, medical help must be sought immediately.

**Moisture and Cleaning**

This product is not waterproof! Do not immerse this device in water and do not let it come in contact with water. Water can cause serious damage inside the device. Do not use any cleaning products which contain alcohol, ammonia, benzene or abrasives, as these can damage the unit. Use a soft, damp cloth for cleaning.

**Heat and Warmth**

Do not place this device in direct sunlight. Ensure that the device is not exposed to a direct heat source such as a radiator or an open fire. Make sure that the device's ventilation openings are not covered.

**Caution! Important References to the Ear Protection**

Your hearing is important to you and to us. Therefore, please be careful when using this device. We recommend that you: avoid loud volumes! If this device is to be used by children, ensure that the device is not set too loud.
Attention!
Too high a volume can cause irreparable damage in children.

SET A SAFE VOLUME LEVEL
• After repeated listening to loud music, your hearing gradually becomes adjusted to this and gives you the
  impression that the volume is lower.
• What seems normal to you can in fact be harmful in reality.
• To protect yourself from this, set the volume to a low level.
• Increase the volume slowly, until you can hear clearly and without difficulty.
• There are many kinds of auditory damage and they cannot be reversed.
• If you notice disturbances with your ears, please contact a doctor.

Interference with Other Devices
If interference with radio or television reception occurs during use, place the device in another place in the room
or building.

Disposal
Batteries and packaging material do not belong in domestic waste. The batteries must be delivered to a
collection center for old batteries. The separate disposal of packaging materials protects the environment.

Disposal old electrical & electronic equipment (Applicable in the European union and other European countries with
separate collection systems)
This symbol on the product or on its packaging indicates that this product shall not be treated
as household waste. Instead it shall be handed over to the applicable collection point for the
recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly,
you will help prevent potential negative consequences for the environment and human health,
which could otherwise be caused by inappropriate waste handling of this product. The recycling
of materials will help to conserve natural resources. For more detailed information about
recycling of this product, please contact your local city office, your household waste disposal
service or the shop where you purchased the product.
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 dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into 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 the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. An apparatus with CLASS I construction shall be connected to a Mains socket outlet with a protective earthing connection.

Note: Prolonged use of headphones at a high volume may cause health damage on your ears.
1. Before Using the TV

1.1 Remote control

When using the remote, always point it directly at the TV.

1. **POWER**  
To switch between ON and STANDBY mode.

2. **SOURCE**  
To select the DTV, ATV, SCART1/2, AV, Component, HDMI1/2 or PC.

3. **Number buttons**  
To select the channel directly and enter channel edit, PIN code.

4. **OneTwo-digit button**  
OneTwo-digit channel selection.

5. **TV/RADIO**  
To switch between TV and radio.

6. **SLEEP**  
To set the sleep timer.

7. **P.MODE**  
To select picture mode.

8. **Navigation buttons**  
To control the cursor in the menu.

9. **STILL**  
To freeze the current picture.

10. **GUIDE**  
Electronic Program Guide display.

11. **ASPECT**  
To select Aspect Ratio.

12. **A.Lang**  
To select the audio language.

13. **EXIT**  
To return the normal viewing mode from a menu.

14. **MUTE button**  
To cut off the sound.

15. **VOL + / -**  
To increase or decrease the volume.

16. **GUIDE**  
Electronic Program Guide display.

17. **CH + / -**  
To change channel up and down.

18. **S.MODE**  
To select sound mode.

19. **PRE-CH**  
To select the previous channel.
21. To display the available teletext sub-page.
22. To display the teletext index page.
23. PIP/INPUT To select a source of sub-picture.
24. PIP Picture-In-Picture On/Off
25. FLOP/LIST To select the teletext mode.
26. TTX/MIX To activate teletext mode.
27. HOLD To hold teletext.
28. SIZE To control teletext size.
29. REVEAL To reveal teletext.
30. CH ↑ / ↓ To change the PIP channel.
31. STORE To store teletext.
32. SWAP To exchange the main and sub pictures.
33. LOCATE To select a position of sub-picture.
34. / To select the next or previous teletext page.
35. To cancel teletext.

Note
- When inserting batteries, make sure that the polarity (+/-) is correct.
- The design of the Remote Control Unit may be changed without any notice in advance.
1.2 Front Panel Controls

1. **Menu**
   - Press to display the on-screen menu of your TV's features.

2. **OK**
   - Press this button to select the required menu.

3. **+ CH**
   - Press to change channel up and down.

4. **- VOL**
   - Press to increase or decrease the volume.

5. **Power**
   - Press to turn the TV On and Off.

6. **Power / Standby Indicator**
   - Blinks and turn off when the power is on and lights up in standby mode.

7. **Speaker**

8. **Smart Card Slot**
   - Insert the smart card to view and listen to all the channels you choose to subscribe to.

9. **Common Interface (CI) Slot**
   - Insert the CI to view and listen to all the channels you choose to subscribe to.

10. **USB port**
    - Connect a USB memory device or a PC by using a USB cable.

1.3 Rear Panel Jacks

1. **Power In**
   - To connect the supplied power code.

2. **HDMI1/2**
   - To use the HDMI cable to connect this jack to the HDMI jack on your external device for the best quality picture.

3. **PC**
   - To connect to the video output jack on your PC.

4. **AUDIO**
   - To connect to the audio output jack on your PC.

5. **Composite In**
   - Audio (L/R) and video (VIDEO) connection jack.

6. **Component In**
   - To input audio (L/R) and video (Y, PB, PR) for component.

7. **SCART 1/2**
   - To connect this jack to the external devices via SCART cable.

8. **UPGRADE**
   - To connect for the upgrade.

9. **S/PDIF (Optical)**
   - To connect a digital amplifier output.

10. **ANALOG TUNER**
    - To connect terrestrial antenna.

11. **LNB**
    - To connect satellite antenna.
1.4 CAM (Conditional Access Module) and Smart Card (Option)

Note
Please do not plug in the main power supply cord until you have finished all of the connections!

Although some TV and radio channels are free to view, you must subscribe to most TV and radio/music channels and a Conditional Access component is required.

If you want to enjoy watching scrambled broadcasting channels, you need to purchase the CAMs and smart cards from a service provider’s sales department. However, broadcasting channels from multiple service providers call for multiple CAMs and Smart cards. TV which have only the CAMs and smartcards provided by the one service provider can show several broadcasting channels of the provider. Please refer to manuals provided by service providers for details because the CAM and smartcards are featured with unique menus, apart from menus given by the TV. Watching “Free-To-Air” channel is available regardless of the CAM and smart cards. As service providers download new information to smart cards if necessary, those who have CAMs and smart cards should always put the smart cards in proper slots.

Inserting a Smart card
A Smart card looks similar to a credit card and entitles you to view and listen to all the channels you choose to subscribe to. The Smart card slot on the TV can be used for Smart cards only.
1. Open the right-hand cover on the left side panel of the TV.
2. Hold the Smart card vertically with the electronic chip (small square-shaped, gold in colour) facing into the front of the TV.
3. Insert the Smart card into the top slot.

Inserting the CI (Common Interface) Module
Your TV is equipped with a slot for the Common Interface (CI).
1. Open the right-hand cover on the left side panel of the TV.
2. Insert the smart card into the CI-Module, and the CI-Module into the slot.

Note
CI and CAS embedded model only.
2. Connections

2.1 Connecting the TV to Various Other Systems

There are several ways of connecting the TV to your VCR. Consult your local supplier for assistance in setting-up your system that is best suited to your requirements.

2.1.1 To Connect Satellite and Terrestrial Antenna
Connect one end of coaxial cable to the ANALOG TUNER on the back of the TV and the other end to a terrestrial antenna connection or the jack for the public antenna on the wall.

DiSEqC 1.0
- Connect the coaxial cable from the LNB to the LNB jack on back of the TV.

DiSEqC 1.2 Motor
1. Connect one end of your coaxial cable to the LNB connector on the TV and the other end to the REC or TV connector on the DiSEqC 1.2 motor.
2. Connect the coaxial cable from the LNB to the LNB connector on the DiSEqC 1.2 motor.

2.1.2 To Connect a VCR
Connect the SCART jack from the VCR to the back of the TV. You can also use A/V jacks.
2.1.3 To Connect a Set-top Box - SCART
Connect the TV to a Set-top Box with SCART, if your Set-top Box is equipped for it. You can also use A/V jacks.

2.1.4 To Connect a DVD Player / Set-top Box - Component
The rear jacks on your TV make it easy to connect a DVD player/Set-Top Box to your TV. Component video separates the video into Y (Green), Pb (Blue), and Pr (Red) for enhanced video quality. Be sure to match the component video and audio connections. Each external input source device has a different back panel configuration. When connecting an external device, match the colour of the connection terminal to the cable.

2.1.5 To Connect a DVD Player / Set-top Box / HDMI
HDMI offers the best video quality. This connection can only be made if there is an HDMI Output jack on the external device. HDMI, or high-definition multimedia interface, is a next-generation interface that enables the transmission of digital audio and video signals using a single cable without compression. “Multimedia interface” is a more accurate name for it especially because it allows multiple channels of digital audio (5.1 channels). When connecting via HDMI, you do not need to connect Audio Cables. You only need to connect Audio cables when connecting via DVI.

Note
- Connect the cable with input jack on TV properly as shown in the picture.
- The design of the Rear Panel may be changed without any notice in advance.
2.1.6 To Connect a Digital Audio System
If you have a DAC with S/PDIF optical cable input, you can connect the TV with it to enjoy higher quality sound. Connect S/PDIF optical cable to a digital amplifier.

Note
A Digital Audio system is available only when the TV Speaker function is set to off.

2.1.7 To Connect a PC
This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV’s settings.

Note
• Connect the cable with input jack on TV properly shown in the picture.
• The design of the Rear Panel may be changed without any notice in advance.

2.1.8 To Connect a USB memory device
You can view video and photo or listen to audio files which are saved on a USB memory device or a PC.

2.1.9 LNB
If you have an analogue or digital Set-top Box and you wish to use the same CATV line then you can connect it via the LNB. Connect one end of the coaxial cable to the LNB on the Set-top Box and connect the other end to the CATV ANT. IN jack on your Set-top Box.

Note
• Connect the cable with input jack on TV properly shown in the picture.
• The design of the Rear Panel may be changed without any notice in advance.
3. Easy Installation

Before you watch the TV, you must perform the installation procedure first. Therefore you will see only "Easy Installation" menu at first. The Easy Installation gives you the convenience of adjusting the time and channel search.

- Automatic Installation by "Easy Installation"
  The Installation Wizard is a user-friendly method assuring the easy set-up of the TV by the new user.
- System Connection
  Connect the TV to all peripheral devices such as the Video, Audio and DVD etc.
- Power On
  Switch is turn on to the back of TV.
  Turn on the power of the TV and other devices.
  The power cord of the TV should be connected to a wall outlet.
  Press the Power button on the side of the TV or on the remote control.
- Power Off
  When you press the Power button again, the TV will display "OFF".

3.1 Language

Press the OK button.

3.2 Local Time/GMT

Select the time setting type.
Press the < or > button to select local time.
When you press the < or > button, the time zone will move by 30 minutes.
### 3.3 Channel Search

#### 3.3.1 Satellite Search

1. Select the satellite list you want using the \( \checkmark \) or \( \triangleleft \) button on the satellite list.
   - **C/KU Switch**: You can select C/KU band by selection of switch type.
   - **LNB Freq.**: Select the proper LNB frequency referring to your LNB using OK and the \( \checkmark \) or \( \triangleleft \) button.
   - **C-LNB Freq.**: When selecting the C/KU Switch is selected as None, the C-LNB Freq will be dimmed automatically. Press OK button, and then the C-LNB Freq. List will be displayed. You can also input the freq. you want. After inputting freq. using numeric button, press OK button.
   - **LNB Power**: Select the LNB Power On or OFF.
   - **22KHz**: Depending on the user’s antenna switch box or LNB. When selecting the U-LNB 1 and U-LNB 2, the 22KHz will be dimmed. (MOTOR DiSEqC 1,2).
   - **0V/12V**: Depending on the user’s antenna switch box. You can choose either 0V/12V.
   - **Tone Burst**: Depending on the user’s antenna switch box. (Off, SAT A or SAT B)
   - **DiSEqC**: You can select and use appropriate port for your DiSEqC switch box. Press OK button to select DiSEqC List. (None, DiSEqC A, DiSEqC B, DiSEqC C, DiSEqC D, Motor, USALS)

2. Press the Yellow button to edit, add or delete the TP list.
   - **Mode**: Select the input mode using the \( \leftarrow \) or \( \rightarrow \) button (Edit, Add, Delete).
   - **Satellite**: Check the satellite and then press the OK button.
   - **Degree**: Input longitude using the numeric button and then using the \( \leftarrow \) or \( \rightarrow \) button to select W or E (West / East).
   - Press OK button to save.

3. After selecting all that is necessary, press Red button to scan the satellite list.
   - **Network**: Select ON or OFF according to your Network.
   - **Search Type**: Select All or FTA Search Type.
   - Press OK button and searching will start.
3.3.2 TP List Search

1. Select the satellite list you want using the ▼ or ▲ button on the satellite list.
2. Press the Green button to display the TP list.
3. Press the Yellow button to edit, add or delete the TP list.
   • Mode  Select the input mode using the ▼ or ▲ button (Edit, Add, Delete).
   • Frequency  Input a proper Frequency using numeric button.
   • Symbol Rate  Input a proper Symbol Rate using numeric button.
   • Polarity  Use the ▼ or ▲ button to select the Polarisation of the transponder. (Horizontal, Vertical)
   • Transmission  Use the ▼ or ▲ button to select the transmission.
   • Modulation  Select the modulation using the ▼ or ▲ button (QPSK, 8PSK).
   • FEC  You can select the value of Auto, 1/2, 2/3, 3/4, 5/6, 8/9 or 9/10.
   • Pilot  You can select On, Off or Auto.
4. Press the Red button on the TP list.
   • Frequency  Input a proper Frequency using numeric button.
   • Symbol Rate  Input a proper Symbol Rate using numeric button.
   • Polarity  Use the ▼ or ▲ button to select the Polarisation of the transponder. (Horizontal, Vertical)
   • FEC  Use the ▼ or ▲ button to select the FEC of the transponder. (Auto, 1/2, 2/3, 3/4, 5/6 or 7/8)
   • Network  You can select On or Off. When you select On, you can find more transponders using the home network.
   • Video PID/Audio PID/PCR PID  You can set PID to search for services. Use the ▼ or ▲ button or numeric button to input the value.
5. Press OK button to start scanning.
4. Operation

4.1 Basic Operation

4.1.1 Turning the TV On / Off
Connect power code correctly, the set is switched to standby mode.
Press the Power button on the remote control and then the set will switch on.

4.1.2 Changing Channels
- Press the CH + or CH - button to change channels. You will see all the channels that the TV has memorized.
- The PRE-CH button to select the previous channel.
- The +/- button is used to select stations that broadcast a digital signal. (In Analog TV mode only) For example, for Channel 7-1, press “7”, then “/--”, and then “1”.
- Use the numeric buttons to go directly to a channel.

4.1.3 Adjusting the Volume
Adjust the volume to suit your personal preference.
- Use the VOL + or VOL - button to increase or decrease the volume.
- At any time, you can cut off the sound using MUTE button.
5. TV Menu

To Display the Main Menu
Press the MENU button. The main menu is displayed on the screen. Its left side has six icons. (PICTURE, SOUND, MENU, SCREEN, SETTING, CHANNEL: The CHANNEL icon will be activated only at Analog TV mode, the MENU icon will be activated only at DTV mode.)

To Select the Required Option
Use the ▲ or ▼ button to be able to select the required mode, and then press the OK button to enter the required options.

To Exit the Menu
Press the EXIT button to exit or press the MENU button to return to the previous menu.

5.1 PICTURE

5.1.1 Changing the Picture Modes
Your TV has four automatic picture modes (Standard, Dynamic, Movie and Custom) that are preset at the factory. You can select the type of picture which best corresponds to your viewing requirements.

In the Picture Menu, use the ▲ or ▼ button to select the required mode.
• Standard To select for the most general and natural screen display status.
• Dynamic To select for viewing the TV during the day or when there is bright light in the room.
• Movie To select when viewing the movie.
• Custom To select this option to use the user-defined setting.

Note
You can select these modes simply by pressing the P.MODE button on the remote control.

5.1.2 Customizing the Picture Settings
Your TV has several setting options that allow you to control picture quality. You can adjust picture Contrast, Brightness, Colour, Sharpness and Tint to the levels you prefer.

In the PICTURE mode, use the ▲ or ▼ button to select the desired picture option (Contrast, Brightness, Colour, Sharpness or Tint).
• Contrast Adjusts the difference between the light and dark levels in the picture.
• Brightness Increases or decreases amount of white in your picture.
• Colour Adjusts intensity of all colours.
• Sharpness Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level is, the softer the image becomes.
• Tint Adjusts the balance between red green level. (Activated only in the NTSC input)

Press the OK button and then use the < or > button to make appropriate adjustments.
5.1.3 Customizing the Colour Temperature
Adjusts the colour temperature options (Cool, Normal, Warm). Choose one of three automatic colour adjustments.

In the Colour Temp. menu, use the ▲ or ▼ button to select the required mode.

- **Cool** To set Cool to see less intense colours with more blue.
- **Normal** To select for the most general colour temperature.
- **Warm** To set Warm to enhance hotter colours such as red.

Press the EXIT button or press the MENU button three times to exit.

5.1.4 Selecting the 3D NR mode
You can select 3D NR to reduce the picture noise which may appear on the screen during watching the TV. If the signal received by the TV is weak, you can activate this feature to reduce any static and ghosting that may appear on the screen.

In the 3D NR menu, use the ▲ or ▼ button to select the required mode (On or Off) and then press the OK button.

5.1.5 Setting the Active Colour
You can enhance the colour of the picture. The colours of the sky and grass will be stronger and clearer for a more vivid on-screen picture.

In the Active Colour menu, use the ▲ or ▼ button to select the required mode (On or Off) and then press the OK button.
5.2 SOUND

5.2.1 Changing the Sound Modes
Your TV has four automatic sound modes (Standard, Music, Movie and Custom) that are preset at the factory.
You can select your preferred sound setting.

In the Sound Mode menu, use the ▲ or ▼ button to select the required mode.

• Standard To select for the most commending and natural audio.
• Music To select this option to enjoy the original sound when listening to the music.
• Movie To select this option to enjoy sublime sound.
• Custom To select this option to use the user-defined audio setting.

Note
You can select these modes simply by pressing the S.MODE button on the remote control.

5.2.2 Customizing the Equalizer
Your TV has several settings which allow you to sound quality. You can adjust the sound frequency of the equalizer.

In the Equalizer menu, use the < or > button to select a sound band and then press the ▲ or ▼ button to make appropriate adjustments.
5.2.3 Customizing the Balance Adjustment
You can adjust the sound balance of speaker to levels you prefer.

In the Balance menu, use the < or > button to make appropriate adjustments.

5.2.4 Setting the Auto Volume
You can select the status of the Auto Volume menu. Automatically keeps on an equal volume level even if you change programmes.

Use the ▲ or ▼ button to select the required mode (On or Off).

5.2.5 Setting the TV Speaker
You can adjust the internal speaker status.

In the TV Speaker menu, use the ▲ or ▼ button to select the required mode (On or Off) and then press the OK button. When the TV speaker function is set to off, the sound related menu is disabled.
5.3.1 Searching the Channels

Select the satellite list you want using ▲ or ▼ button on the satellite list.

In the Menu mode, select the Channel Search menu and then input the PIN code to enter the Channel Search. (Default PIN code is 0000.)

• **C/KU Switch** You can select C/KU band by selection of switch type.

• **LNB Freq.** Select the proper LNB frequency referring to your LNB using OK and < or > buttons.

• **C-LNB Freq.** When selecting the C/KU Switch is selected as None, the C-LNB Freq will be dimmed automatically. Press OK button, and then the C-LNB Freq. List will be displayed. You can also input the freq. you want. After inputting freq., using numeric buttons, press OK button.

• **LNB Power** Select the LNB Power On or OFF.

• **22KHz** Depending on the user’s antenna switch box or LNB. You can supply either 22KHz by setting ON or not by setting OFF. When selecting the U-LNB 1 and U-LNB 2, the 22KHz will be dimmed. (MOTOR DiSEqC 1,2).

• **0V/12V** Depending on the user’s antenna switch box. You can choose either 0V/12V.

• **Tone Burst** Depending on the user’s antenna switch box. (off, SAT A or SAT B)

• **DiSEqC** You can select and use appropriate port for your DiSEqC switch box. Press OK button to select DiSEqC List. (None, DiSEqC A, DiSEqC B, DiSEqC C, DiSEqC D, Motor, USALS)

Set the all required options and then press the Red button to scan the satellite list.

**Note**
Refer to page 13-14.
5.3.2 Editing the Channel List

From these menus, you can edit favorite lists, lock, skip, delete or move channel.

1. Select the Edit Channel List menu and then input the PIN code to enter the Edit Channel List.
   - Red button  Change the edit list
   - Yellow button  Rename Channel
   - Blue button  Rename Favorite
   - Green button  Add to edit list

2. Press the Red button to select the desired mode and then press the OK button.

3. Use the ▲ or ▼ button to select the desired channel and then press the OK button to add to edit list.
   To remove the channel list from edit list at right folder, press the OK button. The edited list will be removed.

4. Press the MENU button or EXIT button to confirm the channel list.
   And then press the OK button to save.

Note
The PIN code preset to 0000 from the factory.
5.3.3 Viewing the Programme Guide

This Programme Guide menu information might not be supported by service providers.

1. Select the Program Guide menu and then input the PIN code to enter the Program Guide.
2. Use the ▲ or ▼ button to select channel and then you can find out channel information at top screen.
3. Use the ◀ or ▶ button to check the programme guide information as per its time.
   - Red button Date
   - Yellow button Reserve
     When open the reserve window, you can select the mode Once, Daily, Weekly or Off.
   - Blue button Scroll
   - Green button Sort

Note
- The PIN code preset to 0000 from the factory.
- You can select Programme Guide simply by pressing the GUIDE button on the remote control.
5.3.4 Setting the System

You can specify some settings from submenus. The PIN code preset to 0000 from the factory.

In the System Setting menu, use the \ or \ button to select the required option.

- **Menu / Audio / Subtitle Language**
  You can change the default value for Menu, Audio and Subtitle languages. Press the OK or \ button to select required menu and then press the OK button to select English.

**Note**
You can select Audio Language simply by pressing the A.Lang button on the remote control.

- **Banner Time**
  When you switch channels, an information banner will be shown for a few seconds. You can select for how long banner will be shown. Press the OK or \ button to enter Banner Time and then use the \ or \ button to select the desired option.
  - Available options: 1secs, 3secs, 6secs, 9secs, 12secs, 15secs

- **Local Time**
  You can select the current time zone. Press the OK or \ button to enter Local Time and then use the \ or \ button to select the current time. When you press the \ or \ button, the time zone will move by 30 minutes.

- **Day Light**
  If you want to turn the Day Light Saving on, press the \ or \ button to select ON and then press the OK button.
• **Menu Transparency**  
From 30% to 100% will give the variable transparency on Video and OSD screen.  
Press the OK or > button to enter Menu Transparency and then use the ↑ or ↓ button to set transparency.

• **Change PIN Code**  
From here you can change the PIN code from the standard 0000. DO NOT FORGET IT! Without it, you are not able to access to any of the functions where the code is required. You can change password for Parental Lock and Menu Lock simultaneously. Press the OK or > button to enter Change PIN Code. Use the numeric buttons, input the current PIN code. In highlighted new PIN code, input a new PIN code. To verify the new PIN code, re-enter a new PIN code in the highlighted confirm PIN code. If the PIN code is correct, the message “Success” will be displayed on the display window.  
**Note**  
If you forget the PIN code, press the RGYB (Colour) button in sequence at. (i.e. Red → Green → Yellow → Blue button) The PIN code will be changed to 0000.

• **Parental Lock**  
When you change Parental Lock to On or Off, service channel can get or not from that set values. If you select On, you may need PIN code every time you select the lock channel program as you set in the channel control. If you select Off, you can see all channels without PIN code. Press the OK or > button to enter Parental Lock and then use the < or > button to select On or Off.

• **Menu Lock**  
If the Menu Lock is already set, the PIN code is needed to set the Edit Channel List and System Setting. Press the OK or > button to enter Menu Lock and then use the < or > button to select Unlocked or Locked.

• **SPDIF Output**  
You can hear digital audio of the Dolby 5.1 channel using SPDIF Output. Press the OK or > button to enter SPDIF Output and then use the < or > button to select the required option.  
  - Off If selecting Off, the digital audio will not be output.  
  - PCM When selecting PCM, the unzipped digital audio is output through SPDIF.  
  - Dolby Digital When selecting Dolby Digital, if the current channel is a Dolby audio channel, the zipped Dolby stream is output through SPDIF.
• Factory Reset

Press the < or > button on the Setup list to select Factory Reset. Use this option only if you have to start the complete installation procedure from scratch. If you continue from here, all your previous settings and all channels will be cleared! The default data will be loaded. If you press the OK button, it asks for your confirmation. If you want to reset, press the OK button, or press the EXIT button to exit this menu.

• S/W Upgrade via USB

Software can be downloaded through the USB. Press the OK or > button to enter S/W Upgrade via USB and then press the OK button.

- Save Channel List

You can save the current channel list to USB device.

• OTA Upgrade

Software can be downloaded through OTA (Over The Air). Press the OK or > button to enter OTA Upgrade and then select the required option.

- Satellite

Use the < or > button to select the required satellite.

- Frequency

You can specify the frequency using the numeric buttons.

- Symbol Rate

You can specify the symbol rate using the numeric buttons.

- Polarity

Use the < or > button to select H or V.

- Modulation

Use the < or > button to select the required modulation. Select the START and then press the OK to start upgrade.

• System Information

Displays the system information (S/W, H/W, Loader Version, C.A etc.) Press the OK or > button to enter System Information.

5.3.5 Selecting the Utility

You can use the function of the utility menu.

In the Utility menu, press the OK button to select the required option.
5.3.6 Setting the Common Interface

Your TV is equipped with 1 slot for a smart card. Plug a valid smart card into the slot. Then you will have access to the respective scrambled channel and Pay-Per-View services provided.

1. Insert the smart card into the slot. The smart card determines the programs that can be de-scrambled.
2. The smart card contains your subscription details so that you can view your entitlement.
   If you do not insert the smart card, you will see the message “Insert the valid smart card”.
   If you insert the smart card into the slot then you can watch your selected channel.
3. Press the OK button to select the required option.
4. Press the EXIT button to exit.
5.4 SCREEN

You can select several options of SCREEN menu.

5.4.1 Selecting the Screen Size

You can select the picture size to depend on the type of video input.

In the Aspect Ratio menu, use the ▲ or ▼ button to select the required mode.
- **Auto** Displays the picture as the original signal source.
- **16:9** Sets the picture to 16:9 wide mode.
- **4:3** Sets the picture to 4:3 normal mode.
- **Zoom1** Magnifies the size of the picture on the screen.
- **Zoom2** Expands the Zoom1 format picture.

**Note**
- In COMP. mode, you can only select 16:9, 4:3, Zoom1 and Zoom2.
- In HDMI1 and HDMI2 mode, you can only select 16:9 and 4:3.
- You can select these options simply by pressing the ASPECT button on the remote control.

5.4.2 Selecting the Main Source

You can switch between viewing signals from connected external device.

In the Main Source menu, use the ▲ or ▼ button to select the required signal source and then press the OK button.

- **Available signal sources**: DTV, ATV, SCART1, SCART2, AV, COMP., HDMI1, HDMI2, PC

**Note**
You can select these options simply by pressing the SOURCE button on the remote control.
5.4.3 Viewing the Picture in Picture (PIP)

You can display a sub picture within the main picture. In this way you can watch TV programme or monitor the video input from any connected devices.

In the SCREEN mode, use the \(\uparrow\) or \(\downarrow\) button to select the required menu.

- **PIP Mode**
  - Off, PIP, DW1, DW2
  You can activate or deactivate the PIP function. And you can also select a size of the sub picture. Use the \(\uparrow\) or \(\downarrow\) button to select the required option and then press the OK button.

- **PIP Source**
  You can select a source of the sub-picture.

### Table of PIP combination

<table>
<thead>
<tr>
<th>Main PIP</th>
<th>DTV</th>
<th>ATV</th>
<th>SCART1</th>
<th>SCART2</th>
<th>AV</th>
<th>COMP.</th>
<th>HDMI1</th>
<th>HDMI2</th>
<th>PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTV</td>
<td>X</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>ATV</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>SCART1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>SCART2</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>AV</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>COMP.</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>HDMI1</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>HDMI2</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>PC</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

- **PIP Position**
  You can select a position of sub-picture. Use the \(\uparrow, \downarrow, <, >\) button to select a position of sub-picture.

- **Swap**
  You can exchange the main and sub pictures. Press the \(>\) or OK button to swap.

**Note**

You can use various functions of PIP with the PIP related buttons on the remote control.
5.5 SETTING

5.5.1 Selecting the Language
You can select in which language the menus will be shown.

In the SETTING menu, use the < or > button to select English.

5.5.2 Setting the Time
Setting the time is necessary in order to use the various timer features of the TV. Also, you can check the time while watching the TV.

In the Time menu, use the or button to select the required option, and then press the OK button. Press the MENU button to exit.

- **Clock**
  You can set the TV clock so that the current is displayed.
  Use the < or > button to select hour or minute.
  Use the or button to set the time.

- **On time**
  You can set the on timer so that the TV will switch on automatically at the time you select.
  - **On time**
    Use the < or > button to select hour or minute and then use the or button to set the time.
  - **Programme**
    Use the or button to select the memorized channels.
  - **Volume**
    Use the or button to adjust the volume.
  - **On / Off**
    Use the or button to select the timer on or off.
  - **Save**
    Press the OK button to save the set value.

- **Off time**
  You can set the off timer so that the TV will switch off automatically at the time you select.
  - **On / Off**
    Use the or button to select the timer on or off.
  - **Save**
    Press the OK button to save the set value.

- **Sleep timer**
  You can select a time period of between 10 and 120 minutes after which the TV automatically switches to standby mode. Use the or button to select the time interval (10, 20, 30, 60, 90, 120).

**Note**
You can select these options simply by pressing the SLEEP button on the remote control.
5.5.3 Adjusting the Menu Transparency
You can adjust the menu window's transparency.

Use the < or > button to adjust the values of Menu Transparency between 30 and 100 percents.

5.5.4 Setting the Scart1 Output
You can set the video/audio output.

Use the ▲ or ▼ button to set the desired item.
- Auto Outputs the original signal source.
- DTV Outputs the Digital TV regardless of the signal source.
- ATV Outputs the Analog TV regardless of the signal source.

5.5.5 Setting the PC Control Options (In PC mode only)
You can view higher quality pictures by configuring the screen settings in PC Control mode.

In the PC Control menu, use the ▲ or ▼ button to select the required option, and then press the OK button.

- H-POS / V-POS Adjust the PC's screen horizontal and vertical positioning. Use the < or > button to adjust the position.
- Clock / Phase Adjusts the screen quality. Use the < or > button to adjust the screen quality.
- Auto Allows the PC screen of set to self-adjust to the incoming PC video signal. Press the > button to adjust automatically.

### D-Sub Input

<table>
<thead>
<tr>
<th>PC format</th>
<th>PC</th>
<th>HDMI</th>
<th>SCART, AV</th>
<th>ATV</th>
</tr>
</thead>
<tbody>
<tr>
<td>50Hz</td>
<td>56Hz</td>
<td>60Hz</td>
<td>70Hz</td>
<td>72Hz</td>
</tr>
<tr>
<td>640x480</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>720x400</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>800x600</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>1024x768</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>1152x864</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>1280x1024</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>DTV format</td>
<td>480P</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>576P</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>720P</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>1080i</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>TV format</td>
<td>PAL-B/D/G/H/I</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>NTSC-4.43</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>NTSC-M</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>SECAM L/L'</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>PAL-60</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
5.6 CHANNEL (In Analog TV mode only)

You can scan for the frequency ranges available to you (availability depends on your country).

5.6.1 Selecting the Country
You can select the country in your locality.

In the Country menu, use the < or > button to select desired country.

5.6.2 Storing Channels Automatically
You can scan for the frequency ranges available to you (availability depends on your country).
Automatically allocated programme numbers may not correspond to actual or desired programme numbers. However you can sort numbers manually and clear any channels you do not wish to watch.

In the Auto Store menu, press the OK or > button to enter and press the OK button again to start the search. The search will end automatically.
To stop the search before it has finished, press the OK or MENU button.
5.6.3 Storing Channels Manually

In the Manual Store menu, use the ▲ or ▼ button to select the required mode, and then press the OK button.

- **Storage**  
  Programme number to be assigned to a channel. Use the < or > button until you find the correct number. You can also select the channel number directly by pressing the numeric buttons.

- **Colour System**  
  Auto, PAL, SECAM, NTSC443. Use the < or > button to select the required colour standard.

- **Sound System**  
  BG, I, DK, L Use the < or > button to select the required sound standard.

- **Air/Cable**  
  Air or Cable Use the < or > button to select Air or Cable.

- **Channel**  
  When you know the number of the channel to be stored. Use the < or > button to select the required number. You can also select the channel number directly by pressing the numeric buttons.

- **Manual Search**  
  When you do not know the channel numbers. Use the < or > button to start the search. The tuner scans the frequency range until the first channel or the channel that you selected is received on the screen.

- **Fine**  
  If the signal is weak or distorted, you may have to fine tune the channel operation. Use the < or > button to obtain a sharp and clear picture, and good sound quality.

- **Name**  
  Channel names will be assigned automatically when channel information is broadcast. These names can be changed, allowing you to assign new names. Use the < or > button to move on to the previous or next letter. And then use the ▲ or ▼ button to select a letter, a number or a symbol (A~Z, 0~9, -, +).

- **Store**  
  When you store the channel and associated programme number. Press the OK button to set to OK.
5.6.4 Editing the Stored Channel

This operation allows you to change the programme numbers of the stored channels.

In the Edit menu, use the \( \uparrow, \downarrow, <, > \) button to select the channel that you wish to sort and then press the colour button.

- Red button  Delete
- Green button  Copy
- Yellow button  Move
- Blue button  Skip

Use the \( \uparrow, \downarrow, <, > \) button to select the number of the programme and then press the colour button to which the channel is to be sorted.
6. Function Description

6.1 Basic Function Usage

6.1.1 Colour Buttons

- **Red button**: Press the Red button and the Subtitle window will be displayed on the screen. Select the Off then subtitle function is off. Select the Subtitle language, and then you can see Subtitles.

- **Green button**: Press the Green button and the Sort (TV) window will be displayed on the screen. Use the ^, v, <, > button to select the satellite, CAS, Network, Genre and Favorite channel that you wish to sort.

- **Yellow button**: Press the Yellow button and then input the PIN code. The Timer window will be displayed on the screen and you can set the several options.
  - **Mode**: Press the OK button to select the required mode (Off, Once, Weekly and Daily).
  - **Date**: Press the OK button and then use the Colour and ^, v, <, > button to select the required date.
  - **Time**: Use the numeric buttons to set the time.
  - **For**: Use the numeric buttons to set the time for
  - **Channel**: Press the OK button and the TV list will be displayed. And then press the OK button to select the required channel.

- **Blue button**: After the TV channels have been programmed, you will see the information box each time you change the channels. Every time you change channels you will receive program information for a few seconds. You may change channel with the ^ or v button. When you press the Colour button, you can use the banner as a simple channel operation.
  - **Green button**: Now information banner.
  - **Yellow button**: Next information banner.
  - **Blue button**: Channel information banner.

6.1.2 Freezing the Current Picture

You can freeze the picture when watching a TV programme. You can select this option simply by pressing the STILL button on the remote control. To return to normal viewing, press it again.
6.2 Teletext Feature

The teletext can be accessed by teletext services. And the teletext service gives you information on how to use the service. You can select various options to suit your requirements by using the remote control buttons.

1. **TTX/MIX** (Teletext on / Mix)
   - Press to activate teletext mode after selecting the channel providing the teletext service. Press it twice to overlap the teletext with the current broadcasting screen.

2. **SIZE**
   - Press to display the letters size.

3. **HOLD**
   - Use to hold the display on a given page.

4. **REVEAL**
   - Use to display the hidden text (answers to quiz games, for example).

5. **STORE**
   - Use to store the teletext pages.

6. **FLOP/LIST**
   - Press to select the teletext mode.

7. **CANCEL**
   - Use to display the broadcast when searching for a page.

8. **PAGE UP/DOWN**
   - Select the next or previous teletext page.

9. **INDEX**
   - Press to display the teletext index page.

10. **SUB-PAGE**
    - Press to display the available teletext sub-page.
7. Appendix

7.1 Preparing before installing Wall-Mount on the wall

There are various kinds of Wall-Mount and various ways to install it depending on a manufacturer. Refer to the instructions of the purchased Wall-Mount to install Wall-Mount properly.

Precaution for installation
- Install your wall-mount on a solid wall perpendicular to the floor.
- When installing to other building materials, please contact your nearest dealer.
- If installed on a ceiling or slanted wall, it may fall and result in severe personal injury.

Wall-Mount Kit specifications (VESA)
We provided the standard dimensions for wall-mount kits as shown in the table below.

<table>
<thead>
<tr>
<th>Inch</th>
<th>VESA Spec. (A*B)</th>
<th>Standard Screw</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>32~42</td>
<td>400 * 200</td>
<td>M6</td>
<td>4</td>
</tr>
<tr>
<td>46~52</td>
<td>400 * 400</td>
<td>M8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>600 * 400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example of installation

Notes
- Do not use screws longer than the standard dimension, as they may cause damage to the inside of the TV set.
- For wall-mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on their specifications.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use fasten the screws too strongly, this may damage the product or cause the product to fall, leading to personal injury. We are not liable for these kinds of accidents.
- Install Wall-Mount with the torque range of 15kgf•cm or less. Make sure that parts can be damaged if the torque is out of the specified range.
- Do not install your Wall-mount Kit while your TV is turned on. It may result in personal injury due to electric shock.

- In case of installing your TV on the wall, close the cover on the hole of stand for hiding.
## 7.2 Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No picture or No sound</td>
<td>Ensure that the TV is turned On. Check that the power cord is inserted into wall power outlet. Check your antenna direction and/or location. Try another channel. The problem may be with the broadcast. Check volume and check whether the MUTE button is pressed.</td>
</tr>
<tr>
<td>Poor picture quality</td>
<td>Adjust the Colour setting. Try another channel. The problem may be with the broadcast.</td>
</tr>
<tr>
<td>Lines and streaks in picture</td>
<td>Check antenna (Change the direction of antenna).</td>
</tr>
<tr>
<td>Service is not running or scrambled</td>
<td>Check the whether the common interface module and smart card is correctly inserted. Check that the smart card is appropriate for the selected service.</td>
</tr>
<tr>
<td>The remote control does not work</td>
<td>Check that the remote control points directly towards the TV. Check that nothing blocks the front panel. Ensure that the batteries are installed with correct polarity (+ to +, - to -). Check the batteries are drained.</td>
</tr>
<tr>
<td>The TV freezes</td>
<td>If the TV freezes the end user needs to be advised to plug out from mains and reconnect.</td>
</tr>
</tbody>
</table>

Some interactive features are provided by broadcaster and may not be available in all areas.
### 7.3 Specifications

#### Display

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Panel Size</td>
<td>LCD 26/32/37/40/42/46/47 inch (FHD is Option)</td>
</tr>
<tr>
<td>Aspect Ratio</td>
<td>16:9</td>
</tr>
<tr>
<td>Resolution</td>
<td>Up to 1920x1080</td>
</tr>
<tr>
<td>Refresh Rate</td>
<td>50Hz, 60Hz</td>
</tr>
<tr>
<td>Maximum Pixel Rate</td>
<td>Supports dual link up to 165MHz dot clock for WXGA</td>
</tr>
<tr>
<td>Interface</td>
<td>Single or Dual Channel LVDS</td>
</tr>
</tbody>
</table>

#### Supported Signals

| Analog PC                      | H Frequency Range : 20 ~ 82 kHz |
|                               | V Frequency Range : 55 ~ 90 Hz  |
|                               | Maximum resolution : 1280 x1024@ 60Hz |
|                               | Maximum pixel rate : 108 MHz   |
|                               | DTV mode support : 720p/1080i/480p/576p (50Hz,60Hz) |
|                               | Separate / SOG sync support    |
| HDMI                          | DTV mode support : 720p/1080i/480p/576p (50Hz,60Hz) |
|                               | SVGA(60)                        |
|                               | XGA(60)                         |
| CVBS, S-Video                 | PAL-B/D/G/H/I                  |
|                               | NTSC-4.43                      |
|                               | NTSC-M                         |
|                               | SECAM L/L’                     |
|                               | PAL-60                         |
| Component                     | 1080i                           |
|                               | 720p                            |
|                               | 480i / 576i                     |
|                               | 480p / 576p                     |
| Analog TV                     | PAL/SECAM Systems              |
| Digital TV                    | DVB-satellite Digital TV Standard |
| RF INPUT RANGE                | 950MHz ~ 2150MHz               |
| DYNAMIC RANGE                 | -65dBm ~ -25dBm                |
| INPUT CONNECTOR               | F-type, Female                 |
| INPUT IMPEDANCE               | 75ohm                          |
| Multistandard Demodulation    | DVB-S2 = QPSK,8PSK             |
| Symbol rate                   | DVB-S2=Maximum QPSK 45 MSPS @ 108MHz fsamp |
|                               | Maximum 8PSK 30 MSPS @ 108MHz fsamp |
| Multistandard decoding        | LDPC and BCH (1/4,1/3,3/4,5/6,7/7/8) |

#### MPEGTS A/V DECODING

| Transport Stream              | MPEG-4/H.264 HP@L4.0 1920x1080 interface@50Hz |
| Profile Level                 | MPEG-2 MP@HL, MPEG-4/AVC MP@L4               |
| Video Resolution              | 1920*1080i, 1280*720p, 720*576i             |
| Audio Decoding                | MPEG-1 layers 1,2                           |

#### Input Ports (Video)

| DTV Module I/F x 1            | Y/Pb/Pr Component Video (576p/720p/1080i) |
| Scart x 2                     | Scart CVBS In, RGB In, RF Out, Monitor Out |
| Composite x 1                 | RCA Video Line In x 1                      |
| Component x 1                 | Y/Pb/Pr DTV RCA In (75 ohms , 0.7Vp-p)    |
| PC Analog x 1                  | D-Sub RGB In (Analog : 75 ohms ±10%, 0.7Vp-p ±5%) |
| HDMI x 2                      | HDMI V1.2 Compliant with HDCP 1.2          |
| Analog TV x 1                  | PAL/SECAM Multi Tuner                     |

#### In/Output (Audio)

<p>| DTV L/R x 1                   | Analog L/R In                           |
| SCART L/R x 2                 | Scart Stereo Sound In/Out (500mVrms)    |
| Composite L/R x 1             | RCA Stereo Audio Line In (500mVrms)     |
| PC Analog L/R x 1             | Phone Jack Stereo Audio Line In (500mVrms) |
| Component L/R x 1             | RCA Stereo Audio Line In (500mVrms)     |
| Analog SIF                    | Tuning system                            |
| Digital Audio Out             | DTV Module S/PDIF and HDMI Audio optical output |
| Speaker Out                   | 10W x 2 Stereo Speaker (8 ohms)          |</p>
<table>
<thead>
<tr>
<th>TV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning Range</td>
<td>45MHz~889MHz</td>
</tr>
<tr>
<td>No of Programs</td>
<td>100 Channels</td>
</tr>
<tr>
<td>Sound System</td>
<td>BG, DK, I, L, L’</td>
</tr>
<tr>
<td>MTS Support</td>
<td>Mono / Stereo / NICAM / Bi-Lingual</td>
</tr>
<tr>
<td>Colour</td>
<td>4/8bit colour OSG Display with two planes</td>
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</table>

<table>
<thead>
<tr>
<th>OSD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OSD Type</td>
<td>Graphic &amp; text</td>
</tr>
<tr>
<td>Language Support</td>
<td>Unicode string format</td>
</tr>
<tr>
<td>Image Adjustment</td>
<td>Contrast / Brightness / Sharpness / Colour / Tint(NTSC)</td>
</tr>
<tr>
<td>Image aspect ratio</td>
<td>Colour Temperature</td>
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<tr>
<td></td>
<td>Picture Standard Select</td>
</tr>
<tr>
<td></td>
<td>Image aspect ratio</td>
</tr>
<tr>
<td></td>
<td>NR(3D Noise Reduction)</td>
</tr>
<tr>
<td></td>
<td>Phase Adjustment ( PC only )</td>
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<table>
<thead>
<tr>
<th>User Functions</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>TV Function</td>
<td>Country Option Select</td>
</tr>
<tr>
<td></td>
<td>Auto Frequency scan ( Auto Sort )</td>
</tr>
<tr>
<td></td>
<td>Manual Channel Edit</td>
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<tr>
<td></td>
<td>- Colour System</td>
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<tr>
<td></td>
<td>- Sound System</td>
</tr>
<tr>
<td></td>
<td>- Channel Edit</td>
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<tr>
<td></td>
<td>- Manual Frequency Search</td>
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<tr>
<td></td>
<td>Channel Add/Erase</td>
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<tr>
<td></td>
<td>Channel Name Edit</td>
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<tr>
<td></td>
<td>Channel Sort</td>
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<tr>
<td></td>
<td>Manual Fine Tune</td>
</tr>
<tr>
<td>Digital TV Function</td>
<td>Channel Search</td>
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<tr>
<td></td>
<td>Manual Channel Search</td>
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<tr>
<td></td>
<td>Channel Edit</td>
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<tr>
<td></td>
<td>Channel Locking</td>
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<tr>
<td></td>
<td>EPG (Program Guide)</td>
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<tr>
<td></td>
<td>Radio Channel</td>
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<tr>
<td></td>
<td>Favorite Channel</td>
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<tr>
<td>Sound Function</td>
<td>Volume</td>
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<tr>
<td></td>
<td>Balance</td>
</tr>
<tr>
<td></td>
<td>Mono / stereo / NICAM Dual Stereo</td>
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<tr>
<td></td>
<td>Sound Standard select</td>
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<tr>
<td></td>
<td>Auto volume control (TV only)</td>
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<tr>
<td></td>
<td>Sound Mute</td>
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<tr>
<td>PC Function</td>
<td>Auto adjustment</td>
</tr>
<tr>
<td></td>
<td>Frequency adjustment</td>
</tr>
<tr>
<td></td>
<td>Phase adjustment, Clock adjustment</td>
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<tr>
<td></td>
<td>Up to 32 analog PC mode memorize</td>
</tr>
<tr>
<td>PIP Function</td>
<td>PIP Mode</td>
</tr>
<tr>
<td></td>
<td>(PIP On → Double Window1 → Double Window2 → PIP Off)</td>
</tr>
<tr>
<td></td>
<td>PIP source select</td>
</tr>
<tr>
<td></td>
<td>PIP size : 1/3 only</td>
</tr>
<tr>
<td></td>
<td>PIP position</td>
</tr>
<tr>
<td></td>
<td>PIP swap</td>
</tr>
<tr>
<td>TTX</td>
<td>Up to 4.5K</td>
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<tr>
<td></td>
<td>Supports Teletext 2.5 spec</td>
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<tr>
<td>Timer</td>
<td>Sleep time select</td>
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<tr>
<td></td>
<td>Current / On / Off time adjustment</td>
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<tr>
<td></td>
<td>On time channel / volume</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>User default reset</td>
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<tr>
<td></td>
<td>Blue Screen</td>
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<tr>
<td></td>
<td>OSD tone select</td>
</tr>
<tr>
<td></td>
<td>AC 110V ~ 240V (60/50Hz)</td>
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</tbody>
</table>