AQUAVISION

Television for the discerning.

Ⅰ. Contents

Warning

WARNING :

To reduce the risk of electric shock do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel. To prevent fire or shock hazard, do not expose the rear of the set to rain or moisture. Do not rub or strike the Active Matrix LCD with anything hard as this may scratch, mark, or damage the Active Matrix LCD permanently.

CAUTION:

Unauthorized tampering with the inside of the TV invalidates the warranty.
The manufacturer shall not warrant for any damage caused by improper maintenance and/or repair
work by third parties.

Important safeguards for you and your new product:

Your product has been manufactured and tested with your safety in mind. However, improper use can result in potential electrical shock or fire hazards. To avoid defeating the safeguards that have been built into your new product, please read and observe the following safety points when installing and using your new product and save them for future reference. Observing the simple precautions discussed in this operating guide can help you get many years of enjoyment and safe operation from your new AQUAVISION®. This product complies with all applicable regulations and voluntary safety standards.

1. Read Instructions

All safety and operating instructions should be read before the product is operated.

2. Follow Instructions

All operating and use instructions should be followed.

3. Retain Instructions

The safety and operating instructions should be retained for future reference.

4. Heed Warnings

All warnings on the product and in the operating instructions should be adhered to.

5. Cleaning

Disconnect the unit from the electricity supply before cleaning. Do not use abrasive cleaners. Use a damp cloth for cleaning.
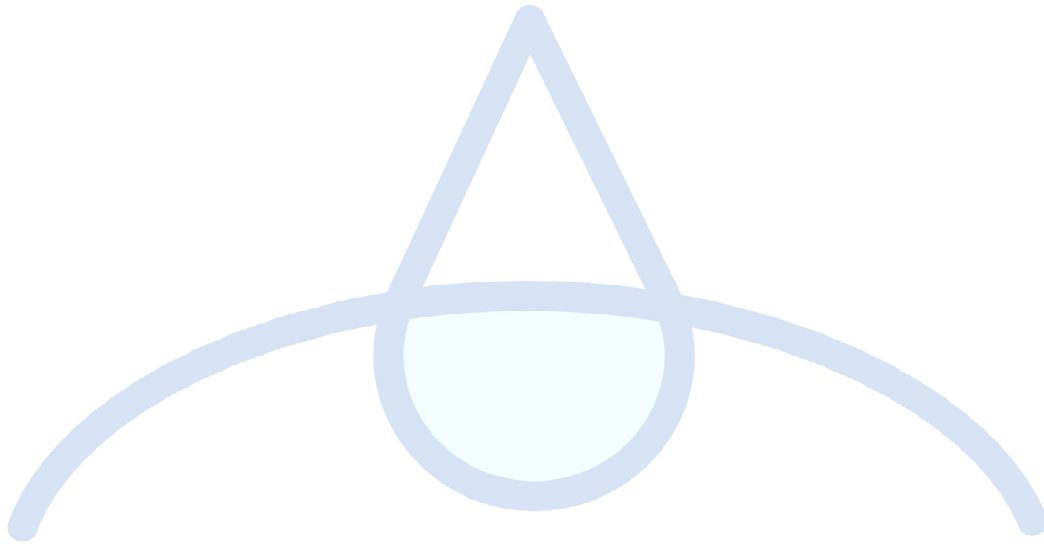
Warning <u>*(cont)*</u>

6. Water and Moisture
When installed correctly, this unit will be waterproof. We recommend that every couple of months you look at the silicone that is around the glass and make sure that this is still in tact and has not come away from either the glass or the bezel. If there is any sign of it coming away or any other fault, you will need to remove all the silicone and, after cleaning the unit, re-apply fresh. Leave for 48 hours to cure before allowing contact with moisture.

7. Transporting Product
A product and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the product and cart combination to overturn.

8. Attachments
Do not use attachments not recommended by **AQUAVISION®** as they may cause hazards.

9. Ventilation
Your **AQUAVISION®** will not, under normal operating conditions, require any ventilation. It has been designed so that any heat will dissipate through the glass at the front of the unit. This will get hot, but need not cause concern. If the unit is to be installed in a place other than the bathroom or other domestic room, please consult your supplying dealer. Forced air ventilation will be required if this product is to be used in a steam room, sauna, or similar.

10. Power Sources
This product 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 supplying dealer.

11. Power Lead Polarization
This product is equipped with a three-wire grounding-type cord. This is a safety feature. Do not defeat the safety purpose of the grounding-type cord.

12. Power Cord Protection
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit from the product.

13. Outdoor Antenna Grounding
If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. A "face plate" also needs to be installed with an isolating capacitor to prevent any damage from static.

14. Lightning
For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent possible damage to the product due to lightning and power-line surges.

Warning _(cont)

15. Power Lines

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

16. Earthing the product

This product must be earthed properly to comply with the safety regulations in the country of use. If you are unsure of these regulations, please consult a qualified electrician.

17. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel. If the TV does not operate properly, switch it off and call your dealer. After any maintenance, you will need to completely clean the old silicone off and re-seal the front joints as stated overleaf.

18. Damage Requiring Service

Isolate this product from the mains supply and refer servicing to qualified service personnel under the following conditions:
a. If the power-supply cord or plug is damaged.
b. If the glass front has been damaged.
c. If there is ingress of water between the glass and the LCD screen.
d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e. If the product has been dropped or the cabinet has been damaged.
f. If the product exhibits a distinct change in performance.

19. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by **AQUAVISION®** or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other safety hazards.

20. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition and the front seal is in tact.

21. Mounting

The product should be mounted on a wall only as recommended in the instructions.

22. Caution: Modifications

Do not attempt to modify this product in any way without written authorisation from **AQUAVISION®**.

23. Please note:

The installation of your **AQUAVISION®** unit should be carried out by a technically competent and qualified person and must conform to all the relevant regulations. If in doubt, please refer to your supplying dealer.

Warning (cont)

24. Power
This set operates on an AC supply; the voltage is as indicated on the label on the back cover. This appliance must be earthed at all times through the chassis as well as through the power lead.

25. Location
This **AQUAVISION®** must be positioned according to the latest regulations concerning the area it will be installed into. Position your TV so that no bright light or sunlight will shine directly on the screen and locate it at a suitable viewing height. Do not expose the TV to vibration, dust or heat. Also ensure that the TV is placed in a position that allows a free flow of air. The rear of the unit must also be kept away from any moisture.

26. Installation
It is the installer's responsibility to ensure that the **AQUAVISION®** unit is installed and sealed correctly as stated in these instructions and in conjunction with the latest safety regulations. Your guarantee will be void if any problems are caused through installation faults or poor sealing. After any maintenance, you will need to completely clean the old silicone off and re-seal as stated overleaf.

Note
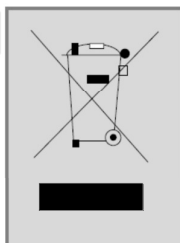
This product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
Please, dispose of this equipment at your local community waste collection/recycling centre.
In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

TRADEMARK INFORMATION

This TV incorporates High-Definition Multimedia Interface (HDMI)™ technology.
HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.

The logo "HD ready" is a trademark of EICTA. The logo "HD ready" is awarded to display equipment capable of presenting HD sources with a much higher resolution than standard PAL (576i).

Bathroom Regulations

Equipment for Bathrooms

Electrical equipment may be identified as having a certain level of mechanical and moisture protection, these are quoted as 'Ingress Protection' (or IP) numbers - such as 'IPXY', where X and Y are numbers, the X showing the level of mechanical protection and Y showing the level of moisture protection - in both cases, the higher the number, the better the protection. If a piece of equipment does not have an IP number, it must not be used in zones 0, 1 or 2 (or elsewhere having a wet/damp environment).

Typical electrical items which are marked with IP (Ingress Protection) numbers include:
Extractor Fans , Heaters , Electrical Shower Units, etc

As well as IP numbers, items may be classed as PELV or SELV.

- Protective Extra-Low Voltage (PELV) - As the name suggests, the item uses low voltage but it is connected to earth.
- Safety Extra-Low Voltage (SELV) - Again a low voltage system but the output is isolated from the input.

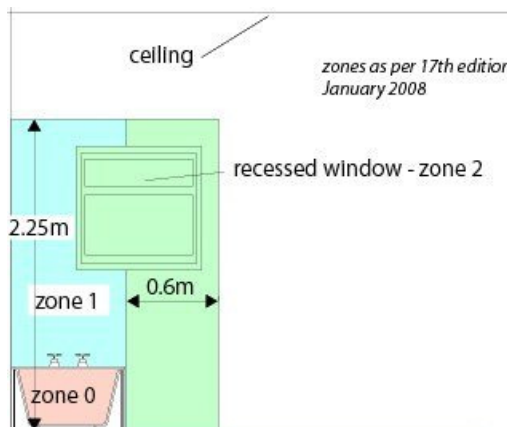| Zone 0	The interior of the bath or shower which can hold water
Zone 1	The area directly above zone 0 limited vertically to 2.25m above the bottom of the bath or shower. Also 1.2m horizontally from the centre of a shower outlet to the height of the outlet or 2.25m whichever is the higher.
Zone 2	The area beyond zones 0 and 1, 0.6m horizontally and up to 2.25m vertically. Zone 2 also included any window with a sill next to the bath

Standard electrical wall fittings (such as sockets, flexible cord outlets and fused switches, etc.) are not IP rated so cannot be installed within zones 0, 1 or 2. No standard socket outlets are allowed within 3m of the outer limit of zone 1, and any socket fitted would be on a RCD protected circuit .

Use of Equipment

Any electrical item approved for use in a zone may be used in another zone with a higher number, but not in a lower number zone.

Note:

- Providing that the space under the bath cannot be accessed without using tools (i.e. screwdriver, etc), that space is considered to be 'out of scope'.
- All electrical circuits within bathrooms must be protected by Residual Current Devices (RCD) not exceeding 30mA. This applies all electrical equipment whether it is controlled a switch in the bathroom or remotely switched.

Zone	Notes	Product
Zone 0	Requires electrical products to be low voltage (max. 12 volts) and be IPX7 (the mechanical protection is unimportant)	All sizes up to 19" with the transformer in Zone 3 or beyond
Zone 1	Requires electrical products to be IPX4 or better, or SELV with the transformer located beyond zone 2. If the fitting is 240v, a 30mA RCD must be used to protect the circuit	All sizes.
Zone 2	Requires electrical products to be IPX4 or better, or SELV with the transformer located beyond zone 2. If the fitting is 240v, a 30mA RCD must be used to protect the circuit	All sizes.
Beyond Zone 2	When the size of bathroom extends beyond zone 2, portable equipment is allowed, however they should be positioned such that that their flex length does not enable them to be used in zone 2.	All sizes.

Bath time television?

Having a waterproof TV in the bathroom can help you relax whilst watching your favourite programme or movie. You can even install TVs that double up as mirrors when switched off. By law all TVs have to be fitted into a wall cavity and the area around the screen siliconed to prevent water getting in. You'll need a depth of 75mm to 85mm so that the screen sits flush with the wall. To prevent the screen steaming up the TV glass is heated. You'll also need speakers, which like the TV must be hardwired into the wall or ceiling.
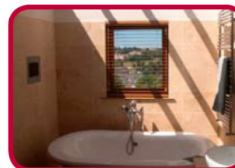
Supplied Accessories

Make sure the following accessories are provided with your product. These should all be included in the box with the main LCD screen:-

1. Owner's Manual
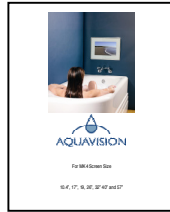
2. Batteries (2 x AAA)

3. Master Remote Control

4. Water-Resistant Remote
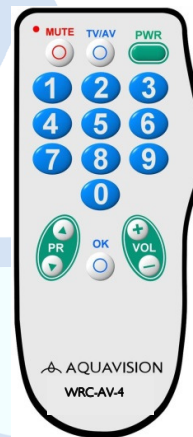
Water-Resistant Remote Control

Key Name	Operation
Power	►Power On/Off
PR+	►Increases programme number & tune channel when no OSD activated ►Navigates input source when source OSD activated ►Executes function by OSD help commands when main OSD activated ►Navigates previous menu when main OSD activated
PR-	►Decreases programme number & tune channel when no OSD activated ►Navigates input source when source OSD activated ►Executes function by OSD help commands when main OSD activated ►Navigates next menu when main OSD activated
VOL +	►Increases speaker / headphone sound volume when no OSD activated ►Executes function by OSD help commands when main OSD activated ►Increases values of user menu when main OSD activated
VOL-	►Decreases speaker / headphone sound volume when no OSD activated ►Executes function by OSD help commands when main OSD activated ►Decreases values of user menu when main OSD activated
OK	►Same as Select key on keypad
MUTE	►Toggles speaker / headphone sound mute status
TV/AV	►Activates source change OSD when source change OSD is not activated ►Deactivates source change OSD when source change OSD is activated
0~9	►Enters digit value to change programme directly

Replacing Batteries

Water Resistant Remote Control

Your Water-Resistant Remote Control comes as standard with a coin cell battery installed. Should this need to be replaced at any time, simply twist open the battery compartment on the rear of the remote control, by turning it with a coin, and remove the discharged battery. Replace with a CR2032 Lithium Battery, making sure you observe polarity. Replace the battery cover and twist to close.

Full Function Remote Control

1. Remove the battery cover by pulling it upward in the direction shown by the arrow
2. Insert the batteries with correct polarity ("+" to "+", and "-" to "-")
3. Replace the battery compartment cover
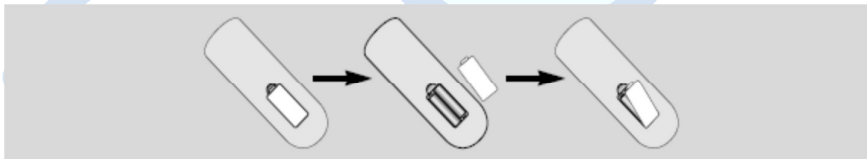
Notes for using either remote control

* Make sure there are no objects between the remote control and its sensor
* Do not place either of the remote controls near a heater
* Do Not place the master remote in a damp or wet place
* Strong impact to the remote control may cause operation failure
* Signal from the remote control may be disturbed by sunlight or other bright light. In this case, darken the room

1. buttons of the master remote control

index	name	function
1	Power	On/off the power supply
2	Info	Display the information of the current signal
3	Mute	Mute the sound
4	PMODE	Set up picture mode
5	SMODE	Set up sound mode
6	AUDIO	Switch for audio
7	Sleep	On/off the power supply within a period of time
8	Number0~9	Numeral button
9	-/--	Cursor button
10	Red	Only for teletext
11	Green	Only for teletext
12	Yellow	Only for teletext
13	Blue	Only for teletext
14	VOL-/+	Left/right or volume -/+
15	CH-/+	Down / Up or channel down / up
16	Menu	Main menu
17	Source	Switch the input source
18	Rec	Record digital service
19	Exit	Exit
20	Enter	Enter/DTV channel manager / ATV channel manager
21	TT	Teletext interface on/off
22	Hold	Teletext hold on/off
23	Mix	Teletext mix on/off
24	Clock	Teletext clock on/off
25	Index	Index of teletext
26	Size	Display aspect ratio
27	Reveal	Teletext hide characters on/off
28	Subpage	Teletext Subpage switch
29	EPG	Electronic program guide
30	FAV	Edit favorite list
31	TV/Radio	Switch between TV and Radio program
32	Pause/Play	Pause/Play
33	FA	Fast forward
34	FB	Fast backward
35	Stop	stop

2.   Common Shortcuts

Standby function:

When your TV is "ON", press "Power" to enter standby mode. Press "Power" again to start it.

Sleep function:

When your TV is "ON", start the sleep function by pressing the "SLEEP" button. This function allows you to power the TV off within a period of time. These time period are:

Off,10 Mins, 20 Mins,30Mins, 60Mins, 90 Mins, 120 Mins, 180 Mins, 240 Mins,

Switching the input source:

After the normal startup process, press the "SOURCE" button, then the "UP/DOWN" button to choose the preferred source, and the "ENTER" or "->" button to confirm.

Info function:

When you press the "INFO" button the information of the current source will be displayed.

Mute function：

Pressing the "MUTE" button will mute the sound, and unmute the sound with a further press.

Set up picture mode：

Parameters of the picture, like luminance/contrast/sharpness/hue/colour, will be changed by pressing the "PMODE" button.

Set up sound mode：

Parameters of the sound, like balance/max volume/min volume, will be changed when pressing the "SMODE" button.

NICAM：

In TV or DTV mode. pressing the "MTS/DUAL" button switches on/off the sound effect or switches between Mono,Dual I/Dual II

Aspect ratio：

Aspect ratio will be changed when pressing the "PSIZE" button.

Numeral button：

When in TV or DTV, pressing down numerical buttons, is a shortcut to change the channel.

Back to the last channel：

When in TV or DTV, the source can be changed back to the previous channel you selected by pressing the "ChannelSwap" button.

Volume adjust：

When in normal playback status, the volume can be adjusted by pressing the "Vol＋/-" button a menu will pop up to show the current volume.

Channel switching：

When in TV or DTV source, you can change the channel by pressing the "CH-/+" button.

EPG：

In DTV EPG menu will pop up when pressing the "EPG" button.

1. **Picture Menu**

This chapter will describe the function of the Picture in main menu.

1.1 **Picture Menu**

Pressing the "MENU" button on the remote, the focus will move to the sub items in the Picture menu. By pressing the "RIGHT" button the functions in the Picture can be set. The Picture menu is shown as follows:

Picture	
Picture Mode	Standard
Brightness	50
Contrast	50
Sharpness	5
Colour	50
Tint	50
Colour Temperature	Standard
Aspect Ratio	16:9

Picture / Sound / Channel / Feature / Setup

Move   Enter Enter   Exit Exit   Menu Return

Picture	
Noise Reduction	Middle

Picture / Sound / Channel / Feature / Setup

Move   Enter Enter   Exit Exit   Menu Return

The range and the default values of every sub items in the Picture menus are shown in the following table:

Section	Picture Menu Items	Value	Default
1.2.1	Picture Mode	Standard, Mild,Dynamic, User	Standard
1.2.2	Brightness	0~100	50
1.2.3	Contrast	0~100	50
1.2.4	Sharpness	0~10	5
1.2.5	Colour	0~100	50
1.2.6	Tint	0~100	50
1.2.7	Color Temp	Standard, Warm, Cool	Standard
1.2.8	Aspect Ratio	Auto；4:3；16:9；Zoom1；Zoom2；Panorama；Just Scan。	16:9
1.2.9	Noise Reduction	Off,Low,Middle,High	Middle

The result of the when you press certain buttons in Picture menu:

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button, then it will highlight the last one in the list.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, it will highlight the first one.
KEY_LEFT	Back to Main Menu.
KEY_RIGHT	If the current focus sub item is "Picture Mode"、"Color Temperature"、"Aspect Ratio" or "Noise Reduction",a popup menu will appear for you to make a further choice. If not, main menu will be changed to "Adjust Menu".
KEY_OK	Same as KEY_RIGHT。
KEY_MENU	Back to Main Menu.
KEY_EXIT	Exit Main Menu.

1.2　Function Description

1.2.1　Picture Mode

Selecting Picture Mode – Standard, Mild, Dynamic or User is the same as pressing KEY_PICTURE_MOD button on the remote.

Key Operation

Key	Action
KEY_UP	Highlights the previous sub item. If it is the first button, then it will highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, it will highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then back to "Picture Menu".
KEY_RIGHT	The current focused value will be selected and popup menu will be cleared, then back to "Picture Menu".
KEY_OK	The current focused value will be selected and popup menu will be cleared, then back to "Picture Menu".。
KEY_MENU	The current focused value will be selected and popup menu will be cleared, then back to "Picture Menu".
KEY_EXIT	Exits Main Menu.

1.2.2　Brightness

The overall brightness level of the picture. the higher the level, the brighter the picture。

Key Stroke	Action
KEY_UP	Enters backlight adjusting
KEY_DOWN	Enters contrast adjusting
KEY_LEFT	Decreases the value of brightness, minimum value is 0
KEY_RIGHT	Increases the value of brightness, maximum value is 100
KEY_OK	Closes adjust menu and back to "Picture Menu"
KEY_MENU	Closes adjust menu and back to "Picture Menu"
KEY_EXIT	Exits Main Menu.

1.2.3　　Contrast

The difference in color and light in between parts of an image. The higher the number, the stronger the difference.

Key Stroke	Action
KEY_UP	Enters brightness adjusting
KEY_DOWN	Enters sharpness adjusting
KEY_LEFT	Decreases the value of contrast, minimum value is 0
KEY_RIGHT	Increases the value of contrast, maximum value is 100
KEY_OK	Closes adjust menu and reverts to Picture Menu
KEY_MENU	Closes adjust menu and reverts to Picture Menu
KEY_EXIT	Exits Main Menu.

1.2.4　　Sharpness

The sharpness of the picture.

Key Stroke	Action
KEY_UP	Enters contrast adjusting
KEY_DOWN	Enters colour adjusting
KEY_LEFT	Decreases the value of sharpness, minimum value is 0
KEY_RIGHT	Increases the value of sharpness, maximum value is 10
KEY_OK	Closes adjust menu and reverts to Picture Menu
KEY_MENU	Closes adjust menu and reverts to Picture Menu
KEY_EXIT	Exits Main Menu.

1.2.5   Colour Temperature

Color temperature adjusting. There are three choices:standard, warm, and cool.

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button, it will highlight the last one in the list. Adjusts the current value and saves it.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, it will highlight the first one. Adjusts the current value and saves it.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_EXIT	Exits Main Menu.

1.2.8   Aspect Ratio

Aspect Ratio – Auto, 4:3, 16:9, Zoom1, Zoom2 or Panorama is the same as when pressing KEY_ASPECT button on the remote.

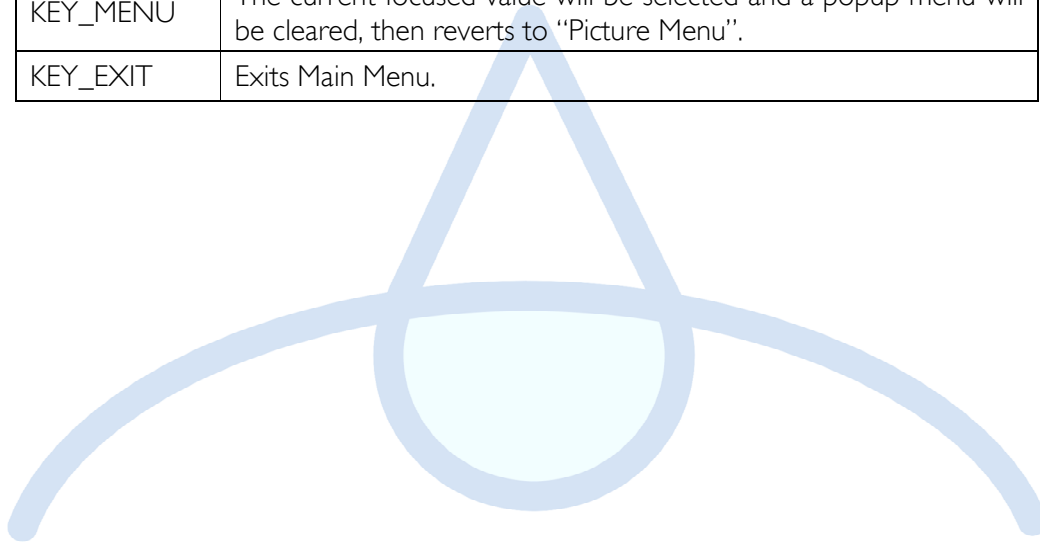| Key	Action
KEY_UP	Highlights the previous sub item. If it is the first button, it will highlight the last one in the list. Adjusts the current value and saves it.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, it will highlight the first one. Adjusts the current value and saves it.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to "Picture Menu".
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_EXIT	Exits Main Menu.

1.2.9   Noise Reduction

To reduce noise and improve the appearance of the picture. No noise reduction operation when "off". Low->Middle->High, noise reduction.

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button, it will highlight the last one in the list. Adjusts the current value and saves it.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, it will highlight the first one. Adjusts the current value and saves it.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to "Picture Menu".
KEY_EXIT	Exits Main Menu.

2.   Sound Menu

This chapter will describe the function of Sound in the main menu.

2.1   Sound Menu

To open the main menu, press down the "MENU" button and then press the "DOWN" button on the remote. By pressing the "RIGHT" button the focus will move to the sub items in the Sound menu and then functions in the Sound can be set. The Sound menu is shown as follows:

The range and the default values of every sub item in the Sound menu are shown in the following table:

Section	Sound Menu Items	Value	Default
2.2.1	Sound Mode	Standard,Movie,Music,Speech,User	Standard
2.2.2	Bass	0~100	50
2.2.3	Treble	0~100	50
2.2.4	Balance	-50~50	0
2.2.5	Surround	Off,On	Off
2.2.6	AVL	Off,On	Off
2.2.7	SPDIF	Off,PCM,Auto	Off

The result of the action pressing down some button when in Sound menu:

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlights the last one in the list.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list,it will highlights the first one.
KEY_LEFT	Back to main menu
KEY_RIGHT	If the current focus sub item is " Sound Mode"/" Surround" / " Stable Sound", a popup menu will appear for the user to make a further choice. If not, the main menu will be cleared for the new "adjust menu".
KEY_OK	Same as KEY_RIGHT.
KEY_MENU	Back to main menu
KEY_EXIT	Exits Main Menu.

2.2 Function Description

2.2.1 Sound Mode

Selecting Sound Mode - Standard, Movie, Music, Speech or User is the same as pressing KEY_SOUND_MOD on the remote. Default values are as follows:

Sound Mode	(Bass, Treble)
Standard	(50, 50)
Movie	(80, 60)
Music	(60, 30)
Speech	(40 , 60)
User	(50, 50)

Key Operation

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DO WN	Highlights the next sub item. If it is the last button in the list currently, then highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_RIGH T	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_MEN U	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_EXIT	Exits Main Menu.

2.2.2 Bass & Treble

Bass: the bass of the output sound; Treble: the treble of the output sound;

Key Stroke	Action
KEY_UP	Enter Bass/Treble/Balance adjusting
KEY_DOWN	Enter Bass/Treble/Balance adjusting
KEY_LEFT	Decrease the value of Bass/Treble, minimum value is 0
KEY_RIGHT	Increase the value of Bass/Treble, maximum value is 100
KEY_OK	Close adjust menu and back to Sound Menu
KEY_MENU	Close adjust menu and back to Sound Menu
KEY_EXIT	Exit Main Menu.

Notes： when changing Sound Mode, if the Mute function is on, it will be truned off so that the user can hear the difference in different sound mode.

2.2.3   Balance

Balance between the left and right track of the output sound. if the balance is negative, the sound in the left track is louder. If the balance is positive, the sound in the right track is louder.

Key Stroke	Action
KEY_UP	Enter Bass/Treble/Balance adjusting
KEY_DOWN	Enter Bass/Treble/Balance adjusting
KEY_LEFT	Decrease the value of Balance, minimum value is -50
KEY_RIGHT	Increase the value of Balance, maximum value is 50
KEY_OK	Close adjust menu and back to Sound Menu
KEY_MENU	Close adjust menu and back to Sound Menu
KEY_EXIT	Exit Main Menu.

2.2.4   Surround

1）Switch for Surround function
2）Key Operation

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_EXIT	Exits Main Menu.

2.2.5   AVL

Switch for AVL function

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu..
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_EXIT	Exits Main Menu.

2.2.6 SPDIF

1）Switch for SPDIF function
2) Key Operation

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to Sound menu.
KEY_EXIT	Exits Main Menu.

3.   TV Channel

3.1   Channel User Interface

Press "Menu" → "Down（▼）" → "Down（▼）"→ "Right（►）" to enter channel operation user interface in ATV/DTV/Radio Source as follows:

There are the following functions on this page:
Channel Management: To manage (Delete/Rename/Swap/Lock/Skip) all channels;
Favorite Management: To manage (Add/Delete) Favorite channels;
Country: To select country.
TV connection：To select the DTV signal mode(Air/Cable/Satellite)
Auto Search: To select auto search mode (All/Digital/Analogue);
Digital Manual Search: To search digital channel by entering parameters manually(only for Air/Cable);
Analogue Manual Search: To search analogue channel by entering parameters manually(only for ATV);
Satellite System: To enter the satellite system setting menu.

3.2   Function Description

3.2.1   Channel Manager

Press "ENTER" or "RIGHT" key on "Channel management" of "Channel" page in ATV or DTV source. The operation interface shows as follows:

3.2.1.1   Delet/Skip/Lock Channel

1) Press "UP (▲)" and "DOWN (▼)" key to select the programs to be deleted and press "RED", "GREEN" or "YELLOW" key to mark them as the following:

2) After marking, press the "MENU" key to save the result.

3.2.1.2   Swap Channel

Select the program to be swapped and press "BLUE" key. The selected program will flash, and them select another program. Press "BLUE" key to swap them.

3.2.2   Manage Favorites

1) Press "ENTER" or "RIGHT" key in "Favorite management" of "Channel" page in ATV or DTV source. The operation interface shows as follow:

2) Press "UP (▲)" and "DOWN (▼)" key to select the programs to be added into the favorite list and press "RED","GREEN","YELLOW" or "BLUE" keys to mark them as follows:

3) Press "MENU"key to return to "Favorite management" page and save the result.

3.2.3   Country

1) Select the country.
2) Key Operation

Key Stroke	Action

KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjusts the current value and saves it momentarily.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlight the first one. Adjusts the current value and saves it momentarily.
KEY_LEFT	The current focused value will be selected and a popup menu will be cleared, then reverts to Channel menu.
KEY_RIGHT	The current focused value will be selected and a popup menu will be cleared, then reverts to Channel menu.
KEY_OK	The current focused value will be selected and a popup menu will be cleared, then reverts to Channel menu.
KEY_MENU	The current focused value will be selected and a popup menu will be cleared, then reverts to Channel menu.

3.2.4   Auto Search

3.2.4.1 Terestrial signal mode

Select "Auto Search" to enter the auto search operation as following:

All Modes: Select "All" item to scan all digital channels carried by the current signal mode firstly and then switch to scan all analog channels in your selected country automatically. User can skip the digital search to search analog directly by entering "EXIT" or "MENU" keys and they can also stop auto scan directly by pressing "EXIT" or "MENU" during analog scanning.

Digital Mode: Select "Digital" item to search all digital channels in the selected country carried by the current signal mode. Users can stop the search directly by entering "EXIT" or "MENU" keys.

Analog Mode: Select "Analogue" item to search all analogue channels in the selected country carried by the current signal mode. Users can stop the search directly by entering "EXIT" or "MENU" keys.

All search modes processing interface display is as following:

3.2.4.2 Cable signal mode

Operations in satellite Auto Search menu are shown in the following table

Option	Value
Scan Mode	Full Search,Network Search

3.2.4.3 Satellite signal mode

Operations in satellite Auto Search menu are shown in the following table

Option	Value
Mode	Default,Network Search,Full Search
Satellite	65 satellite for searching(3 user edit satellite)
Service Type	All Services,Free Service
Channel Type	All, TV Only

3.2.5 Digital Manual Search

3.2.5.1 Air signal mode

Select "Digital Manual Search" to enter terrestrial channel manually in DTV and the user operation interface as following:

Select channel number by pressing the "RIGHT" key or entering the number directly. The strength and the quality is shown at the bottom. Press "ENTER" key on "Start" item to start current channel search. The manual search User Interface and the auto searching User Interface are the same.

3.2.5.2 Cable signal mode

Select channel number by pressing the "RIGHT" key or entering the number directly. The strength and the quality is shown at the bottom. Press "ENTER" key on "Start" item to start current channel search.

3.2.6 Analog Manual Search

Select "Analogue Manual Search" item to enter the analogue manual search. In ATV source and the user operation interface as following:

Analog Parameters	Value	Default
Current Channel	001-100	001
Frequency	Shows the Frequency when searching	Frequency of the current channel
Search	Press the "enter" button to open the search sub page.	
Fine Tune	Press the "enter" button to open the fine tune sub page.	
Color System	Auto/PAL/SECAM	Color System of the current channel
Sound System	BG/DK/I/L/L'	Sound System of the current channel

Enter these parameters and then select "Search" to enter the analog channel tuning. A dialog box will popup on the bottom left:

Press "Left （◄）" to search channel shown in the lower frequency and "Right （►)" key to search channel shown in the higher frequency. Press the "MENU" key to return to the "Channel-Analogue Manual Search" page and press the "RED" key to save the scanned channel to the database.

The user also can select "Fine Tune" to fine tune the current channel and the User Interface is shown as the last picture. Press the "Left （◄）", or the "Right （►)" key to fine tune the current channel. Press the "MENU" key to return to the "Channel-Analogue Manual Search" page and press the "RED" key to save the tuned channel to the database.

3.2.7 Satellite System

Select "Satellite System" to enter the satellite system setting menu and the user operation interface as follows:

3.2.7.1 Satellite List

Operations in the Satellite List Menu are shown in the following table:

Key Stroke	Action
KEY_UP	use cursor to up
KEY_DOWN	use cursor to down
KEY_LEFT	switch operation to satellite system parameters setting list
KEY_RIGHT	switch operation to Transponder list
KEY_MENU	Back to Main Menu.
KEY_EXIT	Exit Main Menu.
KEY_GREEN	Enter satellite edit menu
KEY_BLUE	Enter satellite scan menu

satellite edit menu
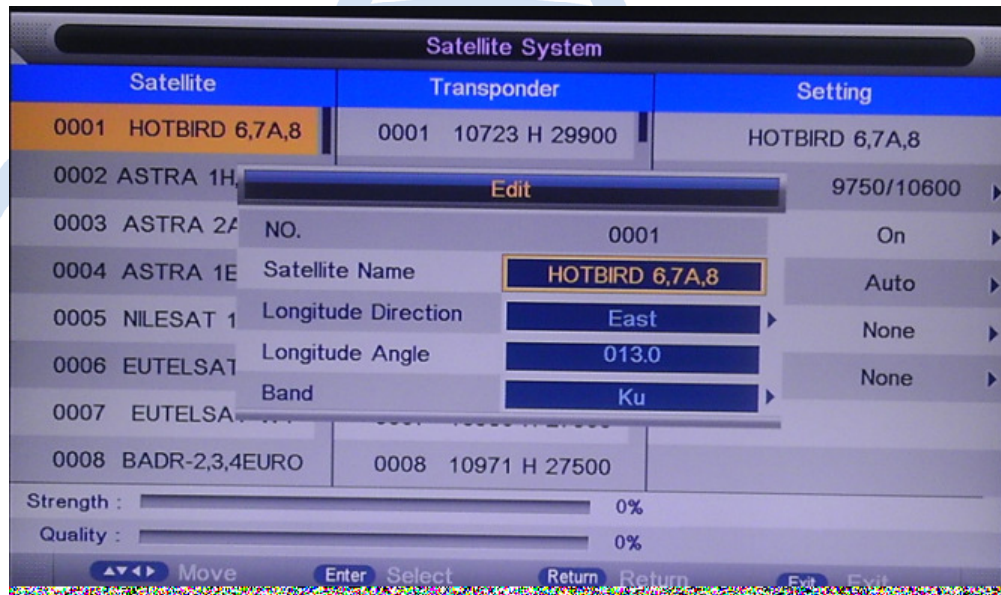
Operations in the satellite edit menu are shown in the following table

Option	Value
Satellite	Enter Satellite Rename edit menu
Longitude Direction	East ,West
Longitude Angle	Press num key to set the Angle
Band	C,Ku band choose

satellite edit menu
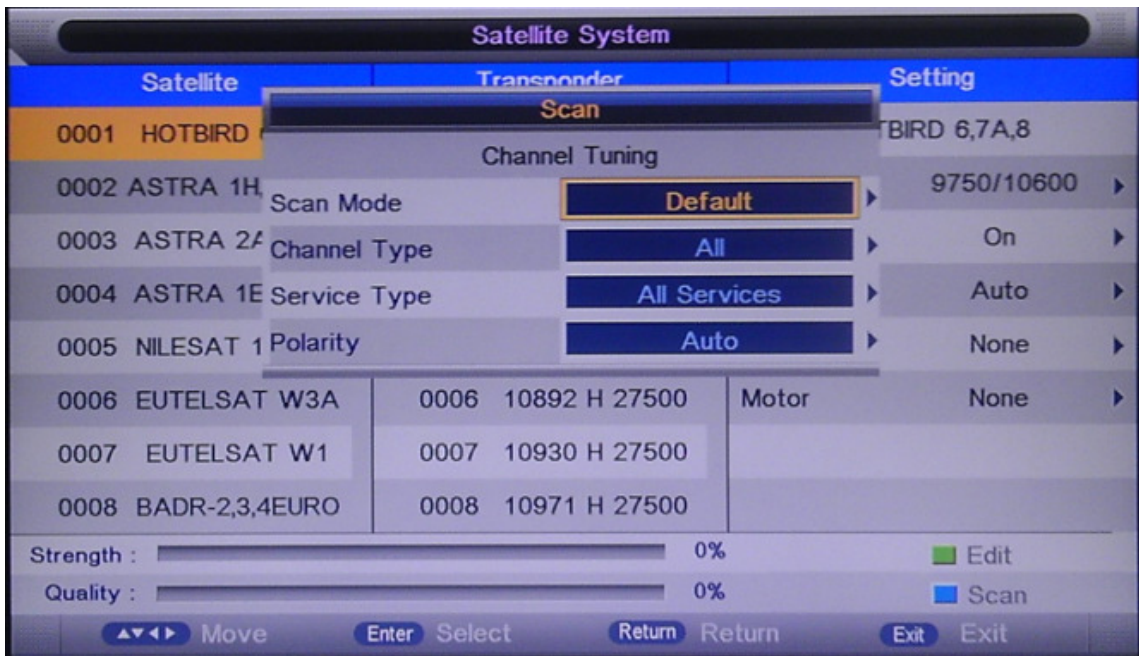
Operations in the satellite scan menu are shown in the following table

Option	Value
Scan Mode	Default,Network Search,Full Search
Channel Type	All,TV only
Service Type	All Services,Free Service
Polarity	Auto ,Vertical,Horizontal

3.2.7.2   Transponder List

Operations in the Transponder List Menu are shown in the following table:

Key Stroke	Action
KEY_UP	use cursor to up
KEY_DOWN	use cursor to down
KEY_LEFT	switch operation to Satellite list
KEY_RIGHT	switch operation to satellite system parameters setting list
KEY_ENTER	Select/unselect cursor item Transponder.
KEY_MENU	Back to Satellite list.
KEY_EXIT	Exit Main Menu.
KEY_RED	Enter Transponder Add menu
KEY_GREEN	Enter Transponder Edit menu
KEY_YELLOW	Enter Transponder Delete confirm menu
KEY_BLUE	Enter Transponder scan menu

Transponder Add menu

Operations in the Transponder Add menu are shown in the following table

Option	Value
Transponder	Can't edit .Auto addition
Frequency	Press num key to edit
Symbol(ks/s)	Press num key to edit
Polarity	H,V

Transponder Edit menu

Operations in the Transponder Edit menu are shown in the following table

Option	Value
Transponder	Current edit item.Auto select
Frequency	Press num key to edit
Symbol(ks/s)	Press num key to edit
Polarity	H,V

Transponder Scan menu
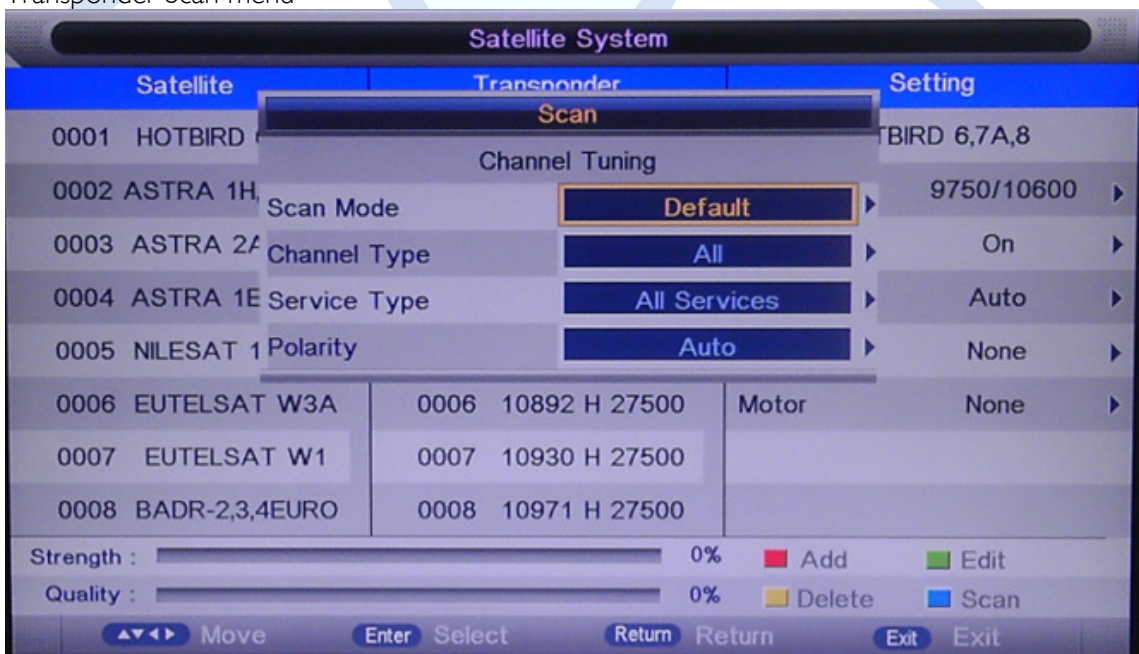
Operations in the Transponder scan menu are shown in the following table

Option	Value
Scan Mode	Default,Network Search,Full Search
Channel Type	All,TV only
Service Type	All Services,Free Service
Polarity	Auto ,Vertical,Horizontal

3.2.7.2   Setting
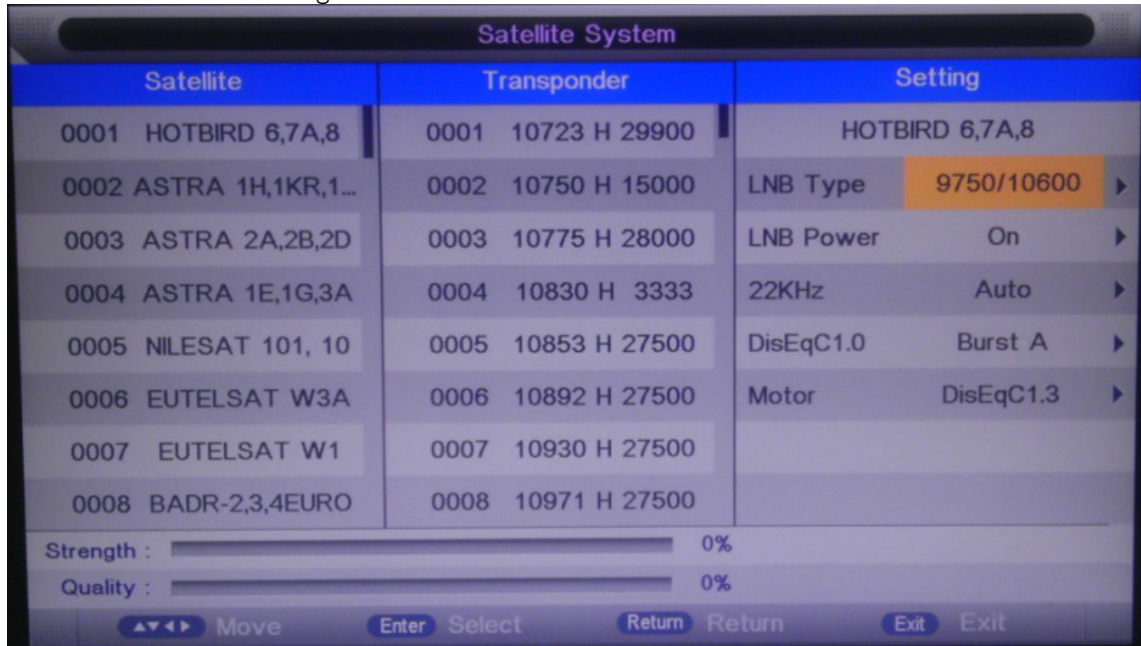
Operations in the Setting Menu are shown in the following table:

Key Stroke	Action
KEY_UP	use cursor to up
KEY_DOWN	use cursor to down
KEY_MENU	Back to Transponder list.
KEY_EXIT	Exit Main Menu.

Operations in Setting item menu are shown in the following table

Option	Value
LNB Type	9750/10600,9750/10750,05150,05750,09750,10600,10750,11300,11475,User Single,User Dual
LNB Power	On,Off
22KHz	Auto,off,on
DisEqC Mode	Off,LNB1,LNB2,LNB3,LNB4,Burst A,Burst B
Motor	None,DisEqC1.2,DisEqC1.3

Choose DisEqC1,2&1.3
    Set Limit menu

Operations in the Limit menu are shown in the following table

Option	Value
Move Continue	Control polar axis continually move east or west until it arrives where you want.
Move Step	Control polar axis move east or west at fixed step
Set East Limit	Set current position as the maximum angle eastward
Set West Limit	Set current position as the maximum angle westward
Goto Reference	Back to default values
Disable Limit	Repeal current set of limit values.

    Set Location menu
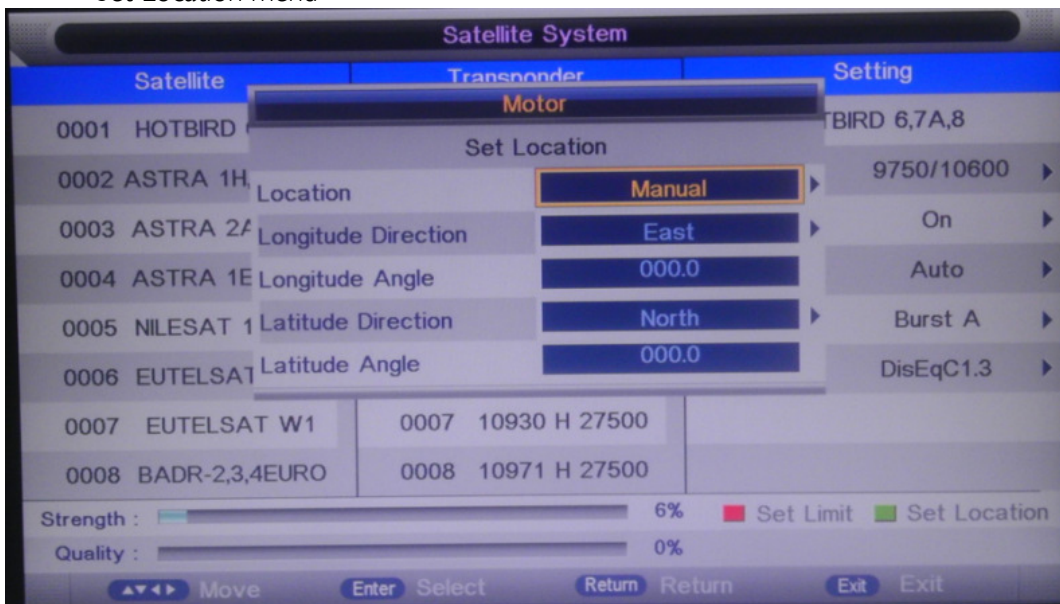
Operations in the Location menu are shown in the following table

Option	Value
Location	Select where user is or close to it, if user is not where system default sets, choose to Manual custom setting
Longitude Direction	Select user's region is east or west longitude
Longitude Angle	Select longitude where user is, move cursor and input corresponding data.
Latitude Direction	Select user's region is south or north longitude
Latitude Angle	Select latitude where user is, move cursor and input corresponding data.

4.   Feature Menu

This chapter will describe the function of the features in the main menu.

4.1   Feature Menu

Press "Menu" → "Down（▼）" → "Down（▼）" → "Down（▼）"→ "Right（►）"and then the functions of the Sound can be set.The appearance of the Feature Menu is shown as follows:

Operations in the Feature Menu are shown in the following table:

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlights the last one in the list.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlights the first one.
KEY_LEFT	Back to the mainmenu
KEY_RIGHT	If the focused item is "Timer", mainmenu will close, and then open the Timer Menu; If the focused item is " CI Info", mainmenu will closely and then open the CI Info Menu;

	If the focused item is "Hearing Impaired", a Popup Menu will open; If not, the Feature Menu will be closed and then the corresponding sub menus will open.
KEY_ENTER	Same as KEY_RIGHT.
KEY_MENU	Back to Main Menu.
KEY_EXIT	Exit Main Menu.

4.2   Function Description

4.2.1   Lock

The Lock sub page includes three parts:Lock Channel, Parental Lock, Change Pin Code, as shown in the following picture.
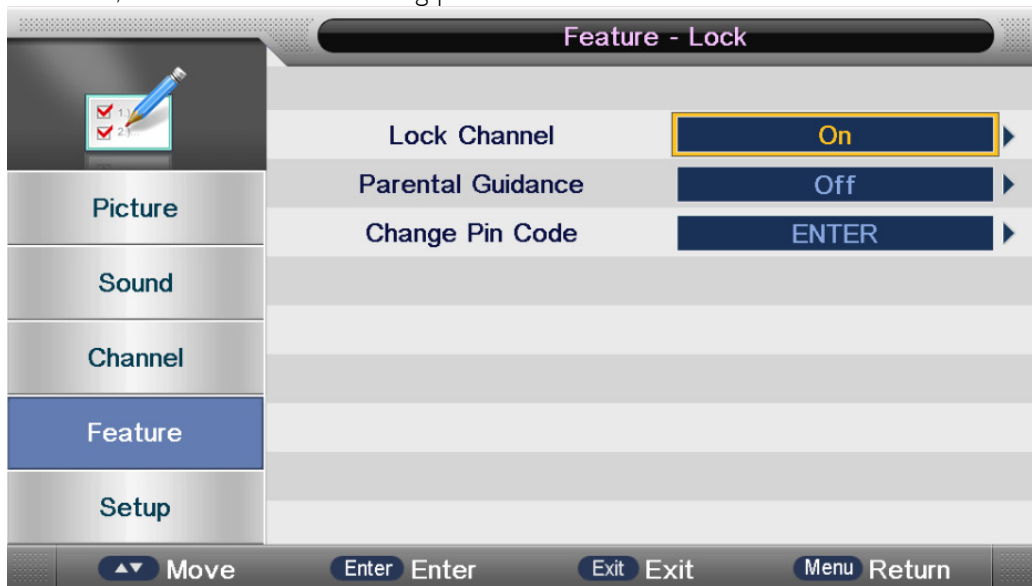
Operations in the Lock Menu are shown in the following table

Option	Value
Lock Channel	On: turn on Lock Channel. User needs to enter a password to watch the channels which are locked. Also needs to enter a password when the user tries to change settings in items like "reset system"/"reset database" etc. Off: turn off Lock Channel
Parental Lock	Off: turn off Parental Lock 4-18: turn on Parental Lock and set the age level that are permitted to watch the program.
Change Pin Code	KEY_RIGHT or KEY_ ENTER to enter the pin code changing page.

1) Change Pin Code

2) Key Operation

Key Stroke	Action
KEY_NUM_0 ~ KEY_NUM_9	Press the number buttons to enter the password. If the numbers entered are not exactly the same as the old password, then it will show a new password-enter menu to enter again. If the password is right, then it will ask the user to enter the new password that will replace of the old one. If the New Password is also Confirmed, it'll show a success message. If not, it will ask you to enter the new password again.
KEY_MENU	Closes the whole Main Menu。
KEY_EXIT KEY_LEFT	Cancels the pin-code-change-action and reverts back to the Child Lock Menus.

4.2.2　　　Language

　　　System language settings, includes OSD Language, Preferred Subtitle, Preferred Audio, Digital Teletext Language, Anglog Teletext Language。
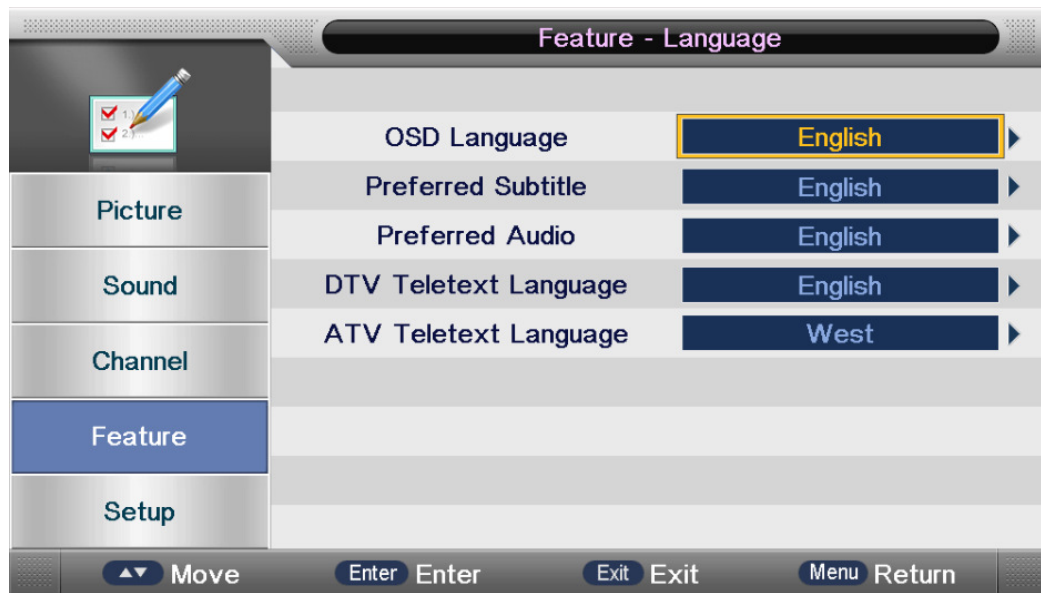
Option	Value
OSD Language	English, Italian, Spanish, Portuguese, French, German
Preferred Subtitle	English, French, German, Italian, Spanish, Portuguese, Danish, Czech, Dutch, Finnish, Swedish, Greek, Russian, Polish, Turkish, Norwegian, Welsh, Gaelic, TChinese, SChinese,
Preferred Audio	English, French, German, Italian, Spanish, Portuguese, Danish, Czech, Dutch, Finnish, Swedish, Greek, Russian, Polish, Turkish, Norwegian, Welsh, Gaelic,
Digital Teletext Language	English, French, German, Italian, Spanish, Portuguese, Danish, Czech, Dutch, Finnish, Swedish, Greek, Russian, Polish, Turkish, Norwegian, Welsh, Gaelic,
Anglog Teletext Language	West, Greek, East, Arabic, Cyrillic, Russian, Hebrew, Farsi

4.2.3   Clock

It is used to check out the current system time and set the time zone/DST/EPG.

1) Range of the values of items in Clock Menu

Option	Value
Date	DD/MM/YYYY
Time	HH:MM
Time Zone	-12:00, -11:30, -11:00 ,…, +00:00, +00:30,+01:00, … , +12:00, Auto
DST(daylight saving time)	[On, Off] if it's " On " , it'll be an hour earlier than the GMT. If Time Zone is set to "Auto", it's not available.

2) Key-stoking action

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button, then highlights the last one in the list.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list, then highlights the first one.
KEY_LEFT	Back to Feature Menu.
KEY_RIGHT	Opens/Closes Popup Menu
KEY_ ENTER	Same as KEY_RIGHT.
KEY_EXIT	Exits Main Menu.
KEY_MENU	Back to Feature Menu
KEY_STANDBY	Enters standby mode

4.2.4   Sleep Timer

When your TV is On, you can start the sleep function by setting Sleep Timer. This function allows you to power off the TV within a preset period of time. Time period offered are: Off,10 Mins, 20 Mins,30Mins, 60Mins, 90 Mins, 120 Mins, 180 Mins, 240 Mins,

4.2.5   Auto Power Off

When your TV is On, you can start Auto Power Off function by setting Auto Power Off Timer. This function allows you to power off the TV within a period of time. Time periods offered are: Off, 1 Hours,2 Hours,4 Hours。

4.2.6   Hearing impared

This function offers a subtitle such as a "knock on the door" or "the bell starts to ring" for the current scene in case that the user is hard of hearing. (dependant on transmition)

4.2.7   CI Info

It is only available in DTV source when the PVR is not playing. Please prefer to Chapter 6 section 2 CI Setup for further information about the function of the CI.

4.2.8   PVR/Timeshift

For more information,Please prefer to Chapter 6 section 3.

5.   Setup Menu
     This chapter will describe the function of the Setup in mainmenu.

5.1   Setup Menu

The Setup Menu is shown as follows :
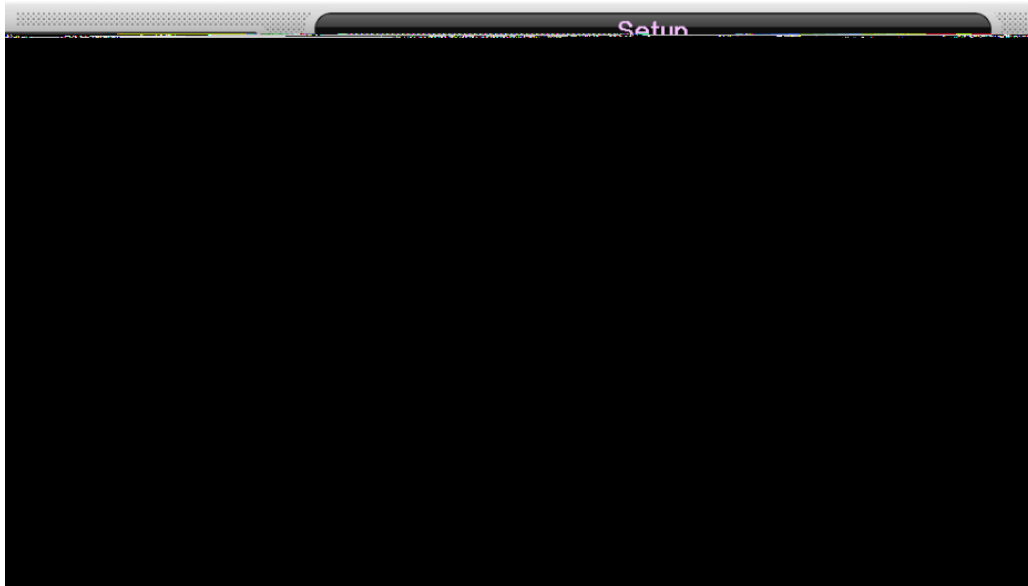
The range and the default values of every sub item in the Setup menu are shown in the following table:

Setup Menu Items	Value	Default
OSD Timer	(5, 10, 15, 20, 25, 30 Seconds,Never)	15
Auto SCART	Off/On	ON
PC Setup	'' ENTER ''	
Blue Screen	Off/On	Off
Reset TV Setting	'' ENTER ''	
Software Upgrade	'' ENTER ''	

Operations in Setup Menu are shown in the following table:

Key Stroke	Action
KEY_UP	Highlights the previous sub item. If it is the first button currently, then highlights the last one in the list.
KEY_DOWN	Highlights the next sub item. If it is the last button in the list currently, then highlights the first one.
KEY_LEFT	Back to Main Menu.
KEY_RIGHT	If the cursor is on ''OSD Timer'' , ''Auto SCART'', or ''Blue Screen'', a popup menu will appear to make a further choice. If not, the Setup Menu will be cleaned for other sub menus.
KEY_ ENTER	Same as KEY_RIGHT.
KEY_MENU	Back to Main Menu.

5.2 Function Description

5.2.1 OSD Timer

Seting up the OSD Timer means how long the menus will be displayed before they exist. The optional periods are 5, 10, 15, 20, 25, 30 Seconds.
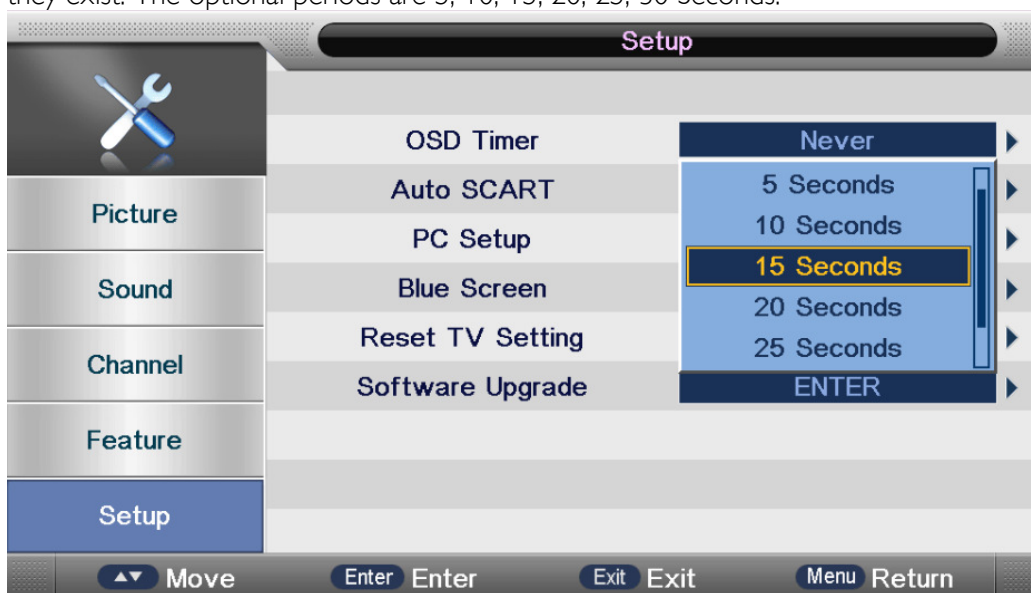
5.2.2 Auto SCART

Switch for Auto SCART function.

5.2.3   PC Setup

It is only available in PC source.
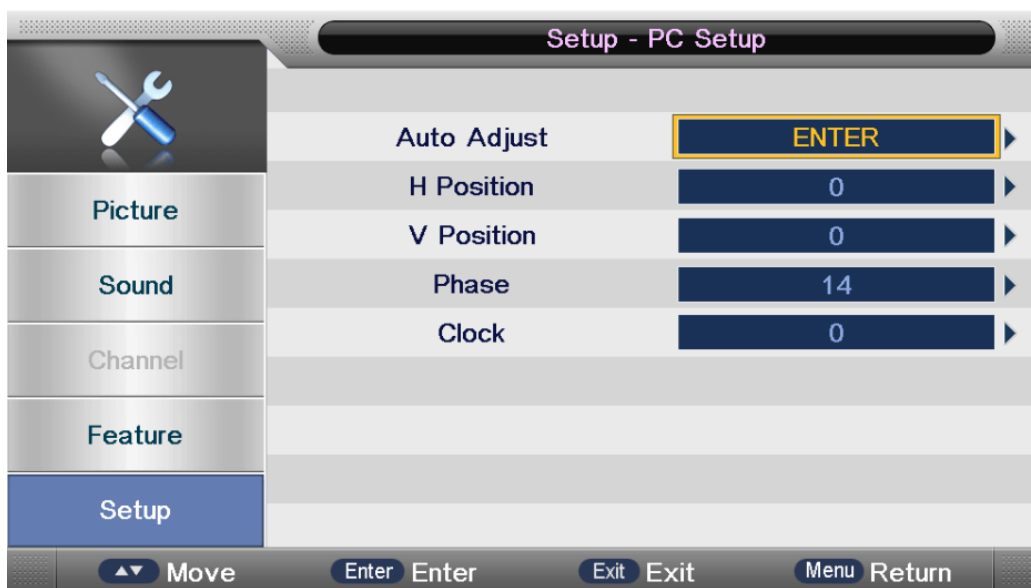
Mode-Options	Value
Auto Adjust	"OK"
H Position	-16~16
V Position	-16~16
Phase	0~31
Clock	-50~50

1) Auto Adjust -   Auto Adjusts the H Position, V Position, Phase, & Clock
2) H Position - Manually adjusts H Position
3) V Position - Manually adjusts V Position
4) Phase - Manually adjusts Phase
5) Clock - Manually adjusts Clock

5.2.4   Blue Screen

This is not available in PC, DTV source or when it is not in movie mode in multimedia source. In TV source, if there is no signal and Blue Screen is Off, it will show snow ; if there is no signal and Blue Screen is On, it will show a blue screen

.

5.2.5   Reset to Setting

If the Lock Channel is On in Feature Menu/Lock , you need to enter the password to Reset. It will Reset the System Setting and Database. When the reset is complete, it will enter the Auto Installation settings page.

First, it will show a page for the user to confirm. as follow:
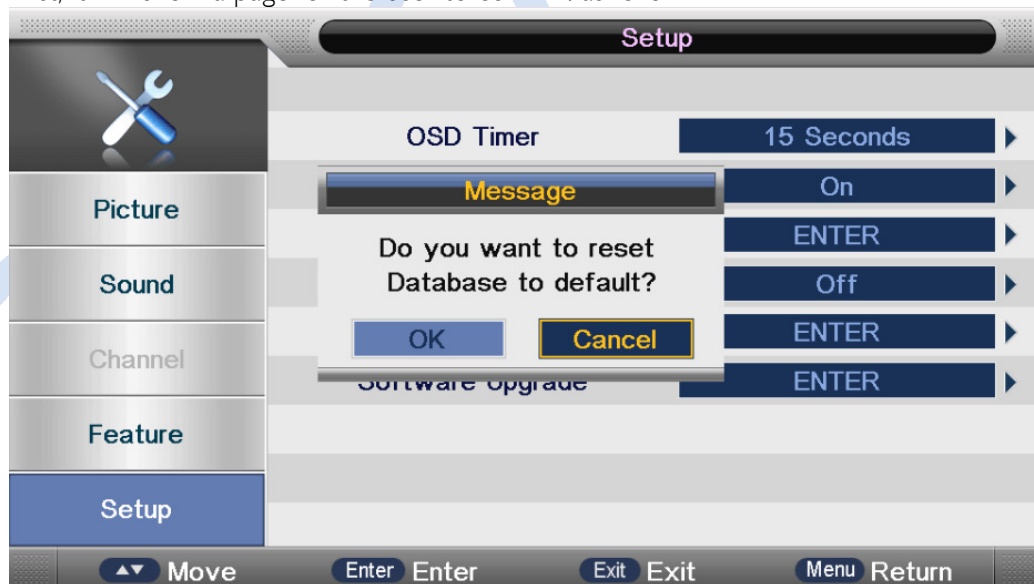
5.2.6   Software Upgrade

Software upgrade by bin code. Put The bin code into the root directory of the media and plug the media into the TV 's USB connection, press ENTER to upgrade. Don't turn the power off during the upgrading process. The system will restart when the upgrading process is done.

Setup - Software Upgrade

Searching for software, Please wait...

100%

Programming of software, Please wait...

36%

Do not power off during upgrading

Picture

Sound

Channel

Feature

Setup

Exit Exit   Menu Return
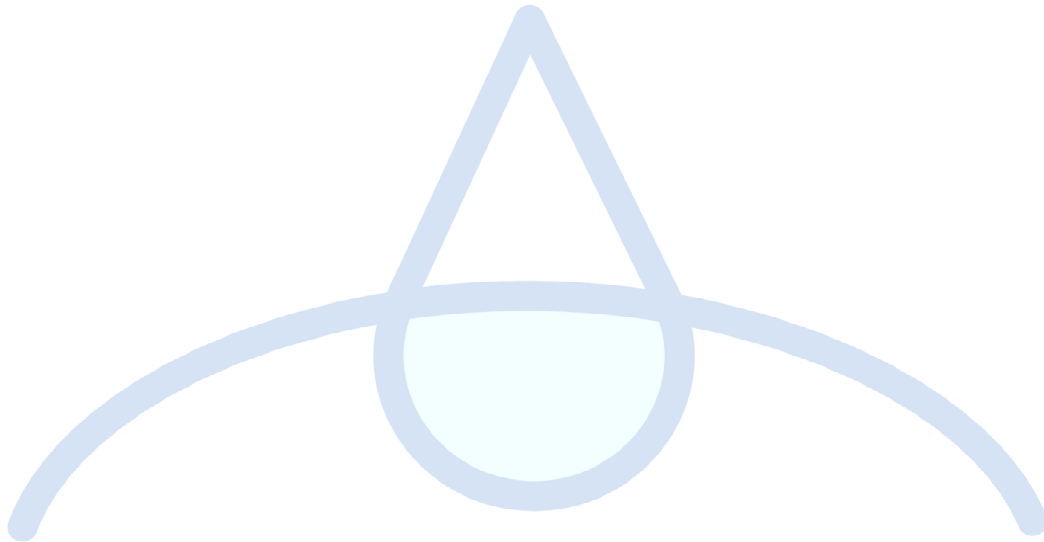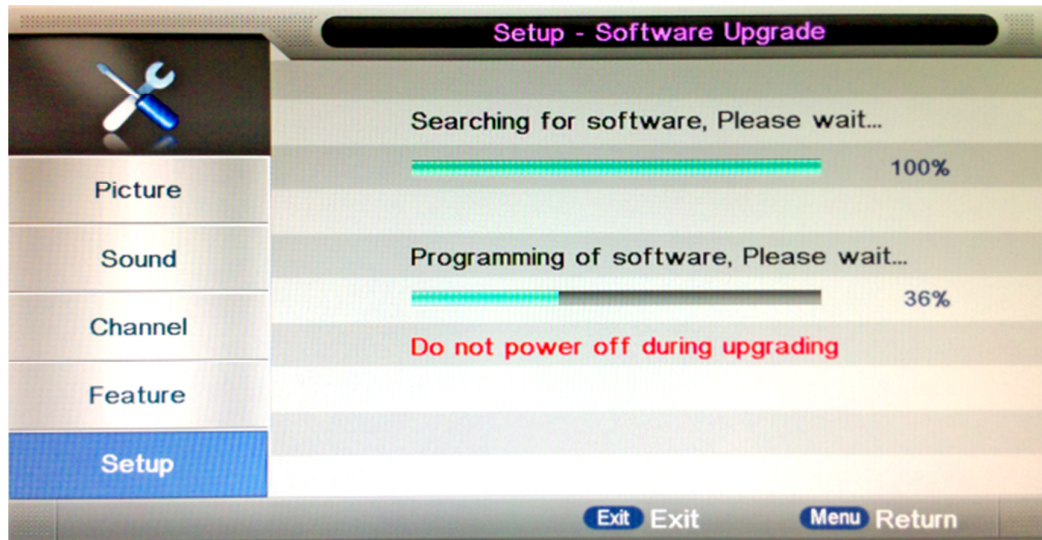
VI. Multimedia

1.   Photo

1.1   Format Supported

Type	Container	Max Resolution
PHOTO	JPEG	165370
	Progressive JPEG	61648
	BMP	101439
	PNG	101439
	GIF	
	TIFF	

1.2 Function Introduction

Highlight the "PHOTO" item in multimedia mainmenu by press the "RIGHT" / "LEFT" key, then press "ENTER" key to enter the photo page, as follows:
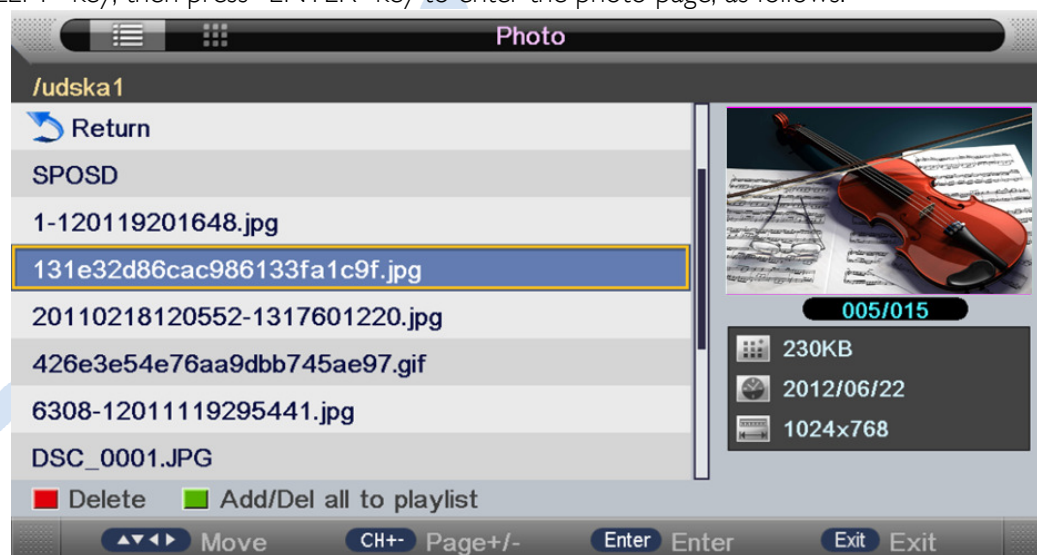
Key Operation	Container
RED	Delete the focused folder/file.
GREEN	Add/Del all photo files to play list
ENTER	Add/Del highlight files to play list.
CH+/-	Page up/Page down.
PLAY	Play the files in play list.

1.2.1   Playback

Press "PLAY" key to start playback.

Key Operation

1) ▶: Same as the "PLAY" key on the remote, to start playing pictures in slide show mode

2) ⏸: Same as the "PAUSE" key on the remote, to pause the playing file

3) ⏹: Same as the "STOP" key on the remote, to stop slide show, and return to the browser

4) ⏮ ⏭: Same as the "|<<" / ">>|" key on the remote, to play the previous or next file

5) ↻: To rotate the playing picture(0°、90°、180°、270°).

6) 🔍: To zoom the playing picture.

7) ℹ: Same as the "INFO" key on the remote, to display the information of the current file.

8) ⚙: To enter the "Photo Setup" menu, including "Repeat Mode", "Background Music", "Music Source","Slide Time", "Effect".

9) 📄: To enter the play list menu.

1.2.2   Thumbnails

1). Thumbnails mode can be shown only in photo mode and highlight in file browser by press "EXIT" , "Right（▶）" as follows:
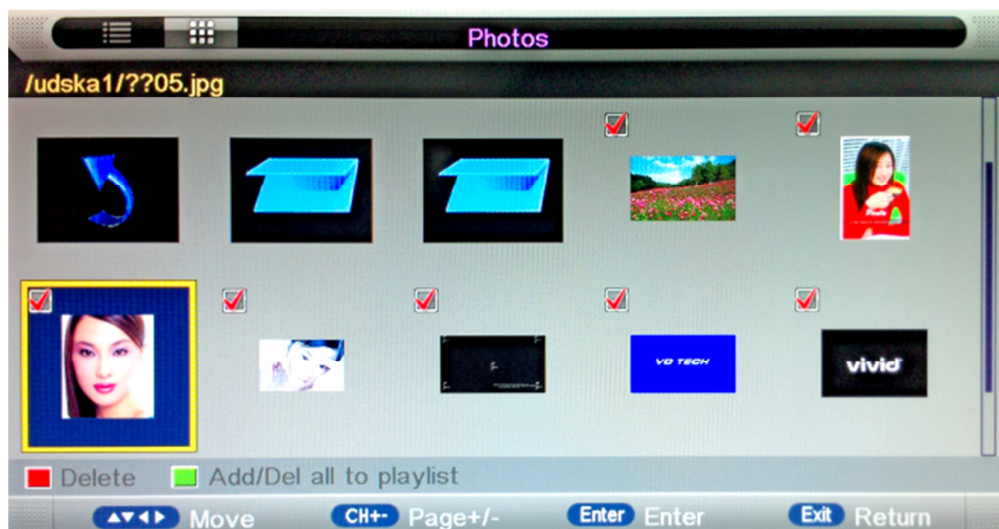
2). The direction keys are to move the highlighted file.

3). Press the "EXIT" key ,and press the ''LEFT'' key, changes to photo list mode.

2.   Music

2.1   Format Supported

MUSIC	WAVE	LPCM ADPCM
	WMA	WMA STD WMA Prof
	AAC	AAC-LC / HE-AAC
	AC3	AC3 E-AC3
	MPEG	MP1 MP2 MP3 AAC-LC HE-AAC
	Read Audio	AAC / HE AAC Cook
	Ogg	Vorbis
	FLAC	FLAC
	DTS	DTS

2.2   Function Introduction

Highlight the ''MUSIC'' item in multimedia mainmenu by pressing ''RIGHT'' / ''LEFT'' keys, then press the ''ENTER'' key to enter the music page, as follows:
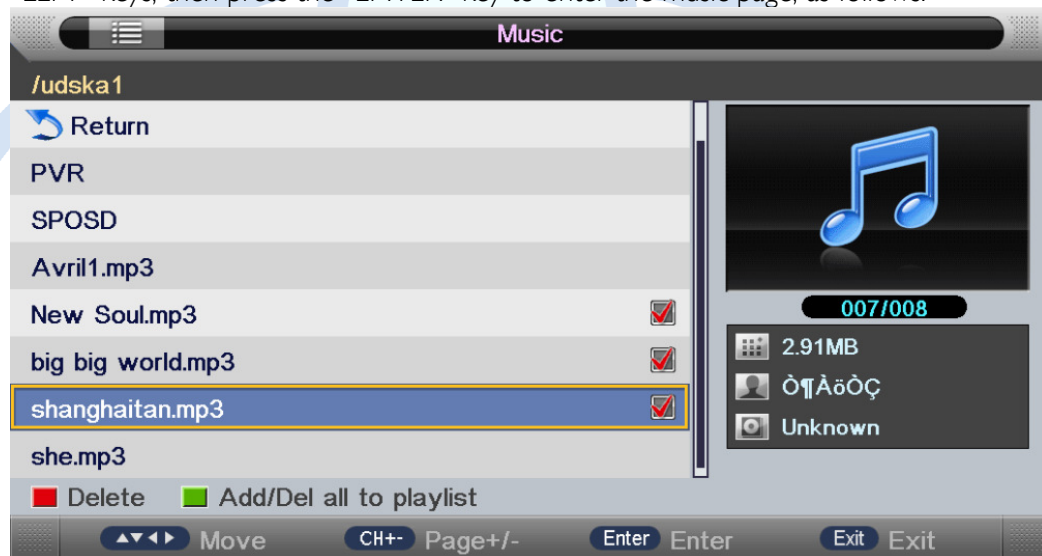
Key Operation	Container
RED	Delete the focused folder/file.
GREEN	Add/Del all photo files to play list
ENTER	Add/Del highlight files to play list.
CH+/-	Page up/Page down.
PLAY:	Play the files in play list.

2.2.1 Playback

Press the "PLAY" key to start playback.
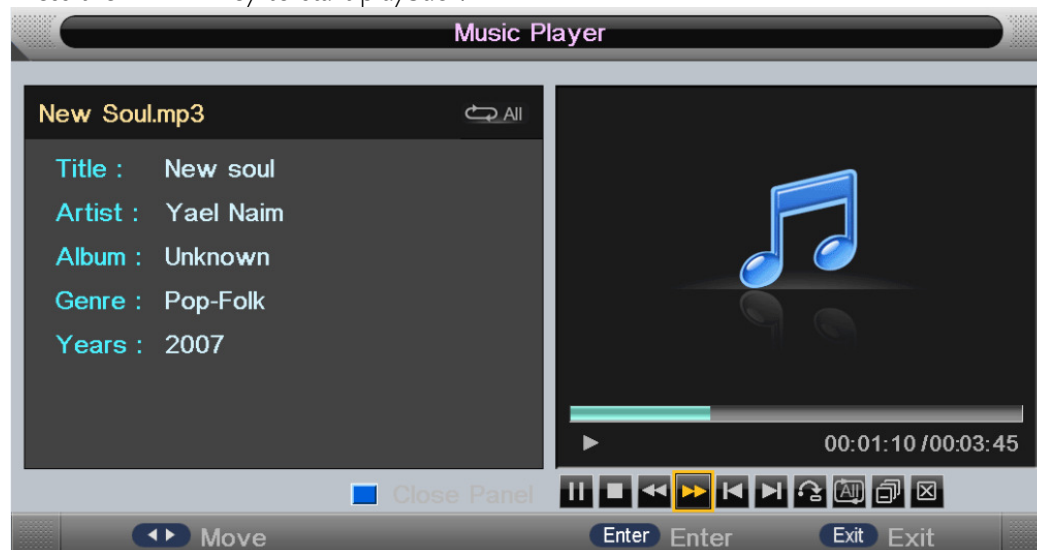
Key Operation

1) ▶: Same as the "PLAY" key on the remote, to start playing the file, or resume the paused file.

2) ⏸: Same as the "PAUSE" key on the remote, to pause the playing file

3) ⏹: Same as the "STOP" key on the remote, to stop the playing file.

4) ◀◀ ▶▶: Same as the "<<" / ">>" key on the remote, to play fast backward or forward. The speed can switch to "X2、X4、X8、X16" displayed on screen

5) ⏮ ⏭: Same as the "|<<" / ">>|" key on the remote, to play the previous or next file.

6) All: Switches between "Repeat 1", "Repeat All", "Repeat Dir" and "Random" mode.

7) ⧉: To switch the window between "Information" and "Play List".

8) ⊠: Same as the "BLUE" key on the remote, to close the panel only in "MUSIC" mode, and then it can be opened by every key on remote.

3.   Movie

3.1   Format Supported

| Type	Container	Video Decoder	Max Resolution
MOVIE	AVI	MPEG-4 ASP H.264 DivX Xvid WMV 9 / VC - 1	1920 x 1080
		MPEG-4 SP	CIF (352 x 288) QCIF (176 x 144)
		MJPEG	1280 x 720
	MPEG 1/2	MPEG-1 Video MPEG-2 Video	1920 x 1080
	MPEG4	MPEG-2 Video MPEG-4 ASP H.264 Xvid MJPEG H.264	1920 x 1080
	WMV	WMV 9 / VC-1	1920 x 1080
	RealMedia	RV30 / RV40	1920 x 1080
	Flash	Sorenson H.263 H.264	1920 x 1080
	QuickTime	MPEG-4 ASP H.264 MJPEG	1920 x 1080
	ASF	WMV3 / WVC1 MP4S / M4S2	
	Matroska Video	MPEG-2 Video MPEG-4 ASP H.264 Xvid DivX DivX Plus HD RV30 / RV40 WMV9 / VC-1	1920 x 1080
	DivX	MPEG-4 ASP DivX Xvid	1920 x 1080
	TS Stream	MPEG-2 Video H.264 WMV 9 / VC-1	1920 x 1080

3.2   Function Introduction

Highlight the "MOVIE" item in the multimedia mainmenu by press the "RIGHT" / "LEFT" key, then press the "ENTER" key to enter the movie page, as follow:
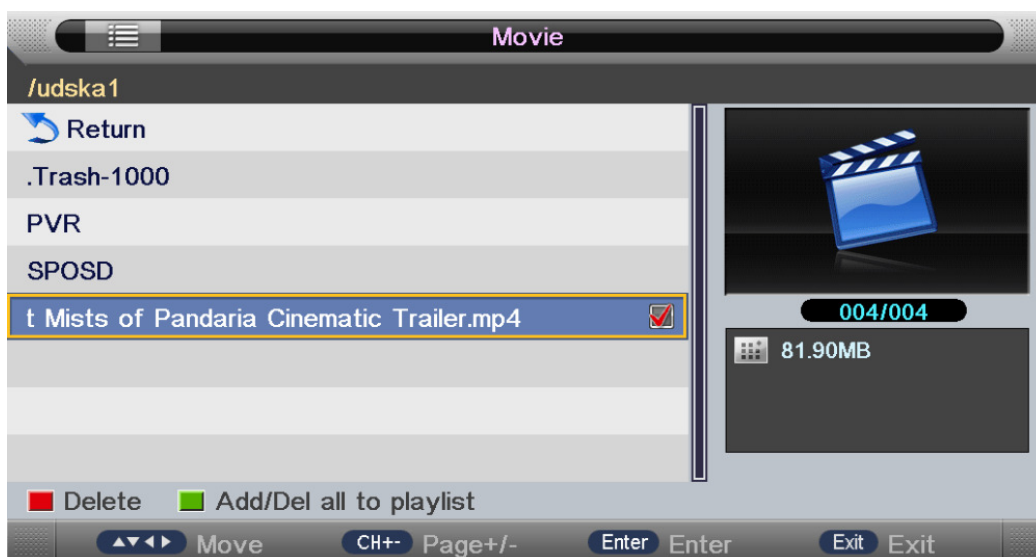
Key Operation	Container
RED	Delete the focused folder/file.
GREEN	Add/Del all photo files to play list
ENTER	Add/Del highlight files to play list.
CH+/-	Page up/Page down.
PLAY:	Play the files in play list.

3.2.1   Playback

Press the "PLAY" key to start playback.
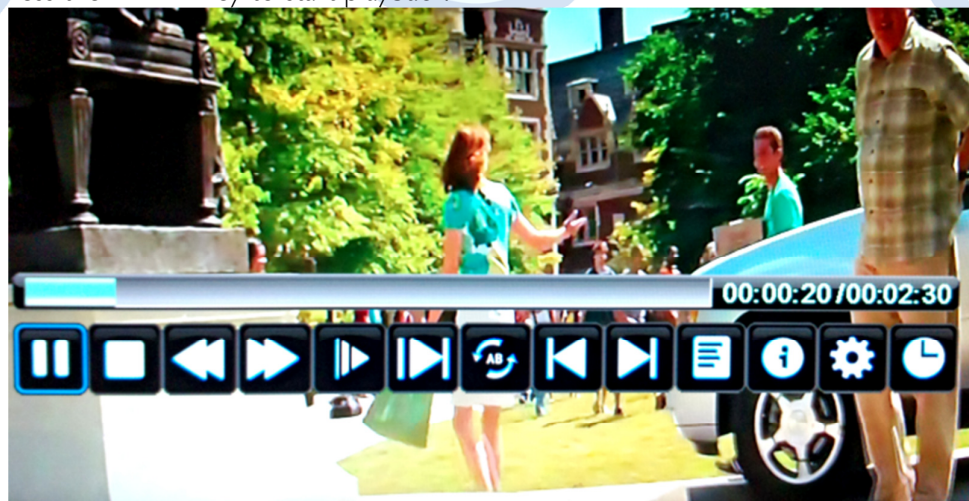
Key Operation

1) ▶: Same as the "PLAY" key on the remote, to start playing the file, or resume the paused file.

2) ⏸: Same as the "PAUSE" key on the remote, to pause the playing file

3) : Same as the "STOP" key on the remote, to stop the playing file, and return to the file browser interface.

4) : Same as the "<<" / ">>" key on the remote, to play fast backward or forward. The speed can switch to twice, four times, eight times and sixteen times, and displayed with "X2、X4、X8、X16" on the screen

5) : Same as the "|<<" / ">>|" key on the remote, to play the previous or next file directly.

6) : To enter slow mode. The speed can switch to 1/2, 1/4, 1/8, 1/16, and displayed with "X1/2, X1/4, X1/8, X1/16" on the screen.

7) : To enter step mode.

8) : To set AB repeat, first press sets the A point, and the second press sets the B point, and then plays between A and B repeatedly.

9) : To enter the play list menu.

10) : Same as the "INFO" key on the remote, to display the information of the current file.

11) : To enter the "Movie Setup" menu, including "Program", "Subtitle", "Audio", "Repeat Mode".

12) : To enter the "GO TO" function, the user can input the time he want to start directly.

4. eBook

4.1 Format Supported

Only txt format eBook is supported.

4.2 Function Introduction

Highlight the "eBook" item in the multimedia mainmenu by press the "RIGHT" / "LEFT" key, then press the "ENTER" key to enter the eBook page, as follow:

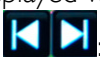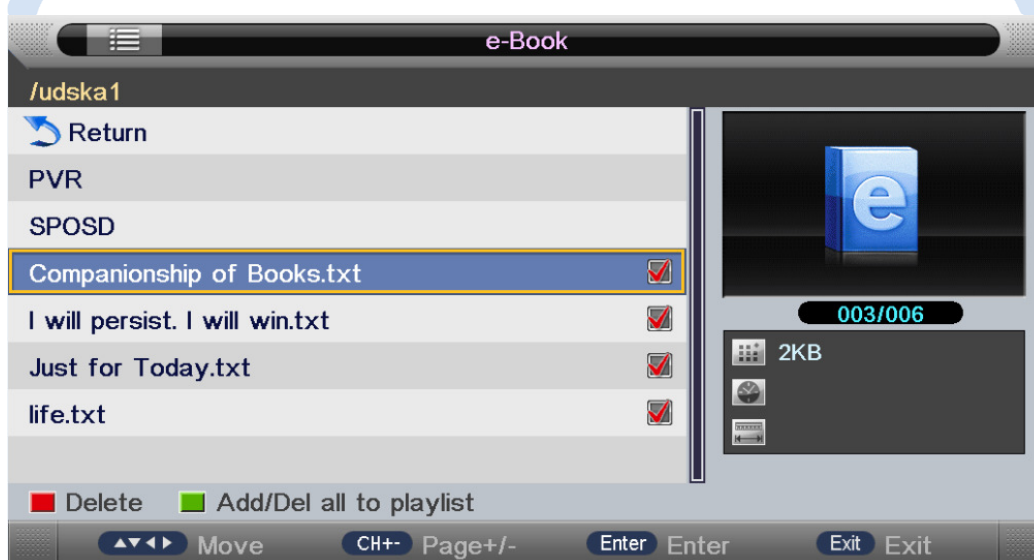| Key Operation	Container
RED	Delete the focused folder/file.
GREEN	Add/Del all photo files to play list
ENTER	Add/Del highlight files to play list.
CH+/-	Page up/Page down.
PLAY:	Play the files in play list.

4.2.1　　Playback

Press the"PLAY" key to start playback
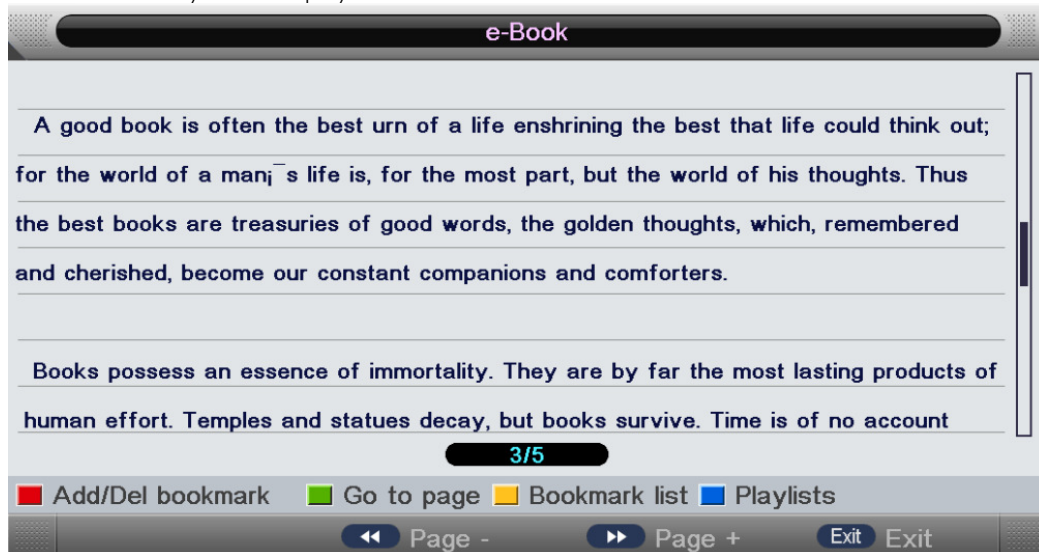
Key Operation	Container
RED	To add/del bookmark.
GREEN	To input the page number directly.
YELLOW	To enter the "Bookmark list" page.
BLUE	To enter the "Play list" page.
"<<" / ">>"	To page down/page up.
EXIT	To close the file and return to the file browser.

This chapter mainly describes the operation and the functions of the user interface besides mainmenu, such as EPG, CI Setup, Recorder, Timeshift, Playback and Auto Installation.

1.   EPG

1.1   EPG abstract

If you expect to know the schedule or the information of the program currently playing, or a program that starts in the near future, you can refer to the EPG menu by pressing the "EPG" button on the remote. It shows the date and time on the top right of the menu, the list of the current available channels on the left side of the menu, and the name of each program that starts in a scheduled period of time on the right of the menu. Change the focused list by pressing "right" or "left", or the focused program by pressing "up" or "down". The information of the currently focused program will be displayed on the top of the menu.

There are 3 modes of the EPG menu :

Daily mode : shows the information of the programs to be broadcasted in daily mode ;

Weekly mode : shows the information of the programs to be broadcasted in weekly mode ;

Extended mode: shows the detailed information of each program ;

1.2   Daily Mode

● Display the information of the programs that start in a scheduled period of time in the current channel. It includes name, start time, end time, short content description, current date/time, etc.

● If the current focusing program is not parental locked, it will be played simultaneously in the background.

EPG Daily Mode

Key Stroke	Action

KEY_UP	Focus on the previous channel on the left channel list, and the focused event is the same as the last one where the focus existed.
KEY_DOWN	Focus on the next channel on the left channel list, and the focused event is the same as the last one where the focus existed.
KEY_LEFT	Focus on the earlier program on the right event list.
KEY_RIGHT	Focus on the later program on the right event list.
KEY_RED	Change to weekly mode。
KEY_YELLOW	Update the program information of the current 7 channels in the channel list to the previous day and the start time keeps the same.
KEY_BLUE	Update the program information of the current 7 channels in the channel list to the next day and the start time keeps the same.
KEY_INFO	If the cursor lies on the right event list, change to Extended Mode by pressing the "KEY_INFO" or back to daily mode by enter the "KEY_RETURN".
KEY_EXIT	Exits EPG.

1.3 Weekly Mode:

- Display the information of the programs that start in a scheduled period of time in the current channel. It includes name, start time, end time, short content description, current date/time, etc.
- Focusing on different channels on the left, it displays corresponding programs in schedule of time.
- If the current focusing program is not parental locked, it will be played simultaneously in the background.

EPG Weekly Mode

Key Stroke	Action
KEY_UP	If the cursor lies on the left list, then the previous channel is focused. If the cursor lies on the right list, then the previous (earlier) event is focused.
KEY_DOWN	If the cursor lies on the left list, then the next channel is focused. If the cursor lies on the right list, then the next (later) event is focused.

KEY_LEFT	If the cursor lies on the left list, it moves to the list on the right. If the cursor lies on the right list, it moves to the list on the left.
KEY_RIGHT	If the cursor lies on the left list, it moves to the list on the right. If the cursor lies on the right list, it moves to the list on the left.
KEY_RED	Change to daily mode.
EY_YELLOW	If the cursor lies on the left channel list, update the right event list to display the event information of the previous day. If the cursor lies on the right event list, update the right event list to display the event information of the previous day and move the cursor to the same place in the updated page.
KEY_BLUE	If the cursor lies on the left channel list, update the right event list to display the event information of the next day. If the cursor lies on the right event list, update the right event list to display the event information of the next day and move the cursor to the same place in the updated page.
KEY_INFO	If the cursor lies on the right event list, change to Extended Mode by enter the key "KEY_INFO" or back to weekly mode by enter the key "KEY_RETURN".
KEY_Exit	Exits EPG

1.4   Extended Mode:
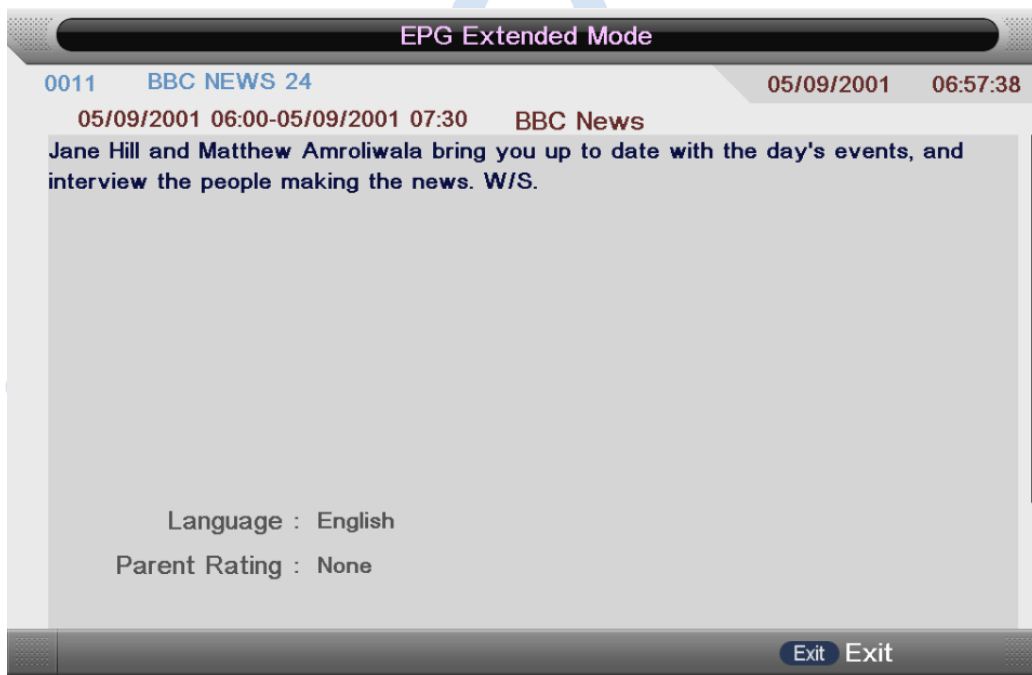
EPG Extended Mode

Key Stroke	Action
KEY_UP	If the information takes more than one page, the current page rolls up a row.
KEY_DOWN	If the information takes more than one page, the current page rolls down a row.
KEY_Exit	If it entered Extended Mode from daily mode, goes back to daily mode. If it entered Extended Mode from weekly mode, goes back to weekly mode.

2. CI Setup

2.1 Getting Access To Scambled Channel

When a scrambled-channel is selected, the user needs to insert a specific CAM or Smart Card. Otherwise it is not accessible and a popup menu appears to emphasis that it's a scramble-channel as the following picture shows.

Scramble-channel message

When a CAM is inserted and the system detects it, it will do some initialization and a pop up a menu appears to let you know that the CAM is initializing as the following picture shows:
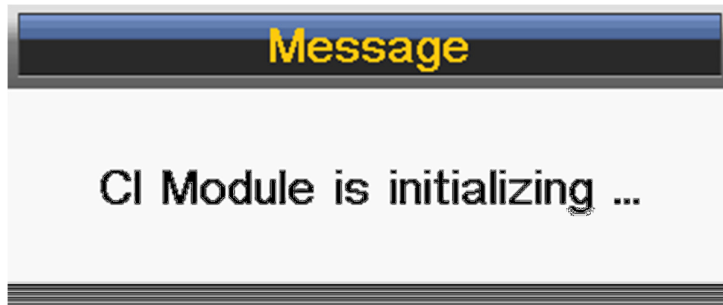
CAM initializing message

The scrambled-channel can be accessible only under both of the following two conditions:

（1）the CA system ID of the selected scrambled-channel corresponds to the CAM and Smart Card that the user inserted;

（2）the Smart Card belonging to the user and is subscription is paid.

2.2 getting CI Information

When the CAM is opperational, enter the main menu "Feature"->"CI Info" to get the CI Information（as the following picture shows）.

Getting CI Information

In the menu "Common Interface", all the information of CAMs which are opperational will be listed as the following picture shows. The listed items link to the CAM's CI Information.
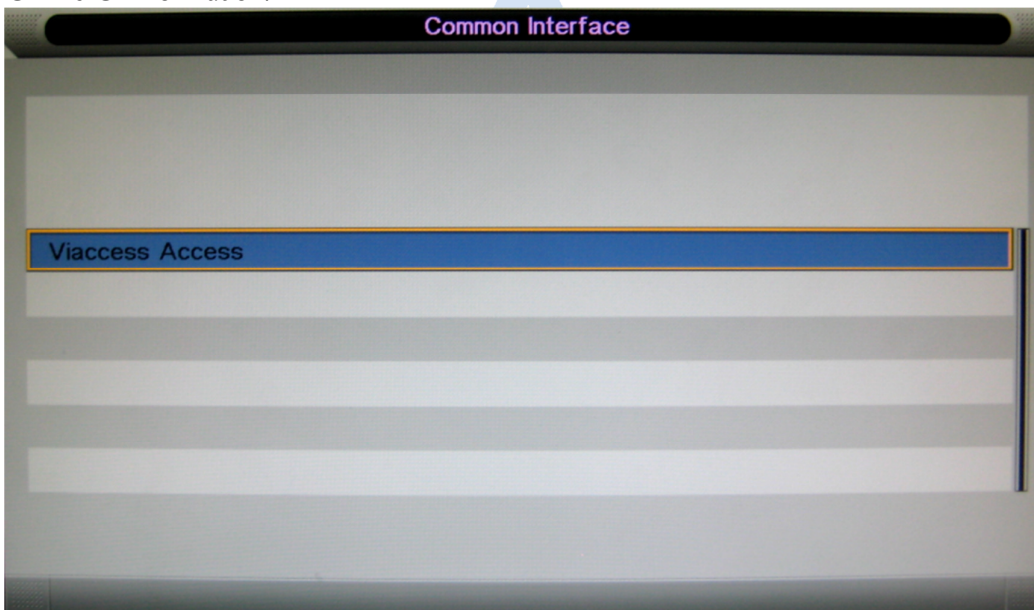
Link to CI Information

2.3   Details of CI Information

As mentioned before, items in the list link to the CAM's CI Information. But the the way that its sub items are listed and the contents it offers differs according to different CA systems. Now we'll take a CAM from Viaccess Company as an example.

2.3.1   Main Menu

As the following picture shows:
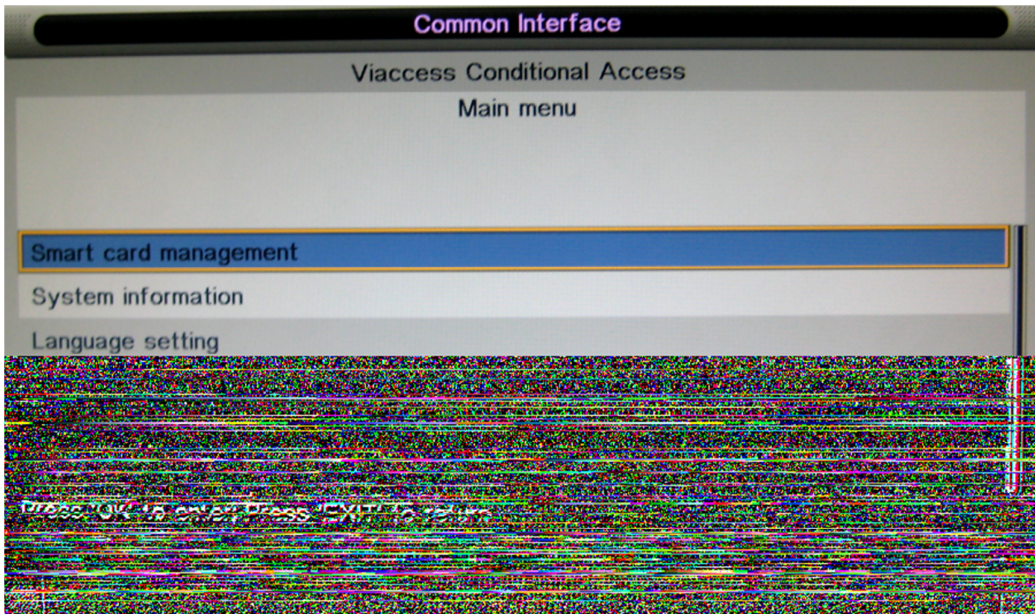
Main menu

2.3.2   Smart Card Management

Smart card management includes "subscription information", "morality level setting", "Change PIN code" and so on.
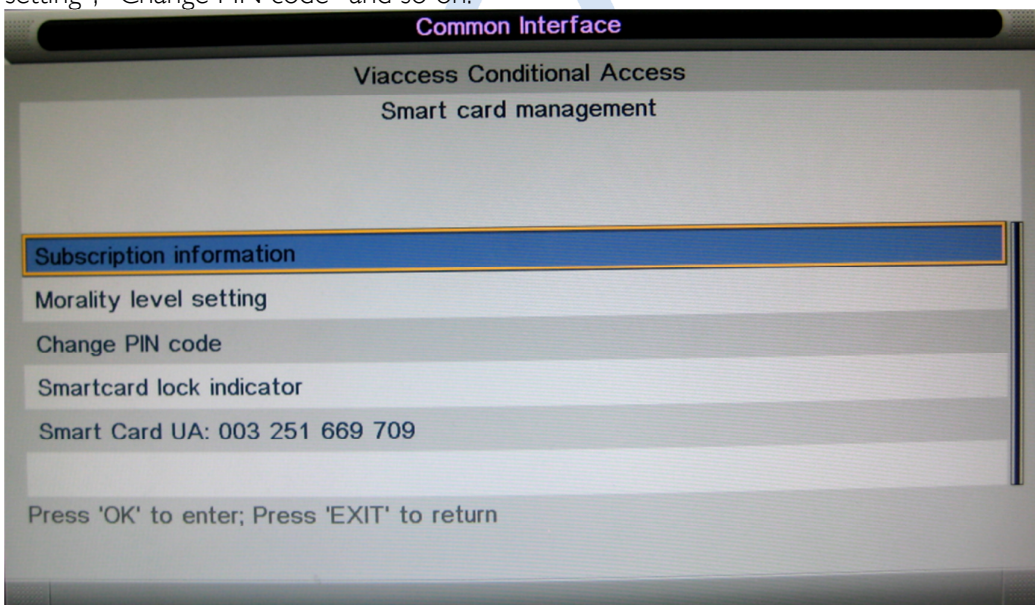
Smart card management

2.3.3   Subscription Information

Subscription Information lists all the subscribed services that registered in the smart card. Enter the sub item to look for more detailed information of a service.
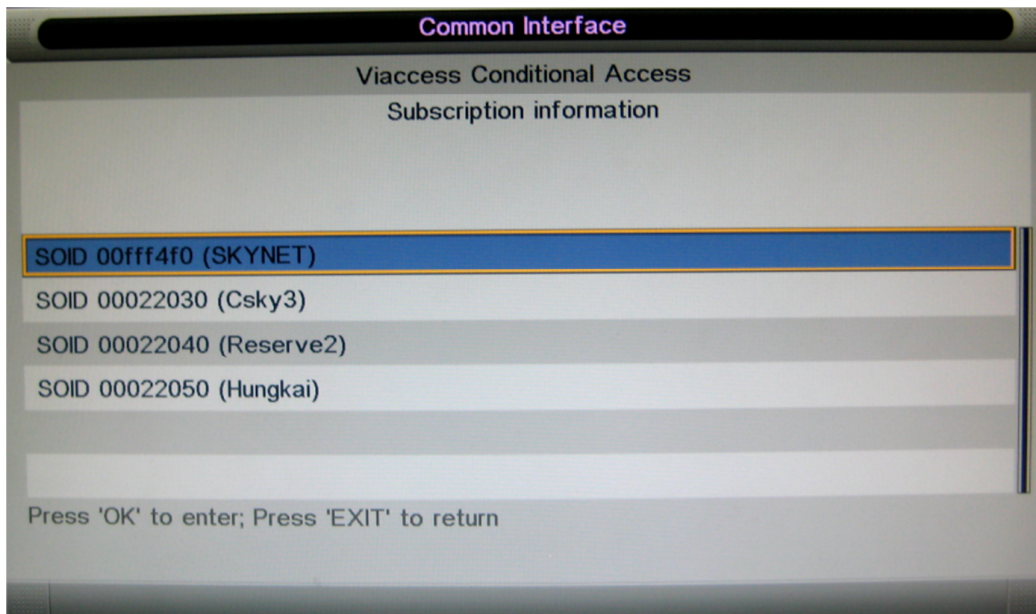
Subscription information

2.3.4   Morality level Setting

Morality level setting is used like parental control. You will need to enter a PIN code.
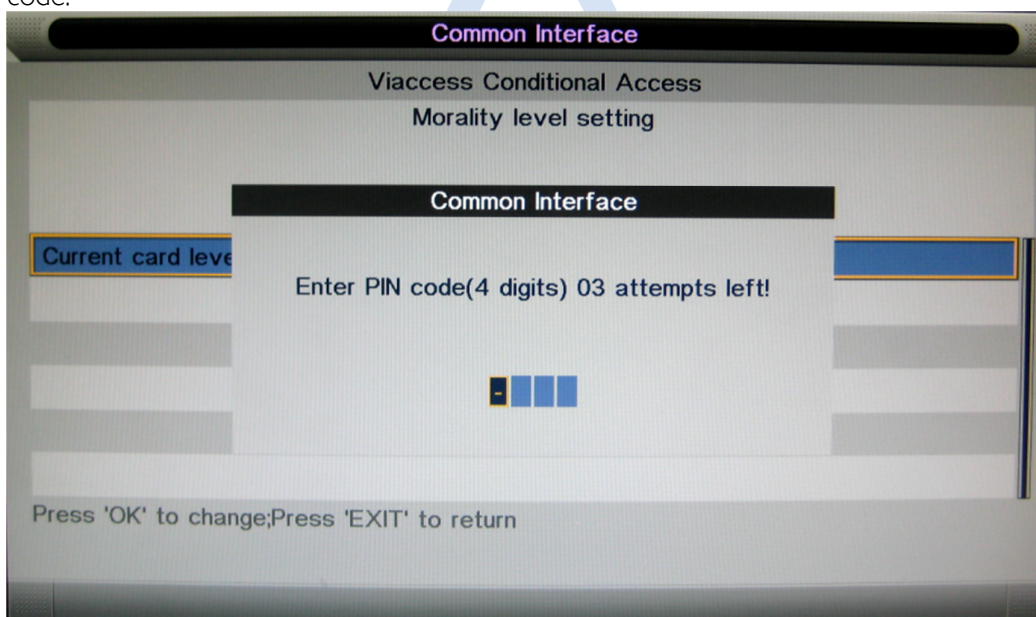
Morality level setting

2.3.5   Change PIN Code

User can change a PIN code through the operation on this sub item as the following picture shows.
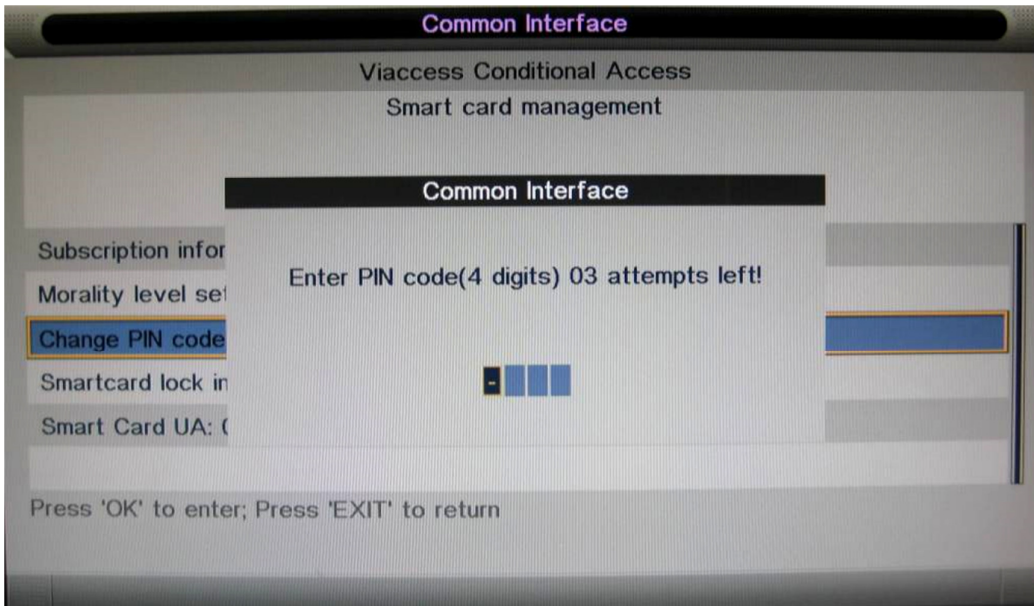
Change PIN code

2.3.6   System Information

System information means information about CAM such as software/hardware version.
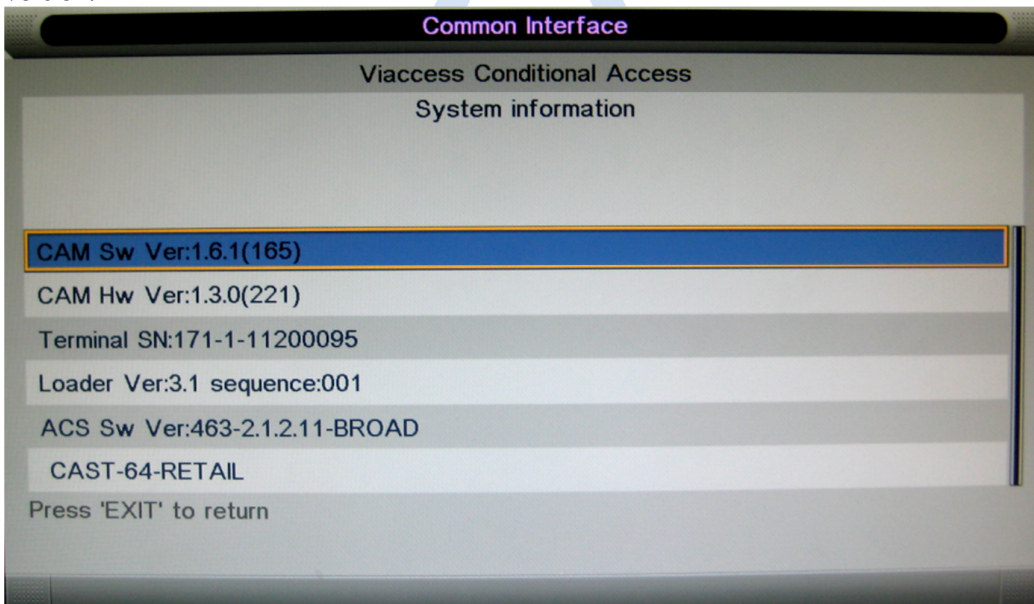
System information

2.3.7   Language Setting

Language setting menu shows all the OSD languages the CAM supports.
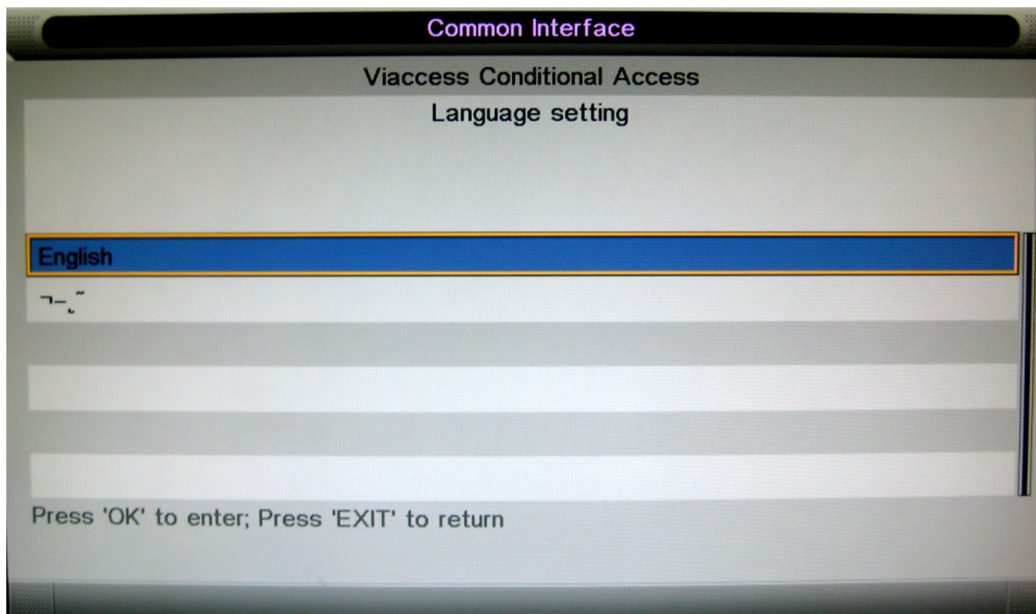
Language setting

2.3.8 Others

The way that sub items of the CI Information are listed and the contents it offers differs according to different CA systems and becomes more and more complicated with the increase of DTV broadcast systems in the future.

3. PVR

This section is to introduce some contents about PVR, including PVR involved menus, Recording flow, Recorders playback, Recording restrictions.

3.1 PVR involved Menus

1. PVR/Timeshift menu;
2. Partition List menu;
3. Timer menu;
4. Timer Edit menu;
5. Record List menu;
6. REC info menu;
7. Timeshit info menu.

3.1.1 PVR/Timeshift menu

Information：PVR/Timeshift menu manages almost all the information that is related to the PVR.
Enter method：Main menu → feature → PVR/Timeshift → PVR/Timeshift menu;
Menu shows as follows：

(PVR/Timeshift menu)

Function list explain：

Items	
Record File Format	Recording format：TS, PS
Partition Select	Enter Partition Select menu
	Display partition's infomation
	Format partition function
	Set default partition function
Auto Timeshift	Auto Timeshift, off (Stop auto Timeshift), Auto (Start auto Timeshift)
Timeshift Buffer	Set Timeshift Buffer, auto, 30Mins, 1hr, 2hr
Timer	Enter Timer menu
	Preengaged programs' information
	Add、delete preengaged programs
Record List	Enter Record List menu
	Display Recorders' information
	Playback Recorders

(PVR/Timeshift Function List)

Key Stroke in menu：

Key Stroke	Action
KEY_UP	Focus on the previous option on the left function list.
KEY_DOWN	Focus on the next option on the left function list.
KEY_LEFT / KEY_MENU	Return to the previous menu's focus.
KEY_RIGHT / KEY_ENTER	Focus on the later menu on the left function list.
KEY_ Exit	Exit all menu.

(PVR/Timeshift menu Key Stroke)

3.1.2   Partition List menu

Information：Partition List menu manages the partitions connected to the system.
Enter method： PVR/Timeshift menu➔ Partition Select ➔ Partition List menu.

Menu shows as follows :
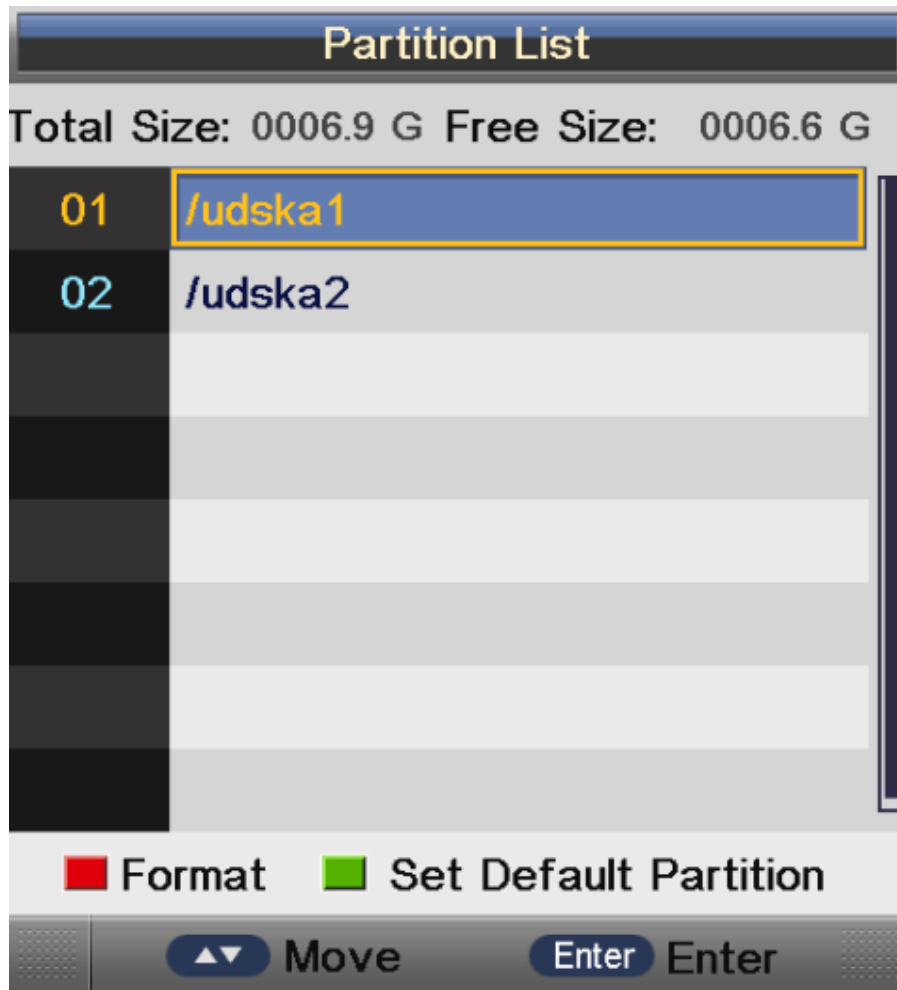
(Partition List menu)

Function :

a) Partitions : The list in the menu shows the partitions connected to thesystem ;

b) Partitions' property : Total size and Free size ;

c) Format Partition : Press KEY_RED to format the focus partition. Before formatting, there is a popup prompt window to confirm ; If the format is successfully there is a message "Format Success!", otherwise, there is a "Format Fail!" ;

d) Set default partition: Press KEY_GREEN to set the focus partition as the default partition .The recorders are stored in the default partition. It needs to be reset if the default partition is full in recording mode.

Key Stroke in menu :

Key Stroke	Action
KEY_UP	Focus on the previous option on the partition list.
KEY_DOWN	Focus on the next option on the partition list.
KEY_MENU	Return to the previous menu's focus (PVR/Timeshift menu "Partition select" option).
KEY_RED	Format the chosen partition.
KEY_GREEN	Sets the chosen partition as the default partition.
KEY_ Exit	Exit all menus.

(Partition List menu Key Stroke)

3.1.3   Timer menu

Information : Timer menu manages the pre-engaged programs, the user can add or delete pre-engaged programs in this menu.

Enter method :
- a) PVR/Timeshift menu → Timer → Timer menu;
- b) Press KEY_CLOCK to enter the Timer menu when there is no menu focused.

Menu shows as follows :
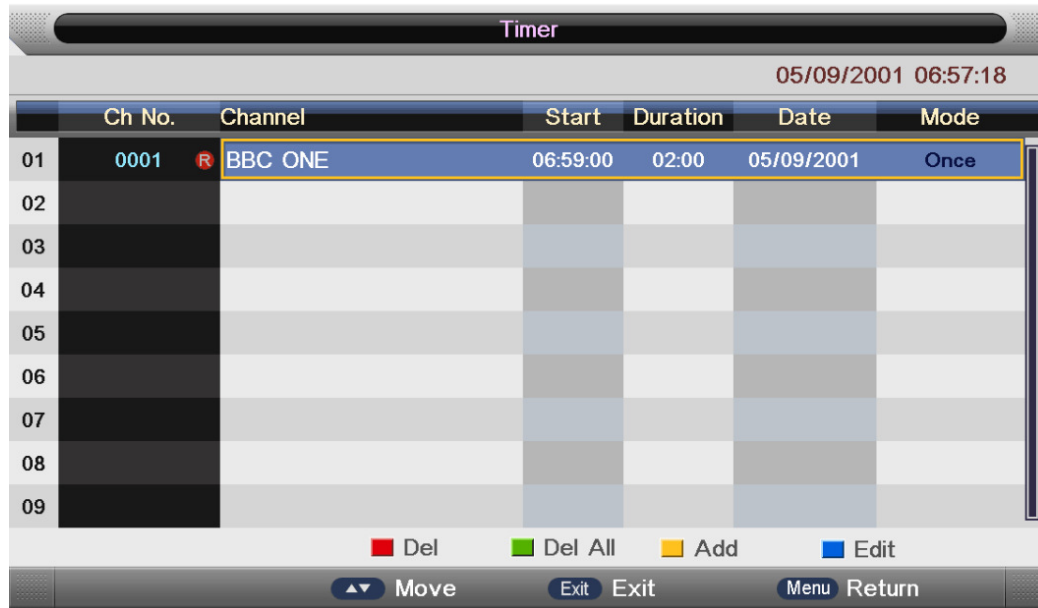
(Timer menu)

Prompted information explain :
- a) CH NO. :Channel number ;
- b) Channel :Channel name ;
- c) Start : Start recording time ;
- d) Duration :The total recording time ;
- e) Date : The date of starting recording ;
- f) Mode : Record Mode ;
- g) On the left top of menu is current date and time in system.

1) The information except "g" all come from the pre-engaged programs in the Timer Edit menu or EPG;
2) Pressing KEY_YELLOW for Add, or KEY_BLUE for Edit, could enter the Timer Edit menu. Press the KEY_RED to delete the focus program, press the KEY_GREEN to delete all the programs.

Key Stroke in menu :

Key Stroke	Action
KEY_UP	Focus on the previous option on the record list.
KEY_DOWN	Focus on the next option on the record list.
KEY_RED	Deletes the chosen program.
KEY_GREEN	Deletes all the programs.
KEY_YELLOW	Add recording program; Enter Timer Edit menu.

KEY_BLUE/ KEY_ENTER	Edits the chosen recording program; Enter Timer Edit menu.
KEY_MENU	Return to the previous menu's focus (PVR/Timeshift menu "Timer" option).
KEY_ Exit	Exits all menus.

<center>(Timer menu Key Stroke)</center>

3.1.4   Timer Edit menu

Information : User could set, modify, the pre-engaged programs' information in the Timer Edit menu.

Enter method : Timer menu → KEY_YELLOW to add, or KEY_BLUE/KEY_ENTER to Edit → Timer Edit menu.

Menu shows as follows :

<center>(Timer Edit menu)</center>

Function explain :

a)   Recorder : Off、On ."Off" means to pre-engage the program for watching only, "On" means to pre-engage program for watching and recording.

b)   Type: DTV、Radio, DTV means to pre-engage the DTV Channel program and Radio means to pre-engage the Radio Channel program；

c)   Channel: DTV or Radio Channel programs；

d)   Start Time: Start recording time; Format is hour / minute ；

e)   Duration: The total recording time；Format is hour / minute；The status of this option is Disable. Only when Recorder is"On",it can be set；

f)   Date :The date of startingthe recording, Format is day / month / year；

g)   Mode : Once、Daily、Weekly、Month；

1)   The start recording time must be reasonable (after the current system time)；If the timer is repeat or not reasonable, there will be a message "Set timer fail!"

2)   The Edit function resembles the Add function except that Type and Channel can not change.

Key Stroke in menu :

Key Stroke	Action

KEY_UP	Focus on the previous option on the Edit list.
KEY_DOWN	Focus on the next option on the Edit list.
KEY_0~9	Edit Start Time, Duration, Date.
KEY_ENTER	Confirm the choice. (For pop List options)
KEY_MENU	Return to the previous menu (Timer menu) and save the setting.
KEY_ Exit	Exits all menus.

(Timer Edit menu Key Stroke)

3.1.5   Record List menu

Information：Record List menu manages the Recorded programs. Users can playback recorded media in this menu.
Enter method：
PVR/Timeshift menu → Record List → Record List menu；
Menu shows as follows：
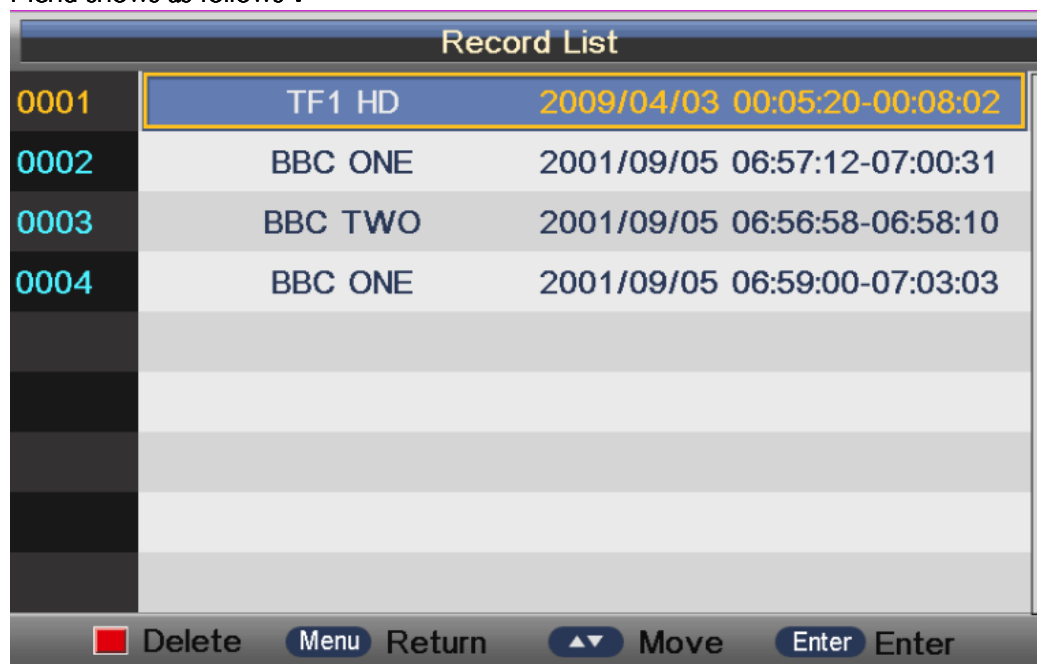
(Record List menu)

Key Stroke in menu：

Key Stroke	Action
KEY_UP	Focus on the previous option on the program list.
KEY_DOWN	Focus on the next option on the program list.
KEY_ENTER	Play the focus program.
KEY_MENU	Return to the PVR/Timeshift menu (focus on Record List option).
KEY_ Exit	Exits all menus.

(Record List Key Stroke)

3.1.6   REC info menu

REC input info menu:

Information : REC input info menu displays as a flag of REC. After REC starts this menu displays permanently until REC stops (except where there is another menu).
Enter method : After REC starts, it will automatically show.
REC info banner menu:
Information : REC info banner shows some of the current recorder's information. REC info banner shows different information with Timeshift info banner.
Enter method : After REC starts, press KEY_DISPLAY to show the REC info banner menu.
Function explain:
  a) Time is equal to current REC time minus REC start time.
  b) Progress bar is for current REC length compared with the disk free space when REC started.
  c) MB Free is the instantaneous free disk space.
Menu shows as follows :

(REC info menu)

Key Stroke in menu :

Key Stroke	Action
KEY_PAUSE	Starts or pauses recording.
KEY_DISPLAY	Enters banner info menu.
KEY_STOP	Stops REC.

(REC info Key Stroke)

3.1.7   Timeshift info menu

Timeshift input info menu:
Information : Timeshift input info menu displays as a flag of Timeshift. After Timeshift starts, this menu displays all the time until Timshift stops (except where there is another menu) .
Enter method : After Timeshift starts, it will automatically show.
Timeshift info banner menu:
Information : Timeshit info banner shows some current Timshift information.
Enter method : After Timeshift starts, press KEY_DISPLAY to show the menu .
Function explain :
  a) Time is equal to the current play time minus the current recording time.
  b) Progress bar is for the current recording length compared with the disk free space when REC started. The black triangular icon is for the current play length compared with the current recording length.
  c) MB Free is the instantaneous free disk space.
  d) The right red time menu has the same function with the time in info banner menu(only when info banner menu closed it showed).
Menu shows as follows :
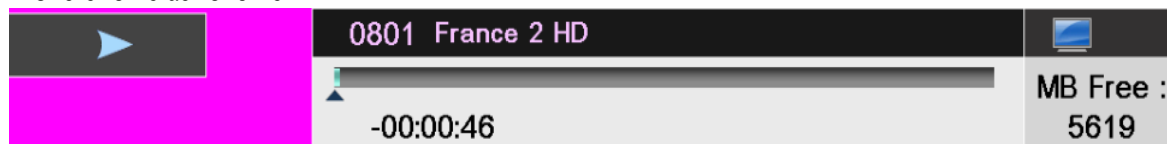
(Timeshift info menu)
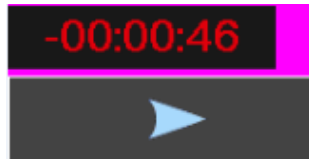
(Timeshift time menu)

Key Stroke in menu :

Key Stroke	Action
KEY_PAUSE	Starts or pauses recording and playing.
KEY_DISPLAY	Enters banner info menu and close time menu.
KEY_STOP	Stops Timeshift.
KEY_FF	Plays video fast forward with speed "x2","x4","x8","x16"
KEY_FB	Plays video fast rewind with speed "x2","x4","x8","x16"

(Timeshift info Key Stroke)

3.2   REC

This section is for recording flow.

3.2.1   REC

1. Information :
   a) Input : MPEG2, TS, NIM, ISO/IEC, 13818-2, H.264;
      Output : MPEG2 PS packet, only contains Video and Audio PID, no Teletext, Subtitle, EPG etc, the output Video file format is ".MPG" and Audio file format is ".MP3". The output files can be played by other players that support MPEG2 PS; TS packet, contain Video and Audio PID, Teletext,Subtitle etc, the output Video file format is ".TSV". The output files can be played by other players that support TS
   b) The save destination for the output files: the inserted storage device (USB/Card). If the user wants to change the output destination, he can open the partition list by pressing the button "Device" and make the choice. It supports a maximum of 4 partitions.
   c) The rules of naming the output files: Program name + (REC date_time(h/m/s),eg : BBC ONE(20111023_123456).MPG. If a large recording file takes more than 3.9GB, it cuts the file and makes a new file, named by adding an extra sequence number. eg: BBC NE(20111023_123456)001.MPG.
2. Recording Flow :
   a) Set up the working partition(default partition): (This step is also for Timeshift)
      ● There is a Partition list shown in the partitions connected to the system in the Partition List menu, Press KEY_GREEN to set the focus partition as the default partition.
      ● System will set the partition which is recognized as the default partition first,before recording if the user does not chose another partition.
      ● Recorded files will be stored in the default partition.
   b) Press KEY_REC to start recording. When there is a program playing, it will pop up a message "Do you want to start Recording?". After you confirm, the system will read the speed of the storage device. If the speed is too low for recording, there is a message "Device speed not enough, RECORD anyway?" if user choose Yes, it will record constrainedly. In addition, the speed is high enough, it initializes in the first instance and starts to recording later.

(Confirm record window)
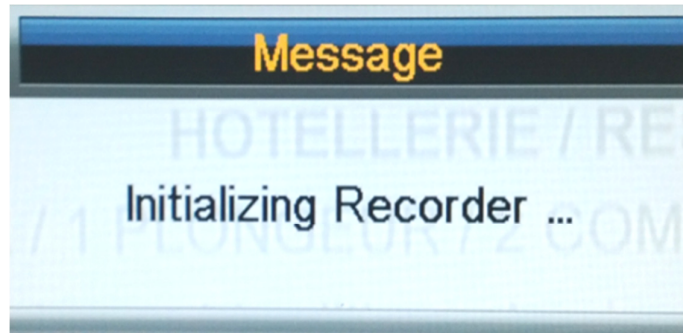
(Initializing recorder window)

c) As the initialization successfully ends, a REC input info menu appears on the right top corner of the picture and it starts to record while the program is playing in the background;

d) Press KEY_DISPLAY to get the current recording information from the Info Banner, such as current recording time and the recording progress. The recording time depends on how much of the program has been recorded.

e) If the signal is not stable there may be a pause;

f) The recording progress will stop when the device has no more free. A warning massage pops up, the recording process stops and it will keep on the normal playback process. Otherwise the progress ends naturally when the timer is finished. Also the user could press the KEY_STOP to end the recording manually;

(REC info and stop recording window)

g) System will prompt user error message and try to continue recording if there are some bad tracks in the disk.

3.2.2 Timer REC

There are two methods to set a timer.

1. In the EPG menu the user can pre-engage programs for watching or recording;

   a) Pressing the KEY_GREEN once is to pre-engage the program only for

watching（when timeout, it jumps to the program and plays).

b) Pressing KEY_GREEN twice is to pre-engage the program for recording (when timeout, it jumps to the program and starts recording). if it is timeout in standby mode, it will power on for 2 minutes in advance and start to record in the background without powering on the panel. To watch the program, the user needs to press the KEY_POWER;

c) The pre-engaged programs can be checked in the Timer menu.

(Press KEY_GREEN once for reminder)

(Press the KEY_GREEN twice for recorder)

2. In the Timer menu, the user can increase, delete the pre-engage program. In the Timer Edit menu, the user could set, modify, pre-engaged the program information. In the Timer menu, press the KEY_YELLOW to get into the Timer Edit menu to add a timer .Then set the timer's information in the Timer Edit menu.

Procedure for setting a timer's information :
a) Type: Set program type :DTV or RADIO;
b) Mode: Way of triggering a timer(once/daily/weekly/monthly);
c) Recorder:"ON": pre-engage for watching and recording(record). "OFF": pre-engage only for watching(reminder);
d) Set the date/time and Duration time (exact to the minute) ; Must be ahead of the current time.
e) Timer: when there are some conflicts a warning message will pop up;
f) Press the KEY_MENU to return to the Timer menu and store the timer's information.

(Timer Edit menu)

3. When the timer recorder is timeout, it jumps to the chosen channel and starts to record the program automatically. (if a manual recording is under process, it will stop the manual recording process and start the timer recorder automatically). When there is 10s left before recording , a prompt window will pop up.
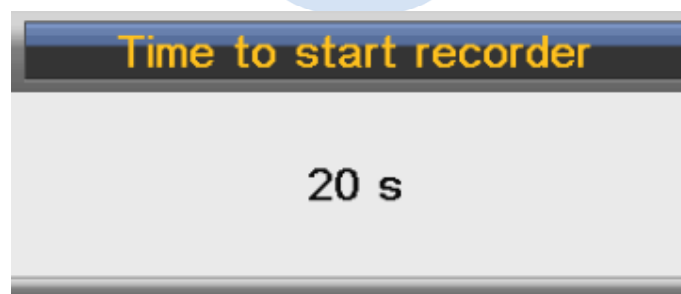
(Timer Record start prompt window)

4. If there is not any storage media, the settings fail and a warning message "no USB device" shows;
5. If the target partition (default partition) is not set, it selects the first partition that the system identified automatically.

3.2.3   Timeshift

Timeshift can record programs and play the current recording program at the same time.
1. Set Timeshift Buffer in PVR/Timeshift menu, Timeshift Buffer means how long a recorder can be stored when Timeshift. If the Buffer is over loaded, the previous

recordin stored there will be recorded over; There are three modes: auto、 30Mins, 1hr, 2hr. "auto"means all the free spaces on the storage media;

2. In the normal playback process in DTV source, there are two ways to start timeshift：
    a) Manually: press the KEY_PAUSE to start Timeshift when there is no menu focused (Stop: press KEY_STOP)；
    b) Automatically: set the "Auto Timeshift"option as "Auto" in PVR/Timeshift menu (Stop: set "Auto Timeshift"as "Off") .

3. Before Manuall Timeshift, there is a message "Do you want to start Timeshift". After you confirm, if the signal is stable, it will check whether the speed of the storage device that the user inserted is enough for Timeshift. If the speed is not enough, a warning message will pop up to let the user make a decision whether to continue. If timeshift is forced to take place, there may be a pause or mosaic. If the speed is enough for Timeshift, it'll take place in the background and users are able to pause or move fast farward/backwards. After Automatic Timeshift, it will take a few minutes to initialize, then it takes place automatically;

(Timeshift Play start prompt menu)

(Timeshift Play Info menu and stop prompt)

4. A UI (Timeshift time menu) on the right top corner shows the difference in time between the current picture and the live picture.

5. During the recoding progress, if the signal is intermittent, the recording process will pause until the signal is stable again.

3.3　REC Playback

Play videos and recorded files

1. The recorded Videos can be played in Record List menu , in Record manage menu or in Source Media Movie mode.

2. When a video is playing, the Info Banner menu shows the length of the video and the time that the video has been played. Also there is a progress bar indicating the process of playing the video；

3. A playing video can move fast forward with the speed "x2","x4","x8","x16" or play

in a normal speed by pressing the button "fast forward".
4. A playing video can move fast backward with the speed "x2","x4","x8","x16" or play in a normal speed by pressing the button "fast backward".
5. If it moves fast backward to the start of the video, it turns into the normal playing speed automatically.
6. When a video is playing, you can pause the process by pressing the "pause/play" button and restart the process by pressing the "pause/play" button again.
7. When a video is playing, it can jump to the previous or the next video to play by pressing the "previous" or "next" button.
8. When a video is playing, the user can stop the process by pressing the "stop" button and it goes back to the browser in movie mode.
9. When it comes to the end of a video, it will stop/repeat/play the next one depending on the value of the Repeat mode.

Above numbers 3, 4, 5, 6, 7, 8 upwards also adapt to the playback when it is recording
。

3.4   Restriction

3.4.1   Device & File System

1. The USB host supports version 2.0 and is compatible with version 1.1, but it can't support card reader or a USB Hub, orTimeshift and timer recorder on USB 1.1.
2. Support Timeshift on programs which have a equal or lower rate than 8Mbps and support recorder on programs which have a equal or lower rate than 13Mbps(13Mbps is a test result of SAM USB2.0 High speed 320G).
3. Restrictions on USB device for the Recorder.
   a) For programs which have a lower rate than 8Mbps, the USB device must have a rate higher than 14Mbps for the Recorder and higher than for Timeshift. Otherwise there may be some pause or mosaic.
   b) For programs which have a higher rate than 8Mbps, the USB device must have a rate higher than 20Mbps to Record, and Timeshift is not supported. Otherwise there may be some pause or mosaic.
4. The USB device's file system supports FAT32 / FAT/NTFS.
5. The system supports a maximum of 4 partitions at the same time.
6. The same partition is able to store a maximum of 9999 recorded files.
7. The maximum size of a single file the system supports is 4GB. With larger recordings, the file will be cut to creat a new one automatically when its size reaches 3.9GB.
8. FAT file system supports 4GB every partition at most while the FAT32 file system supports 1TB at most.
9. The system can support USB flashdisk and removable disks. However, it can not guarantee compatibility with all media., It is recommended to format the disk before use.
10. It will take a brief check on the speed of the USB device and then show a warning message if the speed is not enough.

3.4.2   Power Lost or Device Disconnect

1. System powering off, the inserted device powering off or unexpected connection failure during the recording process may cause substantial damage to the device or make underlying mistakes to the file system.
2. Abnormally interrupted recorded files are unable to be played, but after reconnection between the device and the system, it may recover automatically while it is setting up the partition.
3. The file-recover function: it can recover the file from the recording start, to 2 minutes before the interruption happens. If the length of the damaged file is shorter

than 2 minutes, the file can not be recovered and will be deleted automatically. (the length depends on the Video bit rate and the minimum configured unit of the partition).

4. Auto Installation

If this is the first time you are turning on the TV and there are no programs in the TV memory, the "Auto Installation" menu will appear on the screen.There are 7 setup screens as follow:

Setup 1: Set up Home
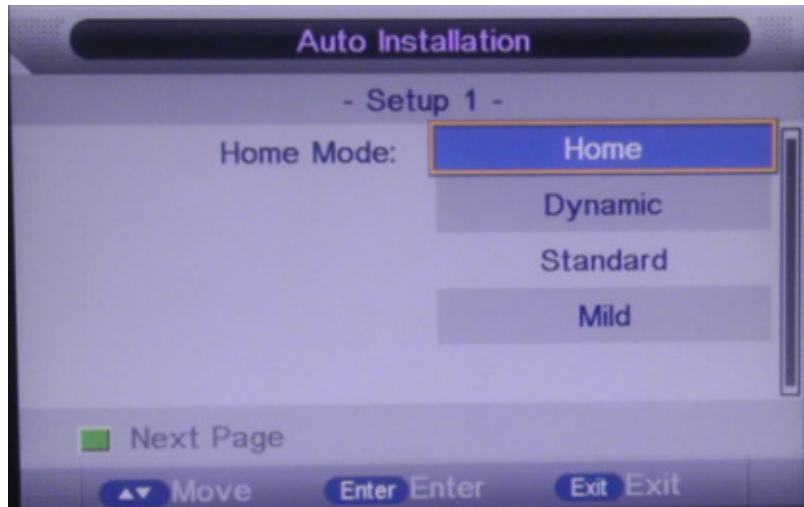
Setup 2: Set up the Country
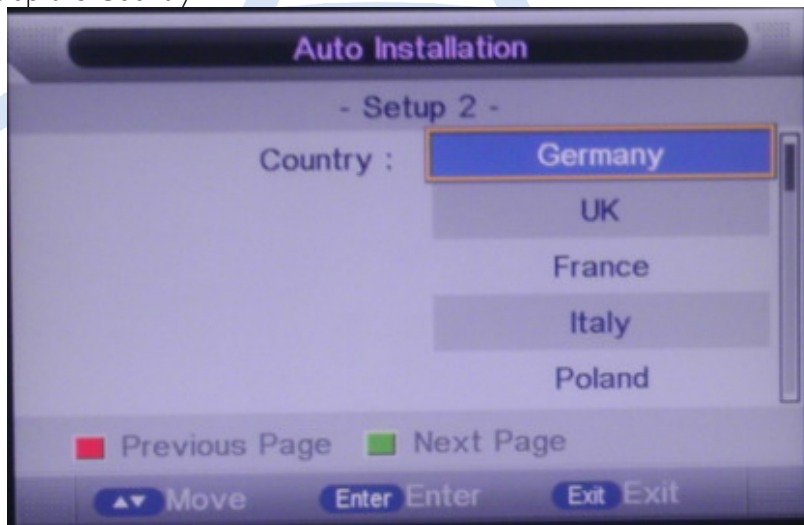
Setup 3: Set up the Language

Setup 4: Set up the Auto Power Off
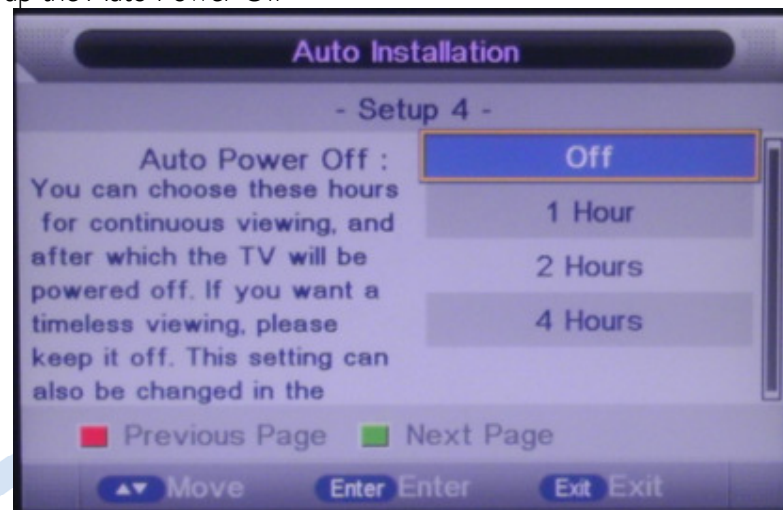
Setup 5: Set up the TV Connection

Setup 6: Set up the Auto Search, Air/Cabler Type

Satellite
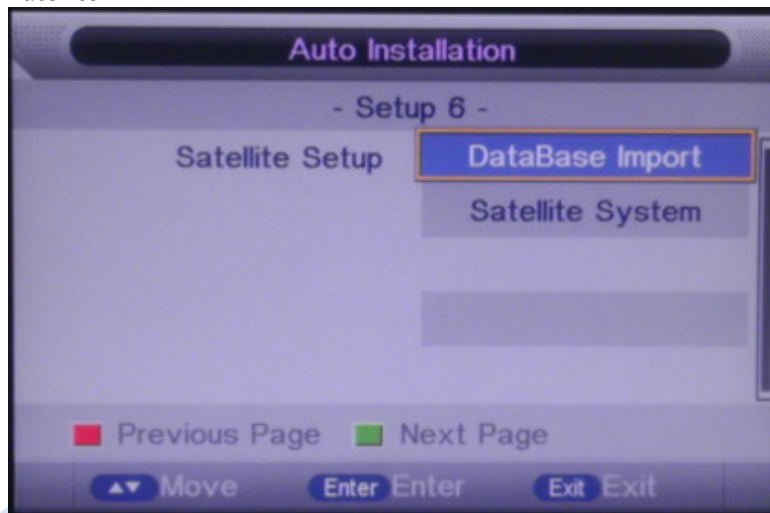
Operations in Setup 6 Satellite types are shown in the following table

Option	Value
DataBase Import	Inport default Satellite database
Satellite System	Enter Satellite System menu for setting

5. Channel list menu
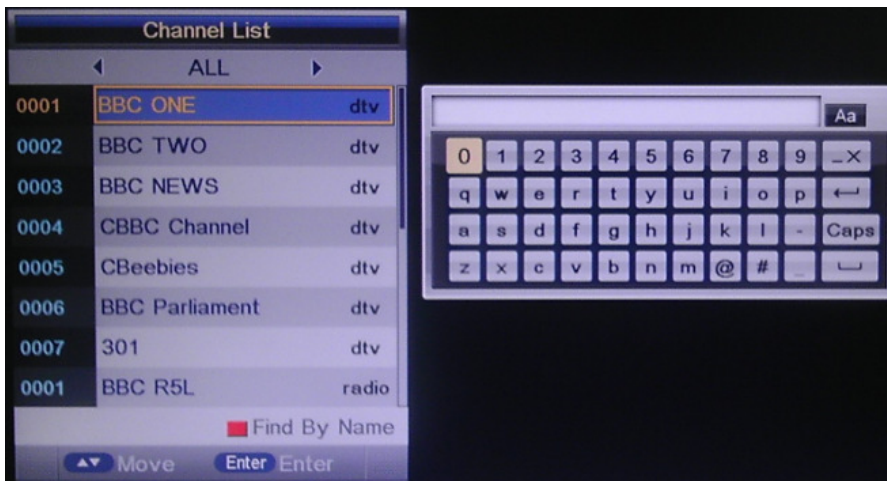
Key Stroke in menu :

Key Stroke	Action
KEY_UP	Focus on the previous item program
KEY_DOWN	Focus on the next item program
KEY_MENU	Exit menu
KEY_CHANNEL_LIST	Exit menu
KEY_RED	Show Find mode menu

6. Fav list menu
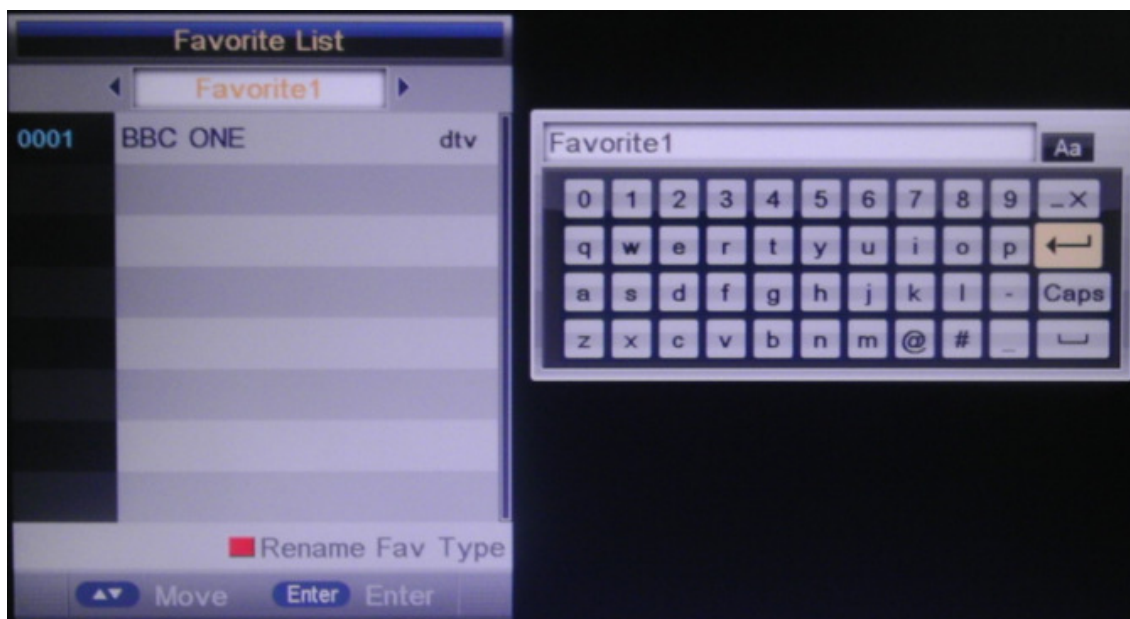
Key Stroke in menu :

Key Stroke	Action
KEY_UP	Focus on the previous item program
KEY_DOWN	Focus on the next item program
KEY_MENU	Exit menu
KEY_FAV_LIST	Exit menu
KEY_RED	Show Rename Fav list name menu

SKY MAGIC EYE

Some AQUAVISION® units are fitted with the "Sky Magic Eye" control feature.

As a standard feature, a "Sky Magic Eye" is integrated into some **AQUAVISION®** models. If you have chosen this option, or your model comes with it as standard, your **AQUAVISION®** picks up the infra red signals from your Sky remote control allowing you to control your Sky or Sky+ Digibox receiver when it is positioned in another room. To ensure that the "Sky Magic Eye" feature will work with your **AQUAVISION®**, it is important to set your system up correctly. To ensure it is, please follow the instructions below:

- Make sure that the main aerial or cable feed is connected to the rear of the Sky Digibox through the "**aerial in**" socket.
- From the "RF OUT-2" socket of your Sky Digibox, install a coax cable into your **AQUAVISION®**'s Sky RF input, aerial input socket. Care must be taken to use a good quality cable, (CT100 for example) and to make sure there are no "kinks", "knots", or tight bends in the cable. You must also make sure that if you use any distribution amplifiers, TV wall outlet plates, isolated signal boosters or splitters, that they are clearly marked as "DC BYPASS" or similar.

Enabling the "Sky Magic Eye" Control

To configure your SKY Digibox to accept signals via your **AQUAVISION®**, please follow the instructions below:

- Standing near your Digibox, press **SERVICES** using your Sky or Sky + remote control.
- Highlight the **"System Setup"** option and press **ENTER**.
- Press **0** then **1** then **SELECT** (zero, one, select)**,** in quick succession. This will display the installer setup menu. (it would be a good idea to make a note of the **RF Channel Number**, you may need this later)
- Highlight **"RF Outlets"** and press **ENTER**
- Highlight **"RF Outlet Supply"** using the left/right arrows and select **"ON"**
- Highlight **"Save New Settings"** and press **SELECT**
- Press **SKY** to return to normal viewing
- Your SKY will now be able to be controlled via your **AQUAVISION®**

What you will now need to do is to tune your **AQUAVISION®** into your SKY receiver's RF output. To do this, please follow the instructions below:

- Switch on your **AQUAVISION®** and select Analogue TV using the **SOURCE** button
- You can now either automatically or manually tune your **AQUAVISION®** in as detailed earlier in this manual. If you want to install the SKY Digibox manually, you will need the **RF Channel Number** that you wrote down earlier.

You will now be able to fully control all Sky channels on your Sky Digibox by pointing the Sky remote control at the **AQUAVISION®** unit.

RS232 and Infra-Red Codes*

Your **AQUAVISION**® is RS232 controllable via the p-pin "D" plug on the back of it. Operating codes for this are as follows. We have also included the Infra-Red codes to assist in home networking installation.

IR CODES	RS232 CODES		FUNCTION
	Command	Parameter	
03FCH1E			0
03FCH1D			1
03FCH1C			2
03FCH46			3
03FCH15			4
03FCH14			5
03FCH45			6
03FCH00			7
03FCH1F			8
03FCH1B			9
03FCH01	MUTE	00	MUTE ON
03FCH11	PWRX	99	TOGLE ON/OFF
03FCH03	MUTE	99	TOGLE ON/OFF
03FCH02	MUTE	01	MUTE OFF
03FCH53	LEFT	0+	DECREASE VOLUME BY 1 AND OTHER FUNCTIONS
03FCH57	RGHT	0-	INCREASE VOLUME BY 1 AND OTHER FUNCTIONS
03FCH05	ISCT	01	INPUT SCART 1
03FCH4F	ITVA	??	INPUT, TV ANALOGUE, FOLLOWED BY PRESET No EG 01 = 1
03FCH08	IDVB	??	INPUT, TV DIGITAL, FOLLOWED BY PRESET NUMBER EG 01 = 1
03FCH20	ICMP	00	COMPOSITE VIDEO INPUT
03FCH21	ISVD	00	S-VIDEO INPUT
03FCH22	IHDM	01	HDMI 1 INPUT
03FCH23	IHDM	02	HDMI 2 INPUT
03FCH47	UPXX	00	INCREASES CHANNEL BY 1 AND OTHER FUNCTIONS
03FCH4B	DOWN	00	DECREASE CHANNEL BY 1 AND OTHER FUNCTIONS
03FCH56	DUAL	01	CHANGE SOUND FORMAT
03FCH58	IAPC	00	ANALOGUE PC INPUT
03FCH04	ENTR	00	ENTER/OK
03FCH06	INFO	00	INFORMATION
03FCH24	ISCT	02	INPUT SCART 2
03FCH25	IRGB	01	INPUT RGB
03FCH5C	SLCT	00	SELECT
03FCH0F	GREN	00	GREEN
03FCH51	CYAN	00	CYAN/BLUE
03FCH13	SRCE	00	SOURCE
03FCH0E	YLOW	00	YELLOW
03FCH55	REDX	00	RED
03FCH50	EXIT	00	EXIT
03FCH43	MENU	00	
03FCH5A	ASPC	05	AUTO WIDE
03FCH26	PWRX	01	POWER ON
03FCH27	PWRX	00	POWER OFF
	ASPC	01	WIDE
	ASPC	02	PANORAMA
	ASPC	03	4:3
	ASPC	04	ZOOM
	ASPC	06	14:09
	VOLM	25	VOLUME NUMBER 25
	VOLM	50	VOLUME NUMBER 50
	VOLM	75	VOLUME NUMBER 75
03FCH0B			SLEEP
03FCH0A			STILL
03FCH07			PSM
03FCH4A			SSM
03FCH4C			-/--
03FCH1A			PREVIOUS CHANNEL

03FCH4D			PREVIOUS SIZE
03FCH54			SWAP
03FCH59			MIX
03FCH52			TEXT ON
03FCH5D			STORE
03FCH5F			FLOF/LIST
03FCH49			SIZE
03FCH5B			HOLD
03FCH16			CANCEL
03FCH17			INDEX
03FCH44			TIME
03FCH12			REVEAL
03FCH0D			TV/RADIO
03FCH0C			FAVOURITE
03FCH10			PAGE UP
03FCH19			DTV SETUP
03FCH18			GUIDE
03FCH09			PAGE DOWN

*Computer Control of the System**

Your **AQUAVISION**® can be controlled from a computer, using the RS-232C terminal. The input signal can be selected, the volume can be adjusted and various other adjustments and settings can be made, enabling automatic external control of your television by your home-networking system or similar.

Connect an RS-232C cable cross-type (commercially available) to the supplied 9-pin ''D'' RS-232C for the connections.
This operation system should only be used by an experienced home-networking/computer installer.
Set the RS-232C communications settings on the computer to match the display's communications settings.

The display's communications settings   9-Pin ''D''
Connections are as follows
 are as follows:

Baud rate:	9,600 bps
Data length:	8 bits
Parity bit:	None
Stop bit:	1 bit
Flow control:	None

DB9	DB25	FUNCTION
1	8	Data Carrier Data
2	3	Receive Data
3	2	Transmit Data
4	20	Data Terminal Ready
5	7	Signal Ground
6	6	Data Set Ready
7	4	Request To Send
8	5	Clear To Send
9	22	Ring Indicator

Communication Procedure

Send the control commands from the computer via the RS-232C connector.
The display operates according to the received command and sends a response message to the computer of either **''SUCCESS''** or **''FAIL''.**
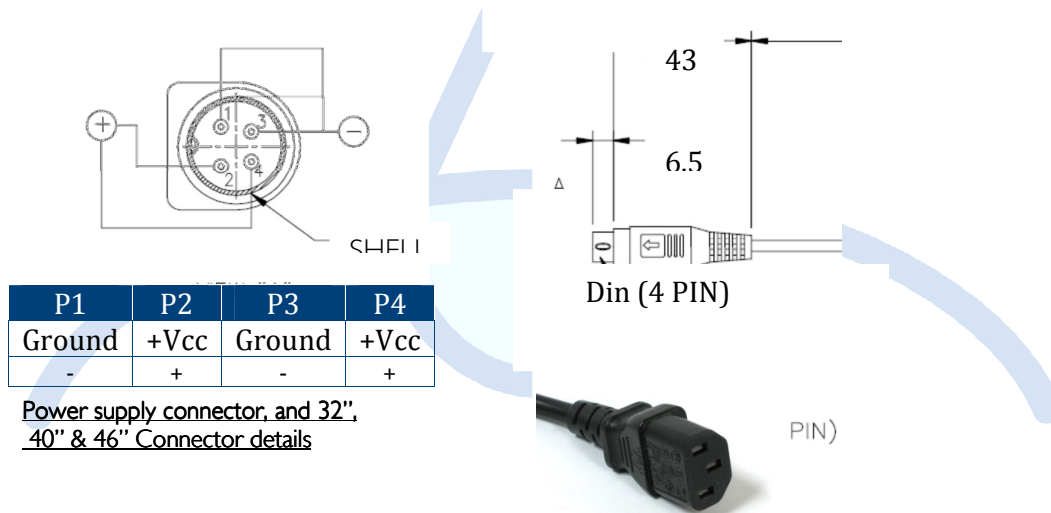
Do not send multiple commands at the same time. Wait until the computer receives the OK response before sending the next command.

*Denotes this is an option available on certain models only

AUDIO DETAILS	26'' screens and smaller	32'' screens and above
Output Power	3W + 3W RMS 8 Ohms	7W + 7W RMS 8Ohms

Power Supply Details
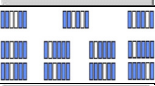
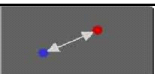| Part Number	Model/ Screen Size	Power Type	AC Input Range	AC Input [Min]	AC Input [Max]	DC Voltage [Min]	DC Voltage [Max]	Current [Max]	Current [Standby]
AVF-PSU3.5	10.4''	Adaptor (12V/3.5A)				11.5V	12.5V	DC 2.60A	0.40A
AVF-PSU6	17'' 4:3	Adaptor (12V/5A)				11.5V	12.5V	DC 3.60A	0.30A
AVF-PSU5B	17'' Wide	Adaptor (24V/5A)				23.5V	25.2V	DC 2.60A	0.30A
AVF-PSU6	19''	Adaptor (12V/6.67A)				11.4V	12.6V	DC 4.70A	0.40A
AVF-PSU6	20''	Adaptor (12V/6.67A)	110-240V 50-60Hz	90V 47Hz	264V 63Hz	11.4V	12.6V	DC 4.70A	0.40A
AVF-PSU5B	24''	Adaptor (24V/5A)				23.5V	25.2V	DC 3.80A	0.43A
AVF-PSU5B	24'' HD	Adaptor (24V/5A)				23.5V	25.2V	DC 3.80A	0.43A
AVF-PSU5B	26''	Adaptor (24V/5A)				23.5V	25.2V	DC 4.00A	0.40A
N/A	32'' HD	Direct Input				N/A	N/A	AC 0.77A	0.12A
N/A	40'' HD	Direct Input				N/A	N/A	AC 0.94A	0.18A
N/A	46'' High Bright	Direct Input				N/A	N/A	AC 1.50A	0.12A

SHELL

43

6.5

Din (4 PIN)

P1	P2	P3	P4
Ground	+Vcc	Ground	+Vcc
-	+	-	+

Power supply connector, and 32'',
40'' & 46'' Connector details

PIN)

Pixel Errors

LCD displays are made up of a set number of pixels and each pixel is made from 3 sub-pixels; one Red, one Blue and one Green. Every sub-pixel is addressed by its own transistor and so the manufacture of a glass substrate is very complex. Due to the nature of the manufacturing process, occasional defects can occur. Pixel defects or failures cannot be fixed or repaired and can happen at any stage in the LCD's life. The below table details how many defaults are acceptable in a display before it should be replaced, within the terms & conditions of warranty. It is based on ISO13406 the international standard for pixel defects in TFT panels.

The table below shows the allowable number of malfunctioning pixels that are acceptable, These details are decided upon by the manufacturer of the actual LCD display and are not therefore subject to the discretion of AQUAVISION® or its retailers/distributors.

Panel Defect Criteria											
Dot inspection		Defect picture	Test Pattern	10.4"	17"	19"	26"	32"	40"	57"	
Bright Dot	Random		Black, Gray	4	5	4	1	1	1	3	
	two adjacent			1	2	1	0	0	0	1	
Low dot	Random		Black, Gray	-	-	-	8	8	8	10	
	two adjacent			-	-	-	0	0	0	0	
	three adjacent			-	-	-	0	0	0	0	
Dart dot	Random		White, R,G,B	4	7	6	8	8	8	10	
	two adjacent			1	4	3	2	2	2	3	
	three adjacent			0	1	1	0	0	0	1	
Maximum allowable number of dot defect				8	10	10	10	10	10	15	
Minimum distance between defects											
Bright dot to Bright dot			Black,Gray	All allowed		L=15mm		5mm	5mm	-	
Dark dot to Dark dot			White,R,G,B			L=5mm		5mm	5mm	-	

Troubleshooting

Problem	Check Item
No picture on screen and no sound from speakers.	Insert the AC power cord plug securely in AC power outlet. Make sure the remote control is not on. standby.
No picture/No picture from AV terminal.	Check the brightness setting of the display. Lamp may have malfunctioned. Make sure a cable with no VIDEO input signal is connected to the S-VIDEO INPUT terminal.
Picture is displayed, but no sound from the speakers.	Check the sound setting. Make sure the sound is not muted. Make sure the speakers are connected properly. Make sure the connectors of the optional speaker system are securely inserted.
Picture is too light.	Make sure COLOUR and CONTRAST settings are adjusted correctly.
Picture is too dark.	Make sure BRIGHTNESS setting is not set too low. Check to see BRIGHTNESS setting. Lamp may have malfunctioned.
Remote control does not work.	Change the batteries. Make sure the infrared transmitter window is not receiving strong light such as light from fluorescent lamps.
No picture from AV OUT terminal.	Make sure AV INPUT is not set. Make sure the input source is set to other than AV.
The picture is not sharp. The picture moves.	The reception may be weak. The state of the broadcast may also be bad. Make sure the antenna is facing the right direction. Make sure the outside antenna is not disconnected.
The picture is doubled or tripled.	Make sure the antenna is facing the right direction; There may be reflected electric waves from mountains or buildings.
The picture is spotted.	There may be interference from cars, trains, high voltage lines, neon lights, etc. There may be interference between the antenna cable and power cable. Try positioning them further apart.
There are stripes on the screen or colours fade.	Is the unit receiving interference from other devices? Transmission antennas of radio broadcasting stations and transmission antennas of amateur radios and cellular phones may also cause interference Use the unit as far apart as possible from devices that may cause possible interference.
There is no digital TV reception	Check model number of screen does not have a "B" suffix. This denotes it is a basic specification unit and does not therefore have a digital tuner fitted. Also check that the aerial is digital compatible.

Warranty

Your **AQUAVISION**® television has a 1 year return to base warranty. The warranty means that if technical assistance is needed as a consequence of an error in a component, or if **AQUAVISION**®'s products do not meet a reasonable standard, then the television can be repaired or replaced at the manufacturer's discretion Please find the contact details at the end of this section or contact your supplying agent.

Please be aware that the **AQUAVISION**® warranty does not cover any of the following scenarios.

If the television:

a. has been used in an unauthorised manner.

b. has not been maintained, installed or cleaned correctly.

c. has been exposed to unexpected external forces.

d. has been opened or disassembled in any other way than as stated.

Finally, the warranty is only valid in the country where the product was initially purchased.

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