Model: ATSC
SW: Version 20131114V1.0
Hardware : 78161237820650

Appendix
Troubleshooting

If you have difficulty with your digital TV set-top receiver, there are several possibilities you should investigate before calling for a service technician.

Problem	Possible Causes	What To Do
The display on the front panel does not light up	Power cord is not connected	Check that the power cord is plugged into power socket
No sound and no picture	The receiver is under standby	Press POWER key on the front panel to switch to operation mode
No signal when selecting channels	The antenna is disconnected	Check antenna connection
	Program parameters are set incorrectly	Set correct parameters
Picture only ,but no sound	Audio cable is not connected securely	Connect it securely
	System in MUTE mode	Press MUTE key on the RCU to restore volume
	Volume is set to minimum	Increase the volume to suitable level
	Audio setting parameter is wrong	Please go to Audio Setting menu, select proper audio mode and proper audio language
Sound only, but no picture	Video cable is not connected securely	Connect the video cable securely
	The current channel is in radio mode	Normal
Video and audio mismatch or abnormal sound	Audio channel is not set correctly	Select proper Audio channel
Picture is still or mosaic phenomenon	Signal is too weak	Check to make sure that the signal cord has been connected tightly
Remote control unit does not work	RCU is not aimed at the sensor on the front panel	Aim at the sensor on the front panel
	Not enough power in the battery of the remote control	Change battery

CAUTION: If the problems are still unsolved after you're done all of these. Do not disassemble the STB yourself! Please contract the dealer, or a trained personnel for assistance.

Appendix
Specifications

Tuner
Input Connector	IEC 16902. Female
Input Frequency Range	VHF & UHF
Num of RF Inputs	1
Input impedance	75 ohm
RF output Connector	(bypass)IEC 169-2 Male
Loop through	57~803MHz

Demodulation
Standard	ETSI EN300 744
Guard interval Modes	1/32,1/16,1/8,1/4 Active Symbol duration
FEC Modes Rate	1/2,2/3,3/4,5/6,7/8
Carriers/Constellation	All modes supported including non hierarchical
Demodulation	COFDM(QPSK/QAM16/QAM64) 2K and 8K
Channel bandwidth	6 MHz

Video Decoder
Standard	ISO/IEC 13818-2 and ISO/IEC 14496-10
Transport stream	ISO/IEC 13818-1
Video decoding	MPEG-2 SD/HD (MP@ML, MP@L3 and HP@L4), MPEG-4 H.264/AVC SD/HD DivX 4.X ~ 5.X JPEG,BMP,PNG, Motion JPEG AVI, VOB, MOV, MKV
Aspect ratio	4:3 16:9

Audio Decoder
Standard	ISO/IEC13818-3 TS101154
Audio decoding	MPEG-1 and MPEG-2 Layer I & II, Dolby Digital Audio, WMA and HE-AAC Digital Audio
Sample rate	32 kHz, 22.1 kHz, 44.1KHz,48 kHz

Accessories
Remote control unit	IR (36kHz) RC3 / other on request (38kHz)NEC
User Manual	1 pc
AV cable	1 pc
RF cable	1 pc

Power
AC input range	AC 90V~240V 50/60Hz
Power consumption	< 8W
Standby consumption	< 1W

Digital TV Convertor
User Manual

Content

Package Content

Unit   Remote Control   RF Cable

A/V Cable   User Manual

Safety Warning

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rule. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. This is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off or on, the user is encouraged to try to correct the interference by one or more of the follow measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Important Safety Instructions

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

To reduce the risk of electric shock.
Do not remove cover.
No user-serviceable parts inside. Refer servicing to qualified service personnel.

This symbol indicates"dangerous voltage" inside the product that presents a risk of electric shock or personal injury.

This symbol indicates important instructions accompanying the product.

1. Read, follow and keep these instructions.
2. Do not use this apparatus near water.
3. Clean only with a damp cloth. Please unplug power prior to cleaning.
4. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
6. Protect the power cord from being walked on or pinched particularly at the plug, receptacles, and the point where they exit from the apparatus.
7. Only use attachments/accessories included within this package.
8. Unplug this apparatus during lighting storms or when unused for long periods of time.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as when the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

A Class II APPARATUS shall be permanently marked with the words "DOUBLE INSULATION" or "Double Insulated" and "When servicing use only identical replacement parts."

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Safety Warning

Precautions

Please read these precautions before operating this unit.

1. Power cord protection

To avoid any malfunctions of the unit, and to protect against electric shock, fire or personal injury, please observe the following.

- Hold the plug firmly when connecting or disconnecting the AC power cord.
- Keep the AC power cord away from heating appliances.
- Never put any heavy object on the AC power cord.
- Do not attempt to repair the AC power cord in any way.
- Never make or change connections with the power switched on.

2. Placement

Avoid placing the unit in areas of:
- Direct sunlight or heating radiators
- High temperature (over 35℃) or high humidity (over 90%)
- Dust as the internal parts may be seriously damaged.

3. Non-use periods

When the unit is not being used, turn it off. When left unused for a long period of time, the unit should be unplugged from the power source.

4. No fingers or other objects inside

- Touching internal parts of this unit is dangerous, and may cause serious damage to the unit. Do not attempt to disassemble the unit.
- Do not put any foreign object in this unit.

5. Keep away from water

- Keep the unit away from flower vases, tubs, sinks, etc. if liquids are spilled into the unit, serious damage could occur.
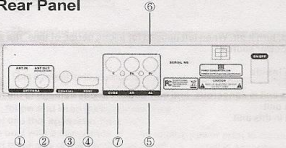
1. Front Panel

1 <u>POWER BUTTON</u> : Press to power on/off the converter box
2 <u>IR</u>: Remote control receiver
3 <u>LED indicator</u>
4 <u>USB</u>
5 <u>CH+ / CH-</u>: Channel up/down

2. Rear Panel

1. <u>ANT IN</u>   Connect to terrestrial antenna.

2. <u>RF OUT</u>   CH 3/4 NTSC RF output

3. <u>COAXIAL</u>   Coaxial digital audio output

4. <u>HDMI</u>   HDMI output

5. <u>L – AUDIO - R</u>   Connects these terminals to analog audio inputs of a TV set. Or connect these terminals to the L/R inputs of a separate audio component.

6. <u>Y/Pb/Pr</u>   Component video output

7. <u>VIDEO</u>   If your TV or monitor has composite Audio/Video cable, connect this jack to the AV input jack on your TV or monitor using an Audio/Video cable

4

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3. Remote Control Unit

The remote key list:

- **STANDBY:** Press to turn on or standby
- **HDMI:** Adjust resolution
- **MUTE:** Press to mute the sound of TV audio, press again will restore the sound
- **0 – 9:** Press to enter the required numbers in the input box or select a channel to watch
  Press directly to tune a particular channel.
- **LIST:** Press to display all TV channels or all Radio channels
- **REC:** Press to start recording
- **STOP:** Press to stop playback or recording
- **MENU:** Press to display the Main Menu on the screen
- **EXIT:** Press to return to the previous menu
- **▲/▼/CH+/-:** Move cursor up/down ; Channel + / -
- **◄/►/VOL+/-:** Move cursor left/right ; Volume + /-
- **OK:** Confirm
- **I◄◄/►►I:** Prev / Next
- **◄◄/►►:** Rev / Fwd
- **FAV:** Press to display the favorite channel's list for setting
- **EPG:** Electronic Program Guide
- **CC:** Press to turn on/off closed captioning
- **INFO:** Show/Hide service info:
  Press once a Service Info Bar will appear
  Press again to show Detail Info
  Press again to show Program Info
- **PLAY:** Press to resume playback
- **PAUSE:** Press to pause playback or recording
- **RECALL:** Press to switch between current & last TV channel
- **HOLD:** This is a Control Key under USB/Video and PVR mode
- **REPEAT:** Press this button to repeat the current options
- **USB:** Press to view content of connected external HDD or Flash drive
- **TIMER:** Press to go to Programmed Time Recording setup
- **AUDIO:** Switch Audio channel

5

INFO. key
Press "INFO" key to display the Information banner while viewing TV programs. Information banner:
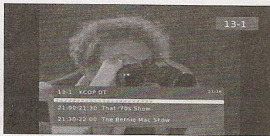
AUDIO key
Some programs may have multilingual audio language and this audio broadcast may be on a different audio mode such as Stereo, Left or Right. All the available audio languages will be displayed on the audio track window when you press the L/R key. The screenshot illustrates this below. If there is no audio output after you have selected the audio language, it indicates that there is no audio on the current audio mode, so you have to select the previous audio mode.

CC key
Certain programs have multilingual subtitle information. All available subtitle languages will be displayed in the subtitle information window when you press the SUBTITLE key. The screenshot illustrates this below. Follow the help information in the subtitle window to select preferred subtitle.

◄◄ & ►► (PREV / NEXT) key & I◄◄ & ►►I (F.R. / F.F) key
The PREV/NEXT key and F.R./F.F. key can be used during playback of multimedia programs from your external USB device. Press the PREV/NEXT key to go to the previous/next program and F.R./F.F. key to fast forward or rewind during playback.

6

EPG key
Press EPG key to display the on screen electronic program guide.
This displays a 7 days Electronic Program Guide for all programs being broadcast from all available broadcasters.


LIST key
Press OK key to display all TV channels or all Radio channels. Follow the help information at the bottom of the window to select preferred channel.

FAV key
Setting up Favorite TV or Radio Channels:
You can add preferred channels to a favourite's channel list.   Press the Menu key to access the Program Edit Menu. The Favourite channel option allows you to classify the channels by different genre: Movies/News/Sports/Music. Press the "FAV" or "OK" key to confirm your selection.   A heart shaped symbol will appear next to that channel which confirms your selection.
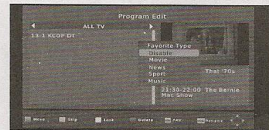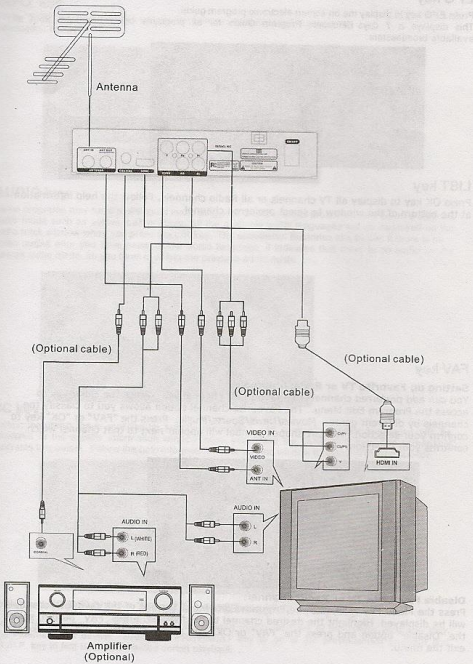

Disable Favourite TV or Radio Channel:
Press the Menu key to access the Program Edit Menu. The list of the favourite channels will be displayed. Highlight the desired channel to be disabled. Press "FAV" button, select the "Disable" option and press the "FAV" or OK" key to cancel. Press the "Exit" key to exit the menu.

7

Cable Connections

Make sure the STB is connected properly as below:

Antenna

(Optional cable)

(Optional cable)

(Optional cable)

VIDEO IN

VIDEO

ANT IN

HDMI IN

AUDIO IN

L (WHITE)

R (RED)

AUDIO IN

L

R

Amplifier
(Optional)

8

Menu Operation

Press MENU key to display the main menu. It consists of 7 items as following:

· **Program**

· **Picture**

· **Channel Search**

· **Time Setting**

· **Option**

· **System**

· **USB**

Note: In any page of the menu, you can use EXIT key to return to previous menu page, or press MENU key switch to Main Menu page and then press MENU key again to exit Main Menu.

Program

USB

Multimedia
Photo Configure
Movie Configure
PVR Configure

Return   Confirm

Figure 1

9

Menu Operation

Press ▼ key first, then press ▶ key, enter into Program setting menu. (password: 000000)

Program

Program Edit
EPG
Sort

Input Password

Return   Confirm

Figure 2

Program Edit

ALL TV

No TV

Move   Skip   Lock   Delete   FAV   Rename
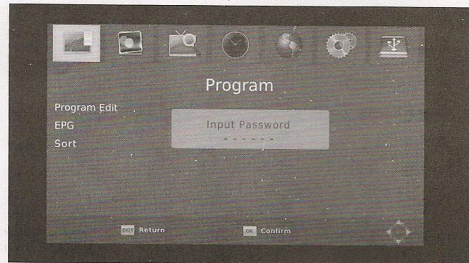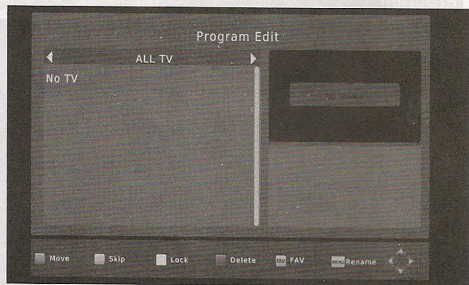
Figure 3

10

Menu Operation

1. Choose the menu as per request (Move/Skip/Lock/Delete/FAV/Rename).

Program Edit

ALL TV

13-1 KCOP DT

Favorite Type
Disable
Movie
News
Sport   That '70s
Music

21:30-22:00 The Bernie
Mac Show

Move   Skip   Lock   Delete   FAV   Rename

Figure 4

Picture

Picture

Aspect Ratio   16:9 Wide Screen
Resolution   1080i
TV Format   NTSC

Return   Confirm
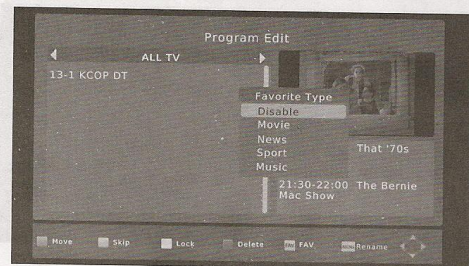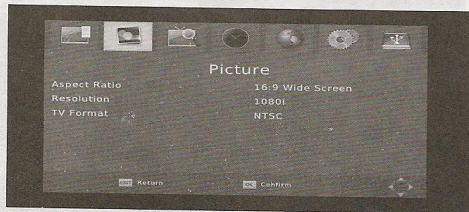
Figure 5

Aspect Ratio: AUTO, 16:9 Pillar Box, 16:9 Pan & Scan, 4:3 Letter Box, 4:3 Pan & Scan, 4:3 Full, 16:9 Wide Screen
Resolution: 480i, 480p, 720p, 1080i & 1080p (60Hz)
TV Format: NTSC / PAL

11

Channel Search
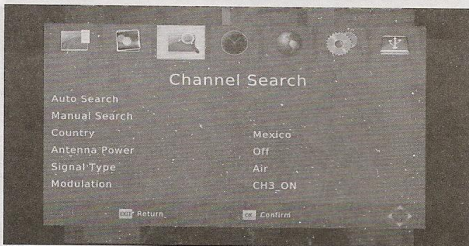
Figure 6

1. Auto Search 2. Manual Search 3. Country 4. RF Output
Use ▲ & ▼ keys to move up and down from one item to another, and press ►key to display
corresponding sub-menu.

Auto Search
In the Main menu, use ▲ & ▼ keys to select Auto Search item, and press ►key to enter into
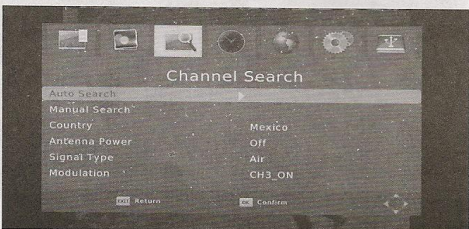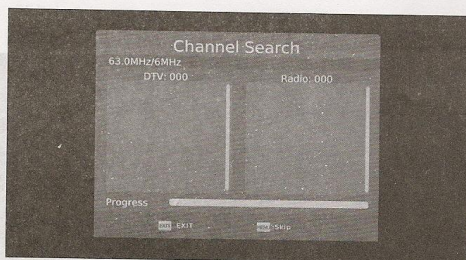Auto Search menu.

Figure 7

Figure 8

Manual Search
In the Main menu, use ▲ & ▼ keys to select Auto Search item, and press ►key to enter into
Manual Search menu.

Figure 9

1. You can press the number keys into channel, or press directional keys to choose.
2. Suggestion using auto channel search
3. Press EXIT to quit
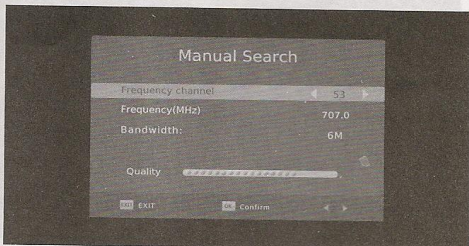
Figure 10

Country
In the Main menu, use ▲ & ▼ keys to select Auto Search item, and press ►key to enter into
Country menu to select different countries.

Figure 11

RF Output
The system can output channel 3 or channel 4 NTSC RF signal as following:

1. Use a cable to connect "RF OUT" converter of the STB and your TV can support
   CATV input.
2. Auto search the program and change current channel to CH3 or CH4 directly by
   inputting the channel number in your TV.
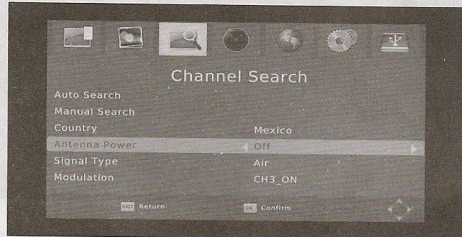
Figure 12

Loop through output setting
The system can select the loop through as following:
1. Use a cable to connect "RF OUT" converter of the STB and your TV can support CATV input
2. Go to the Setup Menu and ON/OFF the loop through RF output
3. Auto search the program to the target channels. (when searching programs, please use TV Remote)
Note: When under the setting of LOOP THROUGH, the machine will not play the TV program.

Time Setting

Time Zone: select Time and Timezone.
Sleep: press ▶ key to select the Sleep Time (1~12hours).
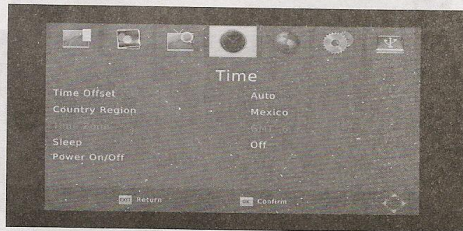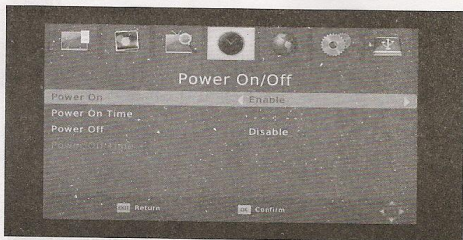Power ON/OFF: press ▶ key into the setting menu, select Power ON Time or Power OFF Time.
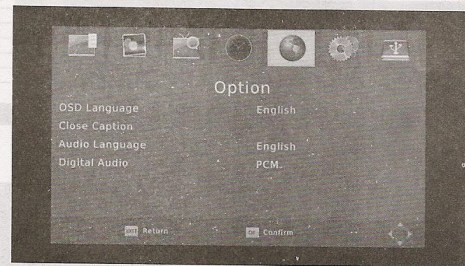

Figure 13

Figure 14

16

Option

Figure 15

OSD Language: English, Spanish, French

Close Caption

Figure 16

17
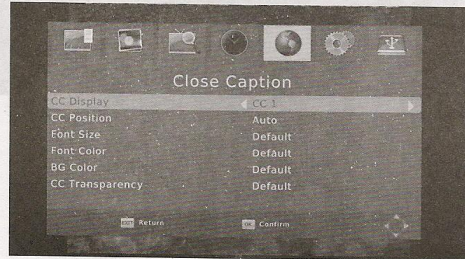
CC option list:

CC Display	CC OFF, CC1, CC2, CC3, CC4, CC5, CC6
CC Position	Auto, Top, Bottom
Front Size	Default, Small, Medium, Large
Front Color	Default, White, Black, Red, Green, Blue, Yellow, Magenta, Cyan
BG Color	Default, White, Black, Red, Green, Blue, Yellow, Magenta, Cyan
CC Transparency	Default, Solid Transparent, Transparent

System Setup

In main menu, select System Setup item and press **OK** key to enter into System Setup menu.
- Press ▲ & ▼ to select item and ▶ key to enter into sub menu or change current item setting.

1. **Parental Guidance**: Press ▶ key when this item is highlighted, input password.
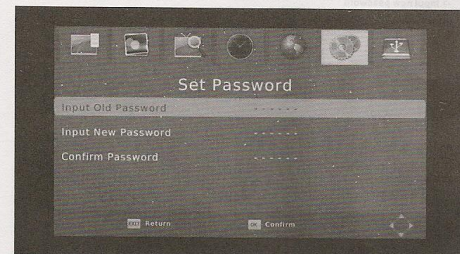

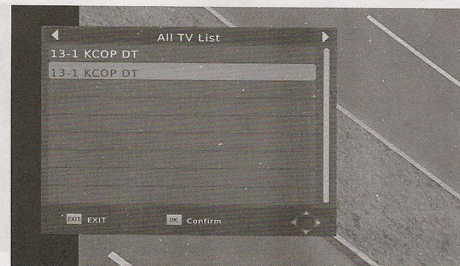Figure 17

18
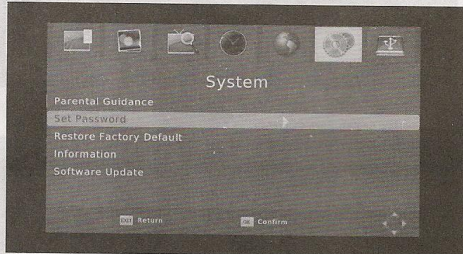
Password: 000000

Figure 18

Select Rating Region:

Figure 19

19

2. **Set Password**: Press ▶ key when this item is highlighted.
   -> Input old password (Default 000000)
   -> Input new password

Figure 20

3. **Restore Factory Default**: Restore system setting parameter to default setting if you
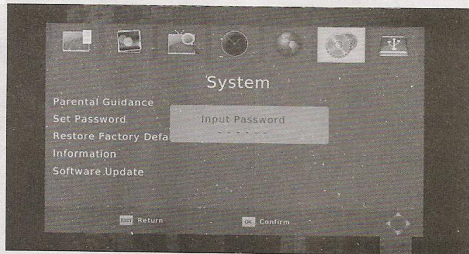   press ▶ key when this item is highlighted.
   * **Default password is 000000**

Figure 21

4. **Information**: Restore system setting parameter to default setting if you press ▶ key when this
   item is highlighted.

20

5. **Software Update**: Insert USB disk while the unit on, choose the upgrade file, press the right
   directional key to upgrade, make the sure the unit stays on while the upgrade is processing.

   * **If firmware update is needed, we will upload the most update firmware & instruction
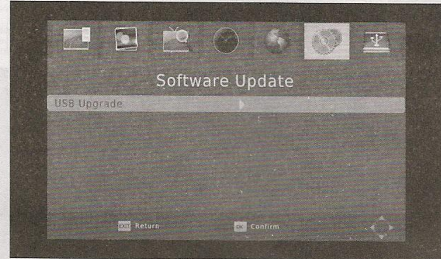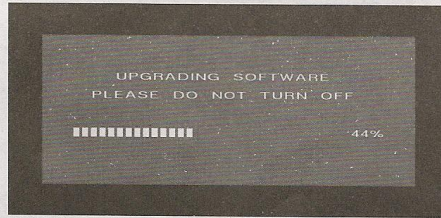   on our website: www.mediasonic.ca**

Figure 22

Figure 23

21

USB

Multimedia

MENU=>Multimdia You can now select to view Photos, play MP3 music files and view Movie files via the
multimedia player. Known supported files are outlined below.
NTFS, FAT32 and FAT16 file systems are supported.

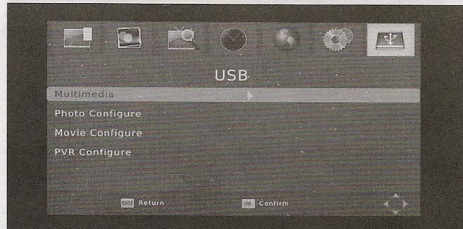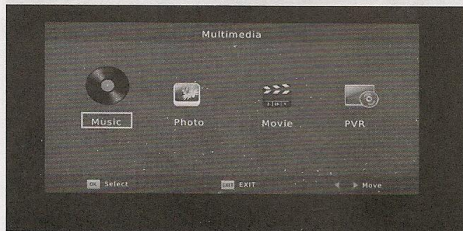| Player	Supported file
Photo	JPEG, BMP, PNG
Music	*.wma, *.mp3, *.aac
Movie	*.avi, *.mpg, *.dat, *.vob, *.mkv, *.mjpeg

Figure 24

Figure 25

22

Music: You can choose your favorite songs, fast forward & fast rewind, stop and play, go to,
REPEAT.

Photo: After choose the specific picture from the preview file, you can press the "Enter" key for
the full screen. And press " Play" key enter the slide show mode; if you want the slide show go
with music, you need to play the music first and then open the picture, then you will go with
slide show + music.

Movie: You can choose any movie or song as you like, change last and next, fast forward & fast
rewind, play and stop, goto, REPEAT and so on. Press the "PLAY" key enter the full screen
status.

PVR: Depends on user's choose, there are some functions like remove/edit/delete and so on.
Play/stop/last/next/fast forward/fast rewind/repeat all these functions can be done with the
remote, just according to what the user's request. If you press the remote's "HOLD" key, you
will enter the "Full Screen" status.

Photo Configure

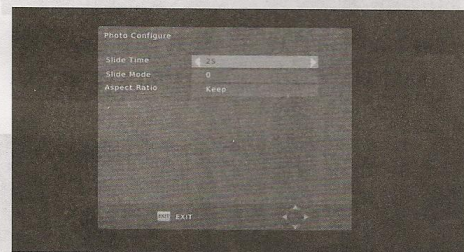Here you can choose slide time, mode and aspect ratio (See figure 26)

Figure 26

23
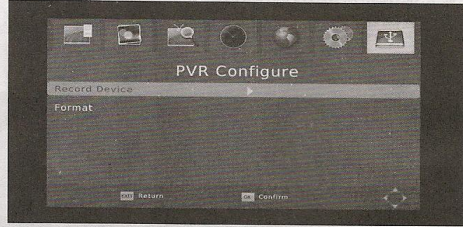
PVR

Choose record device, partition.

Figure 27

Recording way
1. Real-time recording
    -> When watching the TV program, if you need to record and save the current TV program, please insert USB hard drive, and set up the recording and saving route and position. As the picture's introduction :
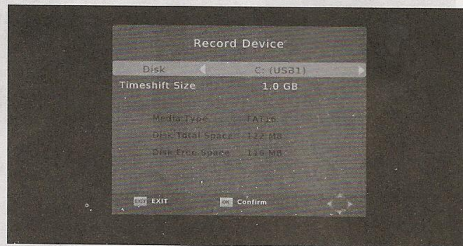

Figure 28

24

Please be advise that all your recording contents are for your personal enjoyment purpose only, they can not be used for commercial, distribution & public showing purpose.

Timeshift
The Timeshift function allows you to pause the TV program being viewed. Once paused the TV program is being stored on your connected USB Hard Drive or Flash Drive.
When watching a program, press the **PLAY** key on the remote control to activate the function. You can now use the F.R. (Rewind function) to go back to the point you began the TIMESHIFT function or F.F. (Fast Forward) to catch up to live viewing. If you wish to stop the TIMESHIFT function, press the **STOP** key.

• Figure 29

To save space of the USB hard drive, the recorded program is not stored under time shift mode. If you press the INFO key, you can access the TIMESHIFT information screen.

WARNING:
For the compatibility of HDD and USB devices with TIMESHIFT and PVR function, please refer to th table below:

	TIMESHIFT	PVR RECORD	FORMAT
USB flash drive	Works	Works	Fat32
3.5inch HDD	Works	Works	NTFS
2.5inch HDD	Works	Works	NTFS / FAT 32
1.8inch HDD	doesn't work	Works	NTFS / FAT 32

MENU>>USB>>Multimedia>>PVR

Recording
    -> Press the remote's "REC" key to enter the recording status, and press the "Stop" key when you finished the recording, so the whole record function will be done.

Figure 30

25

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2. Programmed Time Recording
    Option 1: Simply press "TIMER" key on the remote to go to Programmed Time Record menu. (Figure 32)
    Option 2: Press the "EPG" key enter the TV program interface(Figure 31), and then press the "Enter" key go into the Programmed Time Record menu(Figure 32), Press the number key "1" enter it (Figure 33).
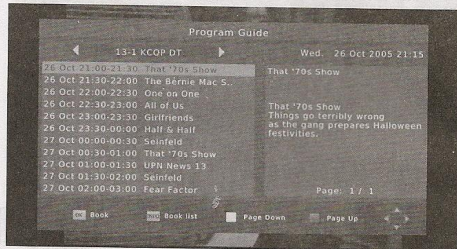

Figure 31

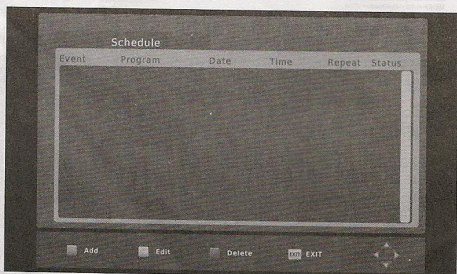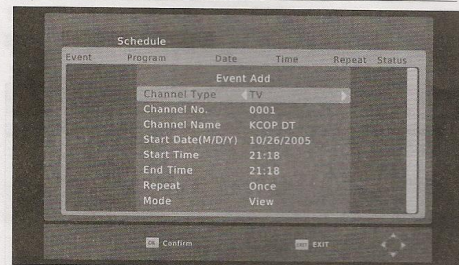Figure 32

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Figure 33

    -> Select the desired channel, key in the date & time to start recording and the time to end recording, press "OK" to confirm then EXIT to go back to previous screen.
    -> The recorded video will be saved into your external USB drive or Hard drive in PVR file format. The user can remove/edit/delete the video as you like. Just need to press the remote's "HOLD" key, you will enter the "Full Screen" status. Play/stop/last/next/fast forward/fast backward/repeat all these can be done on the remote, according to what the user's need.
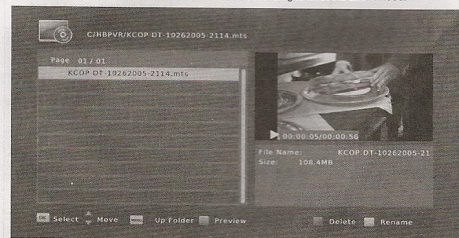

Figure 34

NOTE: you can change & watch different channels while a selected channel is in recording mode.

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