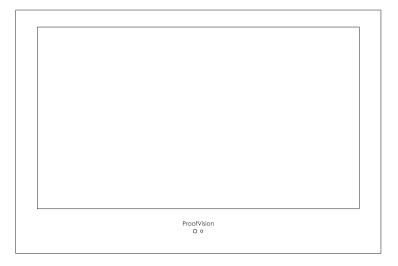
ProofVision



waterproof TV

Safety Information

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions. Keep these instructions. Heed all warnings. Follow all instructions. Do not use this apparatus near water.

Clean only with dry cloth. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.

manufacture's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer. Use only with the cart, stand, tripod, bracket, or table specified by the

manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



Unplug the apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus. WARNING: The mains plug is used as disconnect device, the disconnect device shall remain readily operable.



ATTENTION: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR

- This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
- Warning: To reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

Apparatus with class I construction shall be connected to a mains socket outlet with a protective earthing connection.

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${\rm I\hspace{-.1em}I}_{\,\cdot\,}$ TV Specification

Screen size	43"
Display Type	TFT LED
Resolution	1920 X 1080
Aspect Ratio	16:9
Audio Output	L/R 10W X 2
Dimensions(With stand)	1158.7 X 852.5 X 169.5 mm

Screen size	55"
Display Type	TFT LED
Resolution	1920 X 1080
Aspect Ratio	16:9
Audio Output	L/R 10W X 2
Dimensions(With stand)	1449.6 X 1009.1 X 169.5 mm

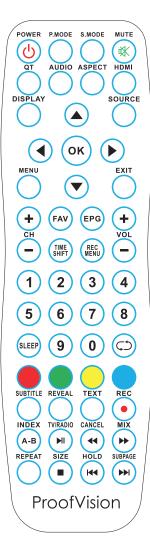
Screen size	65"
Display Type	TFTLED
Resolution	1920 X 1080
Aspect Ratio	16:9
Audio Output	L/R 10W X 2
Dimensions(With stand)	1689.9 X 1135.7 X 169.5 mm

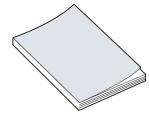
Note

Design and specification modification maybe made at any time without prior notice, all data and dimensions are approximations.

Accessories

Please make sure the following items are included with your LED TV. If any items are missing, contact your dealer.



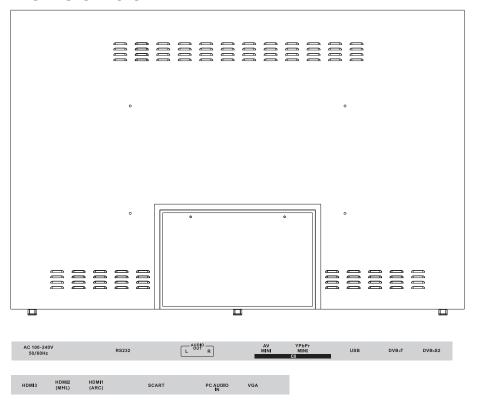


Owner's Instructions

Remote Control

${\rm I\hspace{-.1em}I\hspace{-.1em}I}$. Overview of back panel

43"55"65"



1. POWER IN

input

2. RS232

Use PC or other device to achieve the application of controlling TV by RS232 port.

3. L/R

Connect to the audio output jacks on your amplifier/home theater.

4. MINIAV

Connecting for VIDEO signal input in Composite mode.

5. MINI YPBPR

Connecting for the Y/Pb/Pr Input in Component mode.

6. CISLOT

Used to insert the CI card.

7. USB

Connecting for USB device.

8. DVB-T

Connected to external antenna to receive the ATV/DTV program in ATV/DTV mode.

9.DVB-S2

Connected to external SATELLITE to receive.

10.HDMI

Connecting for HDMI signal.

11. HDMI 2(MHL)

Connecting for HDMI Signal or MMMI.

12. HDMI 1(ARC)

Connecting for HDMI Signal or ARC or

Majestic Link.

13.SCART

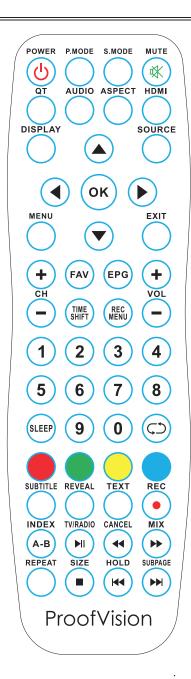
Connecting for SCART signal.

14.PC AUDIO

Connected to the audio output jack on a personal computer.

15 VGA

Connected to the VGA output jack on a personal computer.



No.	Button	Description
1	POWER	Set your TV to power on or standby mode.
2	P.MODE	Select the picture mode.
3	S.MODE	Select the sound mode.
4	MUTE	Press to mute the sound. Press again to regain sound.
5	QT	Quick Tune. Quick TV Channel Autotune Button.
6	AUDIO	Press to display the language of the audio in DTV.
7	ASPECT	Press this button to select the aspect of screen.
8	номі	Press this button to select the HDMI.
9	DISPLAY	Press this button to display the information on current input.
10	SOURCE	Press this button to display the input source.
11	MENU	Allows you to navigate the on screen menus (OSD).
12	EXIT	Exit from the current menu or sub-menu.
13	♦ ▶ ▲▼	Allows you to navigate the on-screen menus and adjust the system settings to your preference.
14	FAV	Selects favorite channels.
15	EPG	Press to display EPG (Electronic Program information).
16	TIME SHIFT	Press to switch to TIME SHIFT mode.
17	REC.MENU	Press to switch to REC.MENU immediately (DTV only).
18	CH+/-	Press these two buttons to change channels up/down.
19	VOL+/-	Press these two buttons to increase/decrease the volume.
20	0-9	Press 0-9 to select a TV channel directly. The cannel will change after 2 seconds. Applicable for enter page number in TELETEXT mode.
21	SLEEP	Set the time for the TV to turn off automatically.
22	\$	Return to the previously viewed program.
23	R (DELETE)	Delete function button.
24	G (RENAME)	Rename function button.
25	Y (MOVE)	Move function button.
26	B (SKIP)	Skip function button.
27	SUBTITLE	Press to select the subtitle language.
28	REVEAL	Shows hidden words or pages by Teletext.
29	TEXT	Switch on/off of Teletext window.
30	REC/●	Press to record the program immediately.
31	INDEX	Returns to Index page by Teletext.
32	TV/RADIO	Press to switch between DTV and radio programs
33	CANCEL	Switches the Teletext window to the background; only the current page no is visible.
34	MIX	Sets the transparency of Teletext window.
	L,	

No.	Button	Description
35	REPEAT	DVD: Repeat mode selection.
36	36 SIZE Zoom In or Out of the Teletext window.	
37	HOLD	Holds on the current Teletext page.
38	SUBPAGE	Displays a sup-page of upper Teletext options.

V_{\cdot} Main Menu User Guide

SOURCE

INPUT
DTV
ATV
AV
YPbPr
HDMI 1
HDMI 2
HDMI 3
PC
SCART
Media

Press SOURCE button to display the input source list. Press \P/ \triangle button to select the input source you want to watch.

Press ENTER button to enter the input source.

1. Picture Menu

This chapter will describe the function of Picture in mainmenu.

1.1Picture Menu

It will open the mainmenu by pressing down the button "MENU" on the remote. The focus will move to the sub items in the Picture menu by pressing down the button "RIGHT" and then functions in the Picture can be set. The Picture menu is shown as follows:



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

| Picture Menu | Default | Defaul

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	0~100	50
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	Full;Auto 4:3 16:9 Zoom1 Zoom2 Panorama Just Scan	Full
1.2.9	Noise Reduction	Off,Low,Middle,High	Middle

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

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently,
	then highlight the last one in the list.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list
	currently, then 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 user to make further choice. If not,
	mainmenu will be cleaned for new "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 the function when pressing button KEY_PICTURE_MOD on the remote.

Key Operation

Key	Action	
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.	
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.	
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Picture menu.	
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back 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 popup menu will be cleaned, then back to Picture menu.	
KEY EXIT	Exit Main Menu.	

1.2.2 Brightness



- 1) The overall brightness level of the picture. the higher, the brighter.
- 2) Key Operation

Key Stroke	Action		
KEY_UP	Enter backlight adjusting		
KEY_DOWN	Enter contrast adjusting		
KEY_LEFT	Decrease the value of brightness, minimum value is 0		
KEY_RIGHT	Increase the value of brightness, maximum value is 100		
KEY_OK	Close adjust menu and back to Picture Menu		
KEY_MENU	Close adjust menu and back to Picture Menu		
KEY_EXIT	Exit Main Menu,		

1.2.3 Contrast



- 1)The difference in color and light between parts of an image. The higher, the difference that the user feel stronger.
- 2)Key Operation

Key Stroke	Action		
KEY_UP	Enter brightness adjusting		
KEY_DOWN	Enter sharpness adjusting		
KEY_LEFT	Decrease the value of contrast, minimum value is 0		
KEY_RIGHT	Increase the value of contrast, maximum value is 100		
KEY_OK	Close adjust menu and back to Picture Menu		
KEY_MENU	Close adjust menu and back to Picture Menu		
KEY_EXIT	Exit Main Menu.		

1.2.4 Sharpness



- 1)The sharpness of picture. The higher, the more distinct user feels and there is to be more sawtooth and burr.
- 2)Key Operation

Key Stroke	Action	
KEY_UP	Enter contrast adjusting	
KEY_DOWN	Enter colour adjusting	
KEY_LEFT	Decrease the value of sharpness, minimum value is 0	
KEY_RIGHT	Increase the value of sharpness, maximum value is 100	
KEY_OK	Close adjust menu and back to Picture Menu	
KEY_MENU	Close adjust menu and back to Picture Menu	
KEY_EXIT	Exit Main Menu.	

1.2.5 Colour



- 1)The vividness of color. The higher, the stronger.
- 2)Key Operation

Key Stroke	Action	
KEY_UP	Enter sharpness adjusting	
KEY_DOWN	Enter tint adjusting only when Picture Mode is User and current source pattern is NTSC. Otherwise enter brightness adjusting.	
KEY_LEFT	Decrease the value of saturation, minimum value is 0	
KEY_RIGHT	Increase the value of saturation, maximum value is 100	
KEY_OK	Close adjust menu and back to Picture Menu	
KEY_MENU	Close adjust menu and back to Picture Menu	
KEY_EXIT	Exit Main Menu.	

1.2.6 TINT



- 1)TINT adjusting. It is not available unless Picture Mode is set to be user and the current TV system is NTSC.
- 1)Key Operation

Key Stroke	Action
KEY_UP	Enter colour adjusting
KEY_DOWN	Enter backlight adjusting
KEY_LEFT	Decrease the value of tint, minimum value is 0
KEY_RIGHT	Increase the value of tint, maximum value is 100
KEY_OK	Close adjust menu and back to Picture Menu
KEY_MENU	Close adjust menu and back to Picture Menu
KEY_EXIT	Exit Main Menu.

1.2.7 Colour Temperature



- 1) Color temperature adjusting. There are three choices:standard, warm, cool.
- 2) Key Operation

Key Stroke	Action		
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.		
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.		
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Picture menu.		
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back 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 popup menu will be cleaned, then back to Picture menu.		
KEY_EXIT	Exit Main Menu.		

1.2.8 Aspect Ratio



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

2) Key Operation

Key	Action		
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.		
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.		
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Picture menu.		
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back 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 popup menu will be cleaned, then back to Picture menu.		
KEY_EXIT	Exit Main Menu.		

1.2.9 Noise Reduction



1) Noise reduction of the picture. To reduce noise and improve the appearance of the picture. No noise reduction operation if it's "off". From Low->Middle->High, noise reduction effects better but it will cause a blur on picture.

2) Key Operation

Key Stroke	Action	
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.	
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.	
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Picture menu.	
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back 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 popup menu will be cleaned, then back to Picture menu.	
KEY_EXIT	Exit Main Menu.	

2. Sound Menu

This chapter will describe the function of Sound in mainmenu.

2.1 Sound Menu

It will open the mainmenu by pressing down the button "MENU" and then press the button "down" on the remote. The focus will move to the sub items in the Sound menu by pressing down the button "RIGHT" 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 items in 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
2.2.8	Audio Description	"ENTER"	

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

Key Stroke	Action	
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list.	
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight 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 user to make further choice. If not, main menu will be cleaned for new "adjust menu".	
KEY_OK	Same as KEY_RIGHT.	
KEY_MENU	Back to main menu	
KEY_EXIT	Exit Main Menu.	

2.2 Function Description

2.2.1 Sound Mode



Selecting Sound Mode - Standard, Movie, Music, Speech or User is the same as the function when pressing button 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	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit Main Menu.

2.2.2 Bass&Treble



 $\label{eq:conditional} \textbf{1)} \textbf{Bass: the bass of the output sound; Treble: the treble of the output sound.}$

2)Key Operation

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 Mute function is on and the UI looks as follows, the Mute function will be truned off so that the user can feel the difference in different sound mode.



2.2.3 Balance



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

Key Operation:

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.

2.4.4 Surround



- Switch for Surround function
 Key Operation

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit Main Menu.

2.4.5 AVL



- 1) Switch for AVL function
- 2) Key Operation

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit Main Menu.

2.4.6 SPDIF



- 1) Switch for SPDIF function
- 2) Key Operation

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit Main Menu.

2.4.7 Audio Description

This is to facilitate for the disabilities whose eyes are not good.



- 1) Switch for Audio Description function 2) Key Operation

Key Stroke	Action
KEY_UP	No Function
KEY_DOWN	No Function
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	It will enter sub menu to swith the mode of Audio Description.
KEY_OK	It will enter sub menu to swith the mode of Audio Description.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit Main Menu.



- 1) Switch for Audio Description function 2) Key Operation

Key Stroke	Action
KEY_UP	Highlightthe previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and saveit momentarily.
KEY_DOWN	Highlightthe next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The currentfocusedvaluewill be selectedand popupmenu will be cleaned then backto AudioDescriptiomenu.
KEY_RIGHT	The currentfocusedvaluewill be selectedand popupmenu will be cleaned then backto AudioDescriptiomenu.
KEY_OK	The currentfocusedvaluewill be selectedand popupmenu will be cleaned then backto AudioDescriptiomenu.
KEY_MENU	The currentfocusedvaluewill be selectedand popupmenu will be cleaned then backto AudioDescriptiomenu.
KEY_EXIT	Exit Main Menu.

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- 1) Switch for Audio Description function
- 2) Key Operation

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_RIGHT	In mode,it will enter sub menu to swith the mode of Audio Description.In volume,it will enter sub menu to adjust volume.
KEY_OK	In mode,it will enter sub menu to swith the mode of Audio Description.In volume,it will enter sub menu to adjust volume.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Sound menu.
KEY_EXIT	Exit 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 following functions in 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

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 follow:



3.2.1.1 Delete/Skip/Lock

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



2) After marking press "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 Blink and them select another program and press "BLUE" key to swap them.

3.2.2 Favorite Management

1) Press "ENTER" or "RIGHT" key on "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 favorite list and press "RED", "GREEN", "YELLOW" or "BLUE" key to mark them as following:



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

3.2.3 Country



- 1) Select the country.
- 2) Key Operation

Key Stroke	Action
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list. Adjust the current value and save it momentarily.
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one. Adjust the current value and save it momentarily.
KEY_LEFT	The current focused value will be selected and popup menu will be cleaned, then back to Channel menu.
KEY_RIGHT	The current focused value will be selected and popup menu will be cleaned, then back to Channel menu.
KEY_OK	The current focused value will be selected and popup menu will be cleaned, then back to Channel menu.
KEY_MENU	The current focused value will be selected and popup menu will be cleaned, then back to Channel menu.

3.2.4 Auto Search

3.2.4.1 Air signal mode

Select "Auto Search" item to enter auto search user operation interface as following:



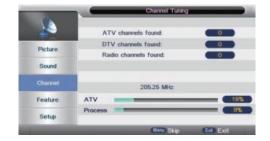
All Mode: Select "All" item to scan all digital channels carried by current signal mode firstly and then switch to scan all analog channels in selected country automatically. User can skip digital search to analog search directly by entering "EXIT" or "MENU" key and can also stop auto scan directly by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

Digital Mode: Select "Digital" item to search all digital channels in selected country carried by

current signal mode. User can stop search directly by entering "EXIT" or "MENU" key.

Analog Mode: Select "Analogue" item to search all digital channels in selected country carried by current signal mode. User can stop search directly by entering "EXIT" or "MENU" key.

All search mode processing interface display 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





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" item to enter air channel manual search in DTV source and the user operation interface as following:



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

3.2.5.2 Cable signal mode



Select channel number by "RIGHT" key or entering number directly. The strength and the quality shows 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 analogue manual search in ATV source and the user operation interface as following:



These parameters in this page show as the following table:

Analog Parameters	Value	Default
Current Channel	001-100	001
Frequency	Show the Frequency when srech	Frequency of the current channel
Search	Press the button "enter" to open the search sub page.	
Fine Tune	Press the button "enter" 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" item to enter analog channel tune. A dialog popup on left bottom:



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

User also can select "Fine Tune" item to fine tune current channel and the UI shows as the last picture. Press "Left(◀)", "Right(▶)" key to fine tune current channel. Press "MENU" key to return to "Channel-Analogue Manual Search" page and press "RED" key to save the tuned channel to database.

3.2.7 Satellite System

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



3.2.7.1 Satellite List



Operations in 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 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 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 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 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 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	н,v

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Transponder Scan menu



Operations in 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

3.2.7.3 Setting



Operations in 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	V a lu e
LNB Type	9750/10600,9750/10750,05150,05750,5150/5
	750,09750,10600,10750,11300,11475,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 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 Location menu are shown in the following table

Option	V a lu e
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 ϕ 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.

Set Position menu



Operations in Position menu are shown in the following table

Option	Value	
Move Auto	Select the direction of auto move is stop ,West or East	
Move Step	Select the direction of step move is stop ,West or East	
Store Position	Store the position which after moved	
Goto Position	Go to the position which is stored	
Goto Reference	Go to the reference position	
GotoX	Go to the current satellite position	

4. Feature Menu

This chapter will describe the function of Feature in mainmenu.

4.1 Feature Menu

Press "Menu" "Down(∇)" "Down(∇)" "Down(∇)" "Right(\triangleright)" and then functions in the Sound can be set. The appearance of the Feature Menu is shown as follows:



Operations in Feature Menu are shown in the following table:

Key Stroke	Action		
KEY_UP	$\label{thm:light} \mbox{Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list.}$		
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one.		
KEY_LEFT	Back to mainmenu		
KEY_RIGHT	If the focused item is "Timer", mainmenu will be closed firstly and then open the Timer Menu; If the focused item is "CI Info", mainmenu will be closed firstly and then open the CI Info Menu; If the focused item is "Hearing Impaired", a Popup Menu will be opened If not, Feature Menu will be closed firstly and then open the corresponding sub menus.		
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.





1) Operations in Lock Menu are shown in the following table

Option	Value	
Lock Channel	On: turn on Lock Channel. User need to enter password to watch the channels which are locked. Also need to enter password when 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.	

2) Change Pin Code



3) Key Operation

Key Stroke	Action	
	Press the numeral buttons to enter the password. If the entered	
	numbers are not exactly the old password, then show a new	
KEY_NUM_0	password-enter menu to enter again. If they are right, then it will ask	
~	user to enter the new password that will take place of the old ones. If	
KEY_NUM_9	the New Password is the same as the Confirm New Password, it ${ m II}$	
	show a success message. If not, it will ask you to enter the new	
	password.	
KEY_MENU	Close the whole Main Menu	
KEY_EXIT	Consoluin and about a setion and bank to Child Last Manua	
KEY_LEFT	Cancel pin-code-change-action and back to Child Lock Menu	

4.2.2 Language

System language setting, 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 time zone/DST.



1) Range of the values of items in Clock Menu

Tille values	the values of items in Glock Mena		
Option	Value		
Date	DD/MM/YYYY		
Time	нн:мм		
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	Highlight the previous sub item. If it is the first button		
KL1_UF	currently, then highlight the last one in the list.		
	Highlight the next sub item. If it is the last button in the list		
KEY_DOWN	currently, then highlight the first one.		
KEY_LEFT	Back to Feature Menu		
KEY_RIGHT	Open/Close Popup Menu		
KEY_ ENTER	Same as KEY_RIGHT		
KEY_EXIT	Exit Main Menu		
KEY_MENU	Back to Feature Menu		
KEY_STANDBY	Enter standby mode		

4.2.4 Sleep Timer

When your TV is Running, start sleep function by setting Sleep Timer in any case. This function allows you to power off the TV within a period of time. Currently the supported time period are: Off, 10 Mins, 20 Mins, 30 Mins, 60 Mins, 90 Mins, 120 Mins, 180 Mins, 240 Mins,



4.2.5 Auto Power Off

When your TV is Running, start Auto Power Off function by setting Auto Power Off Timer in any case. This function allows you to power off the TV within a period of time. Currently the supported time period are: Off, 1 Hours, 2 Hours, 4 Hours.



4.2.6 Hearing impared

This function offers a subtitle such as a "stroke on the door" or "the bell starts to ring" for the current scene in case that the user is weak in hearing.



4.2.7 Cl Info

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

4.2.8 PVR/Timeshift

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

1) Range of the values of items in Clock Menu

Option	Value	
Enable HDMILink	On/Off	
Auto PowerOn	On/Off	
Auto Standby	On/Off	
Speaker Preference	TV Speakers/Amplfier	

2) Key-stoking action

Key Stroke	Action		
KEY UP	Highlight the previous sub item. If it is the first button		
KLI_OF	currently, then highlight the last one in the list.		

5. Setup Menu

This chapter will describe the function of Setup in mainmenu.

5.1 Setup Menu

The Setup Menu is shown as follows:



Operations in Setup Menu are shown in the following table:

Key Stroke	Action		
KEY_UP	Highlight the previous sub item. If it is the first button currently, then highlight the last one in the list.		
KEY_DOWN	Highlight the next sub item. If it is the last button in the list currently, then highlight the first one.		
KEY_LEFT	Back to Main Menu.		
KEY_RIGHT	If the cursor is on "OSD Timer" "Auto SCART", "Blue Screen", "Home Mode", a popup menu will appear for user to make further choice. If not, 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

Set up OSD Timer which means how long the menus will exist. The optional periods are 5, 10, 15, 20, 25, 30 Seconds.



5.2.2 Blue Screen

It is not available in PC, DTV source or when it is not 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 blue screen.



5.2.3 Home Mode

Set up mode of Home Mode which can control the backlight. The optional modes are Home, Dynamic, Standard, Mild.



5.2.4 Speaker or Audio out

Open or close the Audio out function.



5.2.5 Reset to Setting

If the Lock Channel is On in Feature Menu/Lock, it needs to enter the password to enter the Reset. It will Reset System Setting and Database. When the reset is complete, it will enter the Auto Installation settings page. First, it will show a page to 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 media plugged into the TV 's USB interface, press ENTER key to upgrade. Don't power off during the upgrading process. The system will restarts when the upgrading process is done.



W. Multimedia

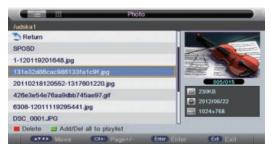
1. Photo

1.1 Format Supported

Type	Container	
РНОТО	JPG	
	JPEG/Progressive JPEG	
	ВМР	
	PNG	

1.2 Function Introduction

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



Key Operation

- 1) RED:Delete the focused folder/file.
- 2) GREEN:Add/Del all photo files to play list.
- 3) ENTER: Add/Del highlight files to play list.
- 4) CH+/-:Page up/Page down.
- 5) PLAY:Play the files in play list.

1.2.1 Playback

Press "PLAY" key to start playback.



Key Operation

- 1) : Same as "PLAY" key on remote, to start playing pictures in slide show mode
- 2) III: Same as "PAUSE" key on remote, to pause the playing file
- 3) 🔲 : Same as "STOP" key on remote, to stop sliding show, and return to the file browser
- 4) Same as "|<<" / ">>|" key on remote, to play the previous or next file directly
- 5) $\overline{0}$: To rotate the playing picture (0 ° \ 90 ° \ 180 ° \ 270°).
- 6) z : To zoom the playing picture.
- 7) (a) : Same as "INFO" key on remote, to display the information of the current file.
- 8) a : To enter "Photo Setup" menu, including "Repeat Mode", "Background Music", "Music Source", "Slide Time", "Effect".
- 9) 🛐 : To enter the play list menu.

1.2.2 Thumbnails

 Thumbnails mode can be shown only in photo mode and highlight in file browser by press "EXIT" "Right(►)" as follow:



- 2). The direction keys are to move highlight in files.
- 3). Press "EXIT" key ,and press "LEFT" key, exchange to photo list mode.

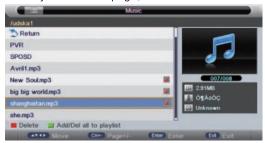
2. Music

2.1 Format Supported

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

2.2 Function Introduction

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



Key Operation

- 1) RED:Delete the focused folder/file.
- 2) GREEN:Add/Del all photo files to play list.
- 3) ENTER:Add/Del highlight files to play list.
- 4) CH+/-: Page up/Page down.
- 5) PLAY:Play the files in play list.

2.2.1 Playback

Press "PLAY" key to start playback.



Key Operation

- 1) : Same as "PLAY" key on remote, to start playing file, or resume the paused file.
- 2) III : Same as "PAUSE" key on remote, to pause the playing file
- 3) Same as "STOP" key on remote, to stop the playing file.
- 4) : Same as "<<" / ">>" key on 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 screen
- 5) Same as "|<<" / ">>|" key on remote, to play the previous or next file directly.
- 6) : To switch the repeat mode, including "Repeat 1", "Repeat All", "Repeat Dir" and "Random" modes,
- : To switch the window between "Information" and "Play List".
 - : Same as "BLUE" key on 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
	AVI	MPEG-4 ASP H.264 DivX Xvid WMV 9 / VC - 1
		MPEG-4 SP
		MJPEG
	MPEG 1/2	MPEG-1 Video MPEG-2 Video
	MPEG4	MPEG-2 Video MPEG-4 ASP H.264 Xvid MJPEG
	WMV	WMV 9 / VC-1
	RealMedia	RV30 / RV40
MOVIE	Flash	Sorenson H.263 H.264
	QuickTime	MPEG-4 ASP H.264 MJPEG
	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
	DivX	MPEG-4 ASP DivX Xvid
	TS Stream	MPEG-2 Video H.264 WMV 9 / VC-1

3.2 Function Introduction

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



Key Operation

- 1) RED:Delete the focused folder/file.
- 2) GREEN:Add/Del all photo files to play list.
- 3) ENTER:Add/Del highlight files to play list.
- 4) CH+/-: Page up/Page down.
- 5) PLAY:Play the files in play list.

3.2.1 Playback

Press "PLAY" key to start playback.



Key Operation

- 1) Same as "PLAY" key on remote, to start playing file, or resume the paused file.
- 2) 11 : Same as "PAUSE" key on remote, to pause the playing file
- 3) : Same as "STOP" key on remote, to stop the playing file, and return to the file browser interface.
- 4) Same as "<<" / ">>" key on 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 screen
- 5) Same as "|<<" / ">>|" key on 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 screen.
- 7) III: To enter step mode.
- 8) a: To set AB repeat, the first press sets A point, and the second press sets B point, and then play between A and B repeatedly.
- 9) []: To enter the play list menu.
- 10) Same as "INFO" key on remote, to display the information of the current file.
- 11) To enter "Movie Setup" menu, including "Program", "Subtitle", "Audio", "Repeat Mode".
- 12) To enter "GO TO" function, 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 multimedia mainmenu by press "RIGHT" / "LEFT" key, then press "ENTER" key enter eBook page, as follow:



Key Operation

- 1) RED:Delete the focused folder/file.
- 2) GREEN:Add/Del all photo files to play list.
- 3) ENTER:Add/Del highlight files to play list.
- 4) CH+/-:Page up/Page down.
- 5) PLAY:Play the files in play list.

4.2.1 Playback

Press "PLAY" key to start playback



Key Operation

- "RÉD"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.

Ⅶ. Other UI Setup

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

1.1EPG abstract

If you expect to know the schedule or the information of the current playing program or the program that starts in the near future, you can refer to the EPG menu by pressing the button "EPG" 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 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

- (1) 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.
- (2) 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 enter the key "KEY_INFO" or back to daily mode by enter the key "KEY_RETURN".
KEY_EXIT	Exit EPG.

- 1.3 Weekly Mode:
- (1) 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.
- (2) Focusing on different channels on the left, it displays corresponding programs in schedule of time.
- (3) 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	Exit 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, back to daily mode.
	If it entered Extended Mode from weekly mode, back to weekly mode.

2. CI Setup

2.1 Getting Access To Scambled Channel

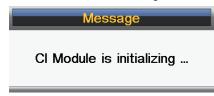
When a scramble-channel is selected, the user needs to insert a specific CAM and Smart Card. Otherwise it is not accessible and a popup menu appears to emphasis that it's a scramble-channel as the following picture shows.



Scramble Channel

Scramble-channel message

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



CAM initializing message

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

- (1) the CA system ID of the selected scramble-channel corresponds to the CAM and Smart Card that the user inserted;
- (2) the Smart Card belonging to the user is released after subscription..

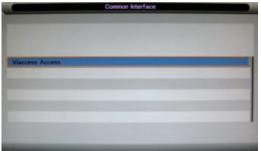
2.2 Getting CI Information

When the CAM is in good connection with the system, enter main menu "Feature"-> "CI Info" to get CI Information as the following picture shows.



Getting CI Information

In the menu "Common Interface", all the information of CAMs which are in good connection with the system 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

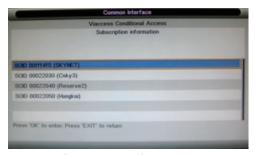
Smart card management includes "subscription information", "morality level setting", "Change PIN code" and so on.



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 to shield programs those have a too high morality level to be open to child. Need to enter PIN code.



Morality level setting

2.3.5 Change PIN Code

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



Change PIN code

2.3.6 System Information

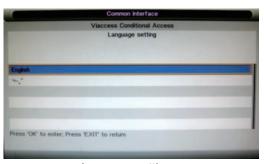
System information means information about CAM such as software/hardware version.



System information

2.3.7 Language Setting

Language setting menu shows all the OSD languages the CAM supports. After selection on some language, all the strings are turned into the selected language under the condition that the system (CV512 series) supports it. Otherwise there is to be some unrecognized characters.



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 For Euro DVB-T2/C/S2 Only

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 have relationship

with PVR.

Enter method: Main menu feature PVR/Timeshift PVR/Timeshift menu;

Menu shows as follows:



(PVR/Timeshift menu)

Function list explain:

Items		
Partition Select	Enter Partition Select menu	
	Display partition's information	
	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 menu Key Stroke)

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.

3.1.2 Partition List menu

Information: Partition List menu manages the partitions connected to 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 system
- b) Partitions' property: Total size and Free size
- c) Format Partition: Press KEY_RED to format the focus partition. Before format, there is a prompted popup window to confirm. If format 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 need to be reset if the default partition is full in recording progress.

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	Set 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 preengaged programs, user can add delete preengaged programs in this menu.

Enter method:

- a)PVR/Timeshift menu Timer Timer menu;
- b)Press KEY_CLOCK to enter 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.

PS

- 1) These information except "g" all come from the preengaged programs in Timer Edit menu or EPG;
- 2) Pressing KEY_YELLOW for add or KEY_BLUE for edit could enter Timer Edit menu. Press KEY_RED to delete the focus program, press 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	Delete the chosen program.
KEY_GREEN	Delete all the programs.
KEY_YELLOW	Add recording program; Enter Timer Edit menu.
KEY_BLUE/ KEY_ENTER	Edit the chosen recording program; Enter Timer Edit menu.
KEY_MENU	Return to the previous menu's focus (PVR/Timeshift menu "Timer" option).
KEY_ Exit	Exit all menus.

(Timer menu Key Stroke)

3.1.4 Timer Edit menu

Information: User could set 、 modify preengaged programs' information in Timer Edit menu. Enter method: Timer menu→KEY_YELLOW for add or KEY_BLUE/KEY_ENTER for Edit → Timer Edit menu.

Menu shows as follows:



(Timer Edit menu)

unction explain:

- a) Recorder: Off、On. "Off" means to preengage program for watching only, "On" means to preengage program for watching and recording.
- b) Type: DTV、Radio,DTV means to preengage DTV Channel program and Radio means to preengage 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; PS: The status of this option is disable, only when Recorder is "On", it can be set;
- f) Date: The date of starting recording, Format is day / month / year;
- g) Mode: Once, Daily, Weekly, Month;

PS:

- 1)The start recording time must be reasonable (behind current system time):If the timer is repeat or not reasonable, there will be a message "Set timer fail!" to prompt when return;
- 2)The Edit function resemble Add function except that Type and Channel can not changed again.

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 popList options)
KEY_MENU	Return to the previous menu (Timer menu) and save the setting.
KEY_ Exit	Exit all menus.

(Timer Edit menu Key Stroke)

3.1.5 Record List menu

Information: Record List menu manages the Recorded programs. User can playback recorders 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	Exit 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 start this menu displays all the time until REC stop (except there is some other menu exist).

Enter method: After REC start, it will display automatically.

REC info banner menu:

Information: REC info banner shows some current recorder's information. Actually REC info banner shows different information with Timeshift info banner.

Enter method: After REC start, 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 start. c)MB Free is the disk instantaneous free space.

Menu shows as follows



(REC info menu)

Key Stroke in menu:

Key Stroke	Action
KEY_PAUSE	Start or pause recording.
KEY_DISPLAY	Enter banner info menu.
KEY_STOP	Stop 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 start this menu displays all the time until Timshift stop (except there is some other

menu exist).

Enter method: After Timeshift start, it will display automatically.

Timeshift info banner menu:

Information: Timeshit info banner shows some current Timshift information.

Enter method: After Timeshift start, press KEY DISPLAY to show the menu.

Function explain:

- a) Time is equal to current play time minus current recording time.
- b) Progress bar is for current recording length compared with the disk free space when REC start. The black triangular icon is for current play length compared with current recording length.
- c) MB Free is the disk instantaneous free 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:



Key Stroke in menu:

Key Stroke	Action
KEY_PAUSE	Start or pause recording and playing.
KEY_DISPLAY	Enter banner info menu and close time menu.
KEY_STOP	Stop Timeshit.
KEY_FF	Playing video fast forward with speed "x2", "x4", "x8", "x16"
KEY_FB	Playing video fast behind 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 MPEG2TS,NIM,ISO/IEC 13818-2,H.264;
 - Output MPEG2 PS packet, only contain 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 which supports 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 which supports TS
- b)The save direction for the output files: the inserted storage device (USB/Card). If user wants change the output direction, he can open the partition list by pressing the button "Device" and make the choice. It supports 4 partitions at most:
- c)The rules of naming the output files: Program name + (REC date_time(h/m/s),eg BBC ONE(20111023_123456).MPG. If a long-time recorded file takes more than 3.9GB, it cuts and makes a new file named by adding an extra sequence number. eg: BBC ONE (20111023_123456)001.MPG.

2.Recording Flow

- a)Set up the working partition(default partition): (This step is adapt to Timeshift also)
- There is a Partition list shows the partitions connected to the system in Partition List menu, Press KEY_GREEN to set the focus partition as default;
- 2) System will set the partition which is recognized firstly as default partition before record if user does not set before;
- 3) 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 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 record later.



- 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 actually;
- e) If the signal is not stable there may be some pause;
- f) The recording progress will stop when the device has no more free spaces if there is no setting about when to end before. 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 timeout. Also user could press KEY_STOP to end recording manually;
- g) System will prompt user error message and try to continue recording if there are some bad tracks in disk.



(REC info and stop recording window)

3.2.2 Timer REC

There are two methods to set a timer. As follows:

- 1. In the EPG menu user can preengage programs for watching or recording:
- a) Pressing KEY_GREEN once is to preengage the program only for watching(when timeout, it jumps to the program and only play.
- b) Pressing KEY_GREEN twice is to preengage 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 2 minutes in advance and starts to record under background without powering on the panel. To watch the program, user need to press KEY POWER;
- c) The preengaged programs can be checked in Timer menu.



(Press KEY GREEN once for reminder)



(Press KEY_GREEN twice for recorder)

2. In Timer menu, user can increase delete preengage programs; In Timer Edit menu, user could set, modify preengaged programs' information;

In Timer menu: press KEY_YELLOW to get into Timer Edit menu to add a timer .Then set timer's information in Timer Edit menu.

Flow of 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: preengage for watching and recording (record). "OFF": preengage only for watching (reminder):
- d) Set the date time and Duration time (exact to minutes): Must be reasonable (behind current time);
- e) Timer: when there are some conflicts a warning message will pop up;
- f) Press KEY MENU to return to Timer menu and store the timer's information.



(Timer Edit men)

3. When the timer recorder is timeout, it jumps to the very channel and starts to record the program automatically. (if a manual recording is under process, it will stop the manual recording process and starts the timer recorder automatically); When there is left 10s before recorder, a prompted window will pops up;



(Timer Record start prompt window)

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

3.2.3 Timeshift

Timeshift can record program and play the current recording program at the same time.

- Set Timeshift Buffer in PVR/Timeshift menu, Timeshift Buffer means how long a recorder can be stored when Timeshift. If Buffer is overstepped, the previous recorder stored there will be lie 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 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 Manually Timeshift, there is a message "Do you want to start Timeshift". After confirm, If 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 decision whether to go on. If timeshift is force to take place.

there may be some pause or mosaic. Otherwise the speed is enough for Timeshift, it'll take place under background and users are able to pause or move fast backward: After a pause, users are able to pause or move fast backward:

4. After Automatically Timeshift, it will take some minutes to initialize, then it take place automatically;



(Timeshift Play start prompt menu)

(Timeshift Play Info menu and stop prompt)

- 5. A UI (Timeshift time menu) on the right top corner shows the fallen time between the current picture and the living broadcasting picture:
- 6. During the recoding progress, if the signal is missing, the recording process will take a 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 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 playing, pause the process by pressing the button "pause/play" and restart the process by another press again;
- 7. When a video playing, it can jump to the previous or the next video to play by pressing the button "previous" or "next":
- 8. When a video playing, user can stop the process by pressing the button "stop" 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 Repeat mode.

PS: The 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 and USB Hub. neither Timeshift 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 Recorder:
- a) For programs which have a lower rate than 8Mbps, the USB device must have a rate higher than 14Mbps in CV512 speed test for Recorder and higher than 28Mbps in CV512 speed test for Timeshift. Otherwise there may be some pause or mosaic when do Recorder or Timeshift by force;
- b) For programs which have a higher rate than 8Mbps, the USB device must have a rate higher than 20Mbps in CV512 speed test for Recorder and Timeshift is not supported. Otherwise there may be some pause or mosaic when do Recorder or Timeshift by force;
- 4. The USB device's file system supports FAT32 / FAT/NTFS;
- 5. The system supports 4 partition connection at most at the same time;
- 6. The same partition is able to store 9999 recorded files at most, namely the biggest number of files is 9999;
- 7. The maximum size of a single file the system supports is 4GB at present. When long-time recording, 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 disk at present. However, it can not sure that all kinds of them could record or write into the storage very smoothly, especially when the file system is in disorder. If users are opt to use a USB flashdisk as the storage media, it is recommended to format the disk before us:
- 10.It will take a brief test on the speed of the USB device and then show a warning message when the speed is not enough.
- 3.4.2 Power Lost or Device Disconnect
 - 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 will recover automatically while it is setting up partition;
 - 3. The file-recover function: it can recover the file from recorder starting 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 again and will be deleted automatically. (the length depends on 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, he "Auto Installation" menu will appear on the screen. There are 5 setups 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 type are shown in the following table

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

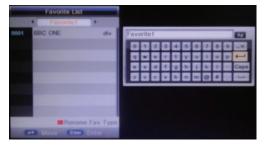
5. Channel list menu



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	

$X. \\ \textbf{Troubleshooting}$

Problem	Possible cause	Possible solution
No picture and sound.	 The power adaptor is not plugged in or not working. The wrong input source is selected. The input source has failed to connect with the TV or is not turned on. 	 Plug the power adaptor into a suitable outlet. Try both the 12/24V & 240V adaptors Select the correct input source. Make sure the input source is correctly connected and turned on.
No sound.	 The volume control is set to minimum. The mute 対 button on the remote control has been pressed An incorrect sound system mode is set. 	 Press the button to increase the volume. Press or the (or button to restore/increase the volume. Set a correct sound system mode from the main menu to match your TV source.
No picture, or monochrome picture only.	 The colour system setting does not match the program. The sound system setting does not match the program. 	 Select the appropriate colour system setting. Select the appropriate sound system setting. (If unsure, use Auto settings where available).
Sound or picture interference.	 Some equipment that causes interference is close to the TV. 	Keep interference-causing equipment away from the TV.
	 More than one device is plugged into the same power outlet. An incorrect sound system mode is set. 	 Plug the power adaptor into another, separate power outlet. Set a correct sound system mode from the main menu to match your TV source.
PVR recording failed, or "DISK NOT READY" is displayed.	You may not have removed your USB device after the last recording, which is necessary to protect the device from damage.	Remove the USB device after each recording if you experience recording problems. If "DISK NOT READY" is displayed, remove the device, reconnect and then proceed with your recording.

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Problem	Possible cause	Possible solution
DTV Picture Pixelation	• Poor Signal	 Adjust the position or orientation of the TV antenna. Check the antenna connection from the wall plate to the TV. Try re-tuning the channels as the channel frequencies may be different in some areas.