Instruction Manual
12MM-DSTM2

Matchmaster
TV Reception Systems
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CONTENTS

SAFETY

1. Please read this manual carefully before first use.
2. The LCD is not a touch screen.
3. Do not place heavy items on the device.
4. Do not leave the device near to heat sources, in direct sunlight, in places with strong mechanical vibration or dusty environments.
5. Please place the device in ventilated surroundings.
6. The device should be fully charged before using for the first time (recommend 6 hours for the first charge).
7. Contact Matchmaster Communications Pty Ltd if malfunction of the device happens.
8. Damaging the device on operation without following the guideline will not be warranted.

WARNING

1. Avoid using batteries near heat sources.
2. Do not get wet.
3. Avoid charging in heated locations or direct sunlight.
4. Charge using only charging accessories supplied.
5. When the battery is being charged by a vehicle charger, please ensure the polarity of the charging connection is correct.

NOTE

1. Antistatic: The battery is equipped with a protective circuit to avoid the occurrence of various accidents. Do not use the battery in the generation of static electricity as static electricity (100V or above) will easily damage the protection circuit which may lead to battery failure or damage, heat causing smoke/fire or deformation of the battery pack.
2. Charge temperature range: Recommended charge temperature range is 0~45. Charging in an environment beyond this range may cause a decrease in battery performance and reduce the life span.
3. Charging mode: Please use the supplied charger in the recommended environment for the battery charge. After discharge of the battery, please charge the battery in time. Due to the special characteristics of the car charging, the battery cannot reach the saturation state when the vehicle is used to charge the battery.
4. First use: With the first use of the battery, if the battery is not clean or an abnormal smell or other abnormal behavior is noted, please discontinue charging and return to Matchmaster Communications Pty Ltd.
5. When the meter is not in use for a long period of time it is best to remove the battery from the device and place in a low temperature and humidity environment for optimal preservation.
6. Battery period of guarantee: The warranty period is 6 months from the date of shipment. However, if the problem is not due to the failure of the manufacturing process, but instead due to improper use or storage warranty will not be applied.

1 OVERVIEW

The 12MM-DSTM2 is an HD digital signal meter and portable device for installation and adjustment of satellite and terrestrial receiving antennas.

1.1 Features
- Combination of DVB-T/T2/C and DVB-S/S2
- High resolution 5''TFT LCD
- Multi-lingual OSD and use-friendly UI
- Supports Spectrum function
- Real time constellation display
- Supports TP search and blind search
- USB 2.0 for software update/media play back
- Supports time shift
- Supports TP PVR
- Supports program edit (move/skip/lock/delete/rename)
- Supports electronic program guide (EPG)
- Supports HDTV video/audio output

- Supports HD TV input
- Supports AV input for monitor installing
- Supports DC+12V out for monitor installing
- Ease of use via shortcut keys
- Supports RCU
- Built in loudspeaker for audio play
- Video and Audio signal when signal locked
- Built in LED light
- Large lithium battery capacity (4000mAh)
- Support 8MP camera input, supported formats are AHD TVI CVI CVBS

1.2 Accessories
1x Manual
1x Power Adapter
1x Power Cable
1x Car Adaptor
1x Connector F-Type
1x Connector F-Type to IEC typ
1x Connector BNC to AV
1x AV Cable
1x Remote Control Unit (RCU)
1x Carry Bag

2 INTRODUCTION OF PANEL FUNCTIONS

## 2.1 Remote Control
1. Power
2. Show the teletext content if teletext is transmitted
3. Subtitle language
4. Sleep
5. Find
6. Play, stop and pause
7. Main menu
8. Confirm the highlighted menu item. Open the channel list
9. Left and right
10. EPG
11. Fast backward and fast forward
12. Numeric key (0-9)
13. Favorite channel
14. Mute
15. Multi-coloured buttons
16. Zoom
17. PVR
18. GOTO TP or Satellite
19. Recall
20. Start recording
21. Exit
22. Up and down
23. Display information
24. TV/radio
25. Play previous item and play next item
26. Satellite list
27. Audio language
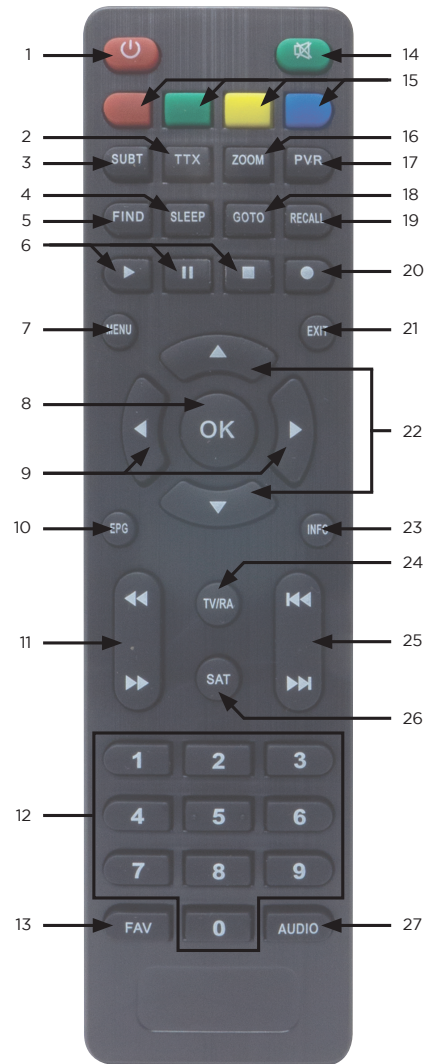
2.2 Front Panel Introduction
1. Power switch: press it for 3~4 seconds to switch the device power on/off
2. Power indicator
3. Battery indicator (Red light for charging, green light for fully charged)
4. 13V indicator
5. 18V indicator
6. 22KHz indicator
7. Signal Locked indicator
8. F1~F4: shortcut keys
9. Numeric keys
10. GOTO: Select satellite or transponder
11. LIGHT: Long press 3~4seconds to turn on LED floodlight
12. SCREEN: Signal source switching
13. MUTE: turn on or turn off the voice
14. SPEC: shortcut key for spectrum analyzer
15. CONS: shortcut key for constellation analyzer
16. FIND: shortcut key for satellite finding
17. ANGLE: Shortcut key for Angle calculation
18. Arrow keys: The keys offer the movement of cursor to a specified direction.
19. OK: confirm key
20. MENU: Show main menu
21. EXIT: exit menu (main menu or sub menu)
22. Digitron: Show the current signal quality
23. LCD screen
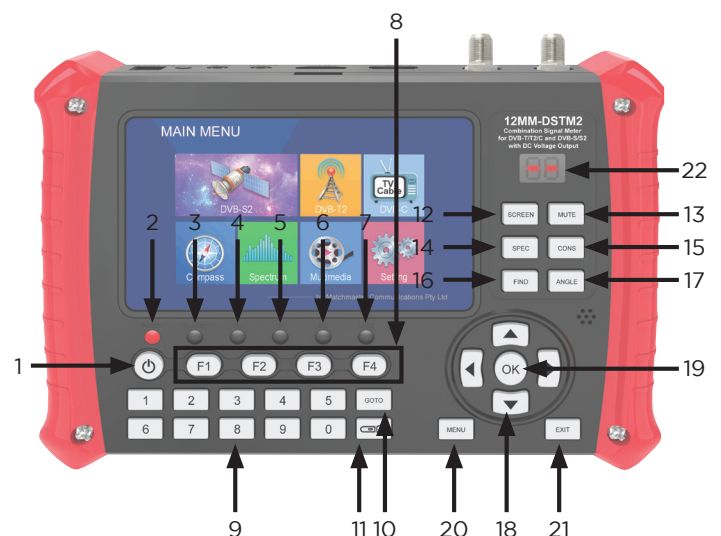
2.3 Top Panel Introduction
1. F connector male for Satellite Input
2. F connector male for Terrestrial and Cable Input
3. USB connector
4. HDTV OUT connector
5. AV OUT connector (3.5 Phone Jack)
6. AV IN connector (3.5 Phone Jack)
7. Reset key
8. DC jack (for charger)
9. HD IN connector
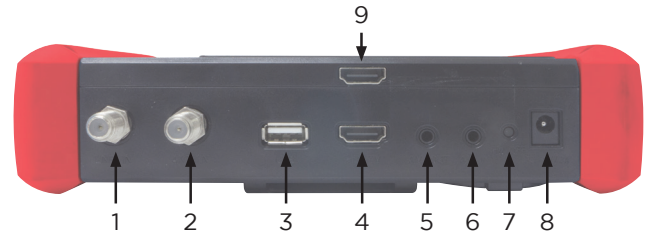
2.4 Rear Panel Introduction
1. LED floodlight
2. Holder
3. Loudspeaker
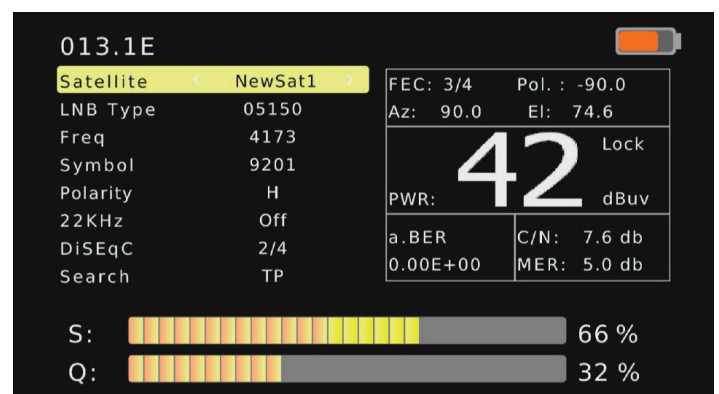4. Battery
5. Hand grips

3 DETAILED OPERATION GUIDE

When you turn on the device, you can see the main menu which consists of DVB-S2, DVB-T2, DVB-C, Compass, Spectrum, Multimedia and Setting.

3.1 DVB-S/S2
3.1.1 Satellite Finding
Move cursor to "Satellite Finding" and press "OK'', then you will enter the "Satellite Finding'' interface.

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1. Press"OK'' on the Satellite option, then you will see the following window. Press [▲ / ▼] to select an existing satellite and press "OK" to confirm.

2. Press"OK'' on the LNB Type option, then you will see the following window. Press [▲ / ▼] to select the LNB Type and press "OK'' to confirm.

3. Press"OK'' on the Freq, Symbol Rate, Polarity option, and follow steps as above to adjust as needed.
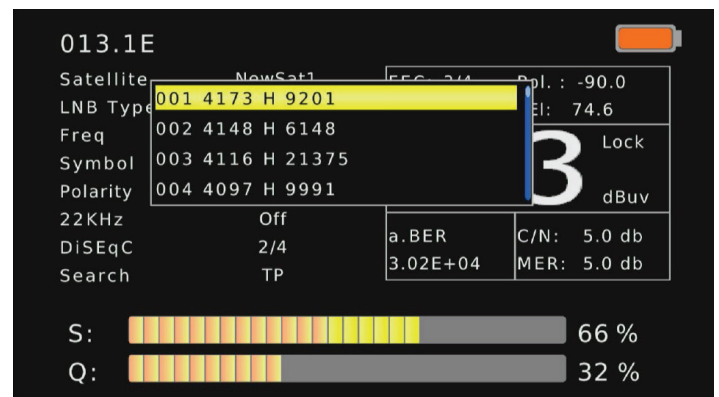
4. Use the number buttons to input the Frequency, Symbol Rate and Polarity manually, then press "OK'' to confirm.
5. When the signal is locked, the buzzer will sound. The signal quality bar will also be displayed on the LCD. Meanwhile, the LOCK LED will light up.
6. Press"OK ''on the Search option, and the satellite finder will begin to search the channel according to the TP you selected or input manually. It will switch to the Program page after the search (if there is a program on the Transponder).

3.1.2 Dish Setting
Move cursor to "Dish Setup" and press "OK", then you can enter the "Dish Setup" interface.

1. Under the Satellite list page, you can press [▲ / ▼] to select the satellite.
2. Press [F1] to add a new satellite through setting Satellite Name, Longitude Direction, Longitude Angle or Band.

3. Press [F2] to edit existing satellite, which includes Satellite Name, Longitude Direction, Longitude Angle and Band.

4. Press [F3] to delete existed satellite. If you press OK, the satellite will be deleted or you can press "EXIT" to exit.
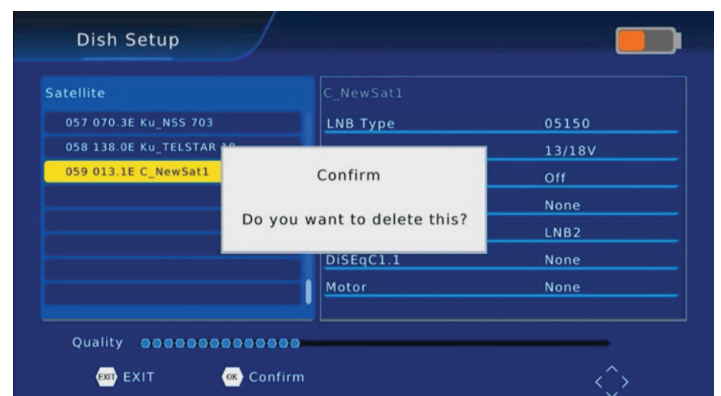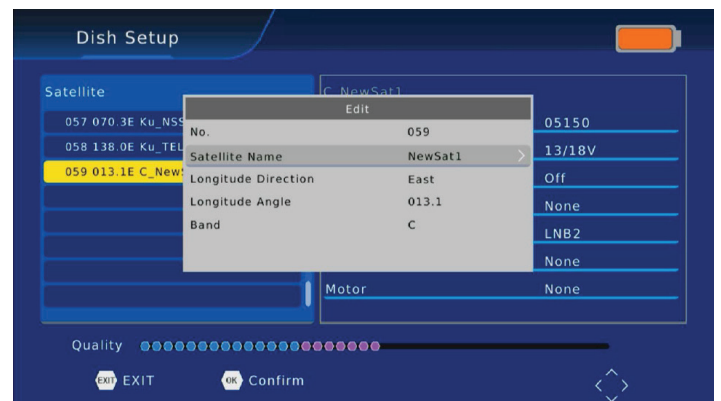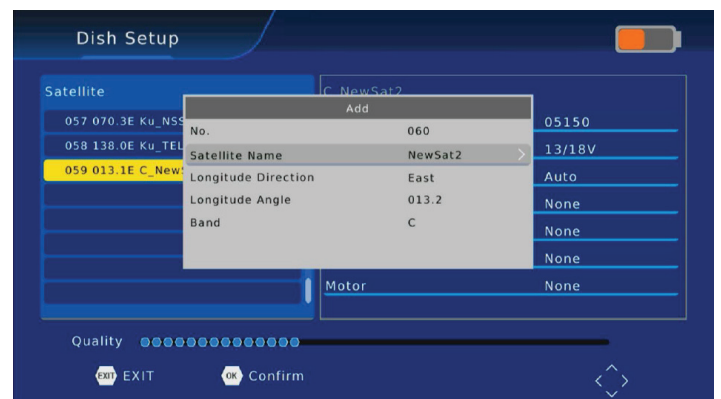
5. Press [F4] to begin scan, with Default, Blind Scan and Network optional scan modes.

6. Press [GOTO] to get into the TP list, you can also use [F1] [F2] [F3] [F4] to add, edit, delete or begin to scan the selected TP. Press [GOTO] to return to the satellite list.

7. Select one of the satellites and press [◄ / ►] to get into the LNB Type setting.
8. LNB Type: Press [▲ / ▼] to choose LNB Type between 9750/10600, 9750/10750, 05150, 05750, 09750, 10600, 10700, 10750, 11300 and 11475.
9. LNB Power: Press [◄ / ►] to choose between Off/13V/ (13V/18V)/18V.
10. 22K: Choose AUTO/ON/OFF.
11. Toneburst: Press [◄ / ►] to choose between None/ BurstA/BurstB.
12. DiSEqC1.0: Press [◄ / ►] to choose between None/ LNB1/ LNB2/ LNB3/ LNB4.
13. DiSEqC1.1: Press [◄ / ►] to choose between None/ LNB1~LNB16.
14. Motor: Press [◄ / ►] to choose between None/ DiSEqC1.2/DiSEqC1.3.

3.1.3 Angle Calculation

Move cursor to "Angle Calculation" and press "OK", then you can enter the "Angle Calculation" interface.

1. Press [◄ / ►] on Satellite option to select an existing satellite, the longitude of the satellite will be changed correspondingly.
2. Press [▲ / ▼] on Sat Longitude option, then you can use the number keys to input the satellite longitude you want.
3. If you select Manual, then you can move cursor to the Local Longitude and the Local Latitude and use the Number keys to input the value you want. (Press [◄ / ►] to select east or west local longitude, south or north Hemisphere).
4. When a parameter has changed, the system will calculate the result and will show the picture on the screen automatically.
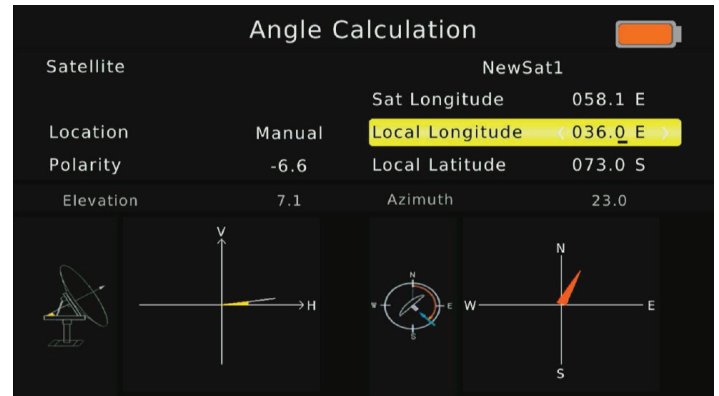
3.1.4 Constellation Analyzer

Move the cursor to "Constellation Analyzer" and press "OK", then you will enter the "Constellation Analyzer" interface.

1. Press [◄ / ►] to select a satellite and you can see the Transponder changes accordingly.
2. Press [◄ / ►] to select a Transponder and you can see TP frequency, Symbol Rate and Polarity change accordingly.
3. Press"OK ", then you will see the quality bar and the strength bar.
4. Under Constellation Analyzer interface (by Frequency), press
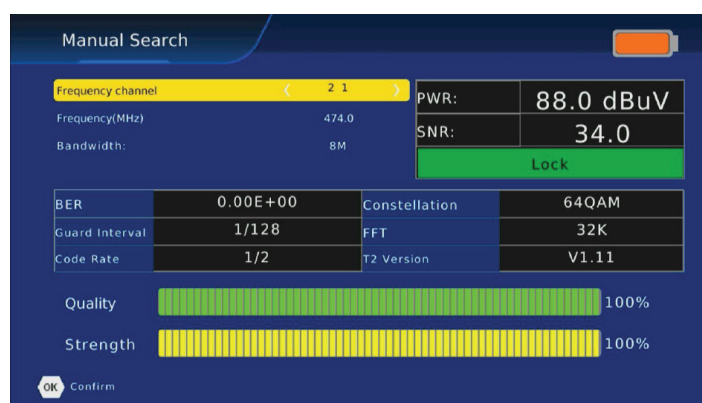   [▲ / ▼] to switch between other Frequency of the selected satellite

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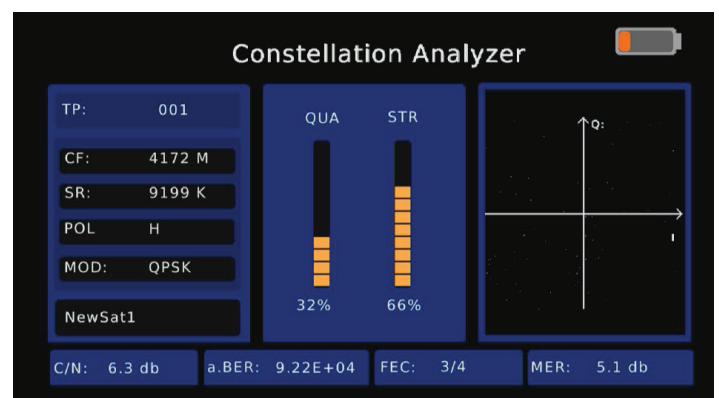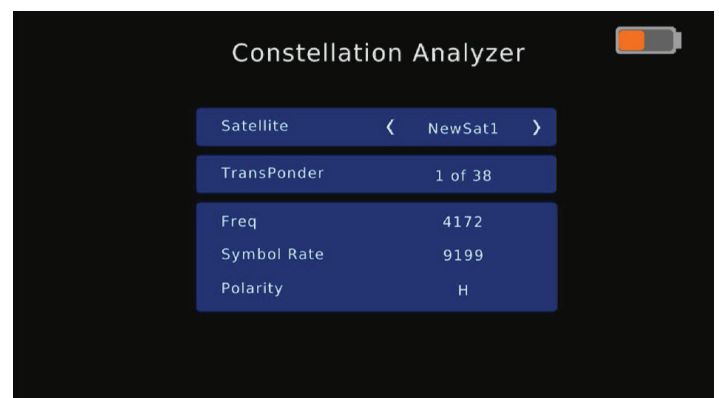
3.2 DVB-T/T2
Move cursor to "DVB-T" and press "OK", then you will enter the "DVB-T/T2" interface.
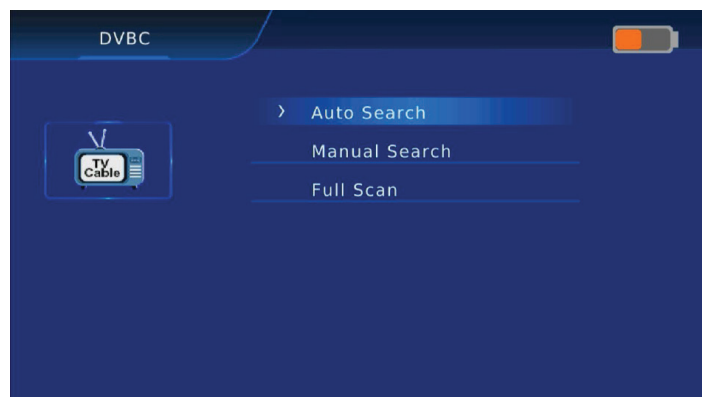

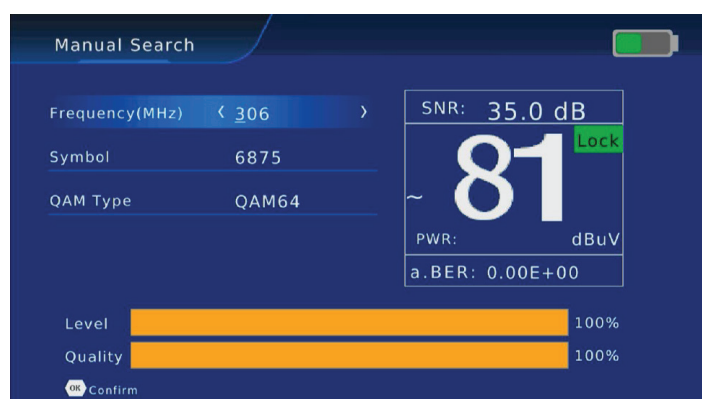1. Press [▲ / ▼] on Manual Search and press"OK" , then you will see the following menu.

3.3 DVB-C
Move cursor to "DVB-C" and press "OK", then you will enter the "DVB-C" interface.

1. Press [▲ / ▼] on Manual Search and press"OK" , then you will see the following menu.

3.4 Compass
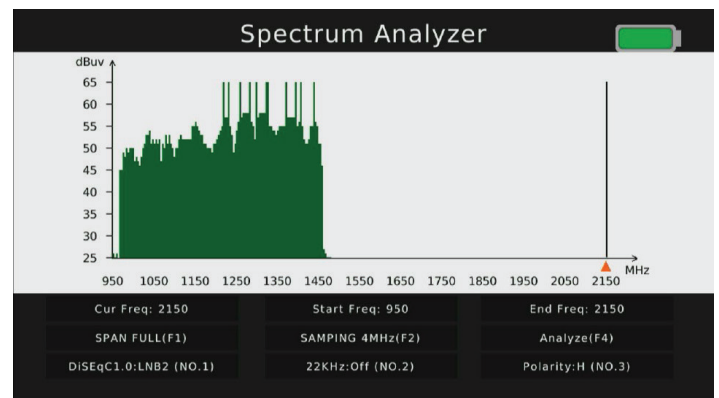Move cursor to "Compass" and press "OK" then you will enter the "Compass" interface.

1. Before using this function, please calibrate the equipment. By pressing [F1 key] and horizontally rotating to calibrate the equipment.
2. Press [◄ / ►] to can choose the satellite and it will calculate the Elevation and Azimuth value automatically.
3. The red arrow represents the north needle, and the blue arrow represents the south needle
4. Note: to use this function, you need to set the local latitude and longitude parameters first. The calculated value is for reference only.

3.5 Spectrum
Move cursor to "Spectrum" and press "OK", then you will enter the "Parameter Setting" interface.

1. Press [F1] to switch SPAN of spectrum frequency, FULL is default. The smaller span will show clearer signal status of frequencies.
2. Press [F4] to pause current status.
3. Press [▲ / ▼] to move power reference position.
4. Press [◄ / ►] to move cursor to select the frequency, the signal strength of the selected frequency will be displayed on the left-top corner.
5. DVB-S/DVB-T/DVB-C all support spectrum sub-board function

3.6 Multimedia
Connect your USB and move the cursor to "Multimedia" and press "OK", then you will enter the "USB" interface.

1. Press [▲ / ▼] on Multimedia and press "OK", then you will see the following menu.
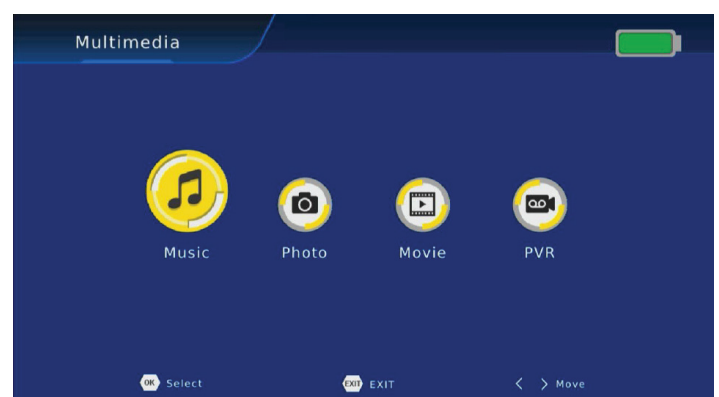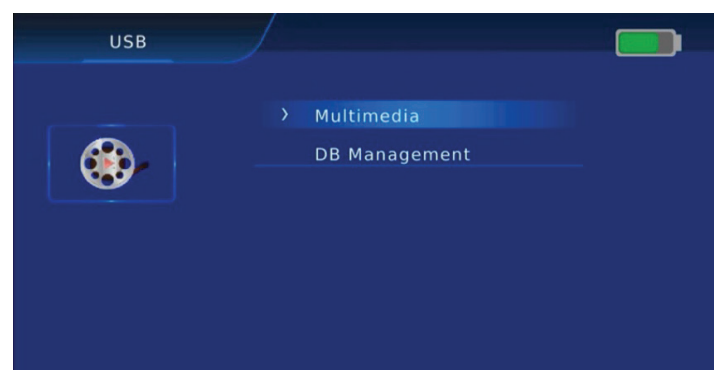
2. Press [◄ / ►] to select the media you want. Press "OK" to select the file you want to play Music, Photo, Movie and PVR.
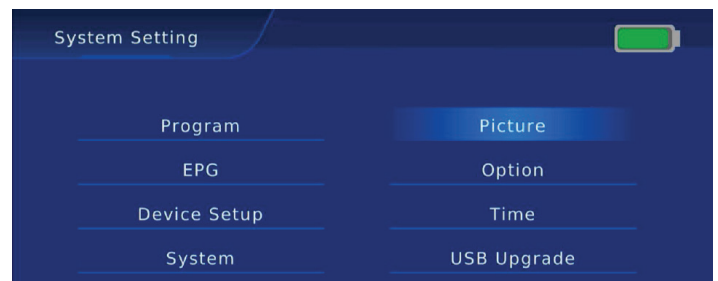
3. Press [◄ / ►] to select PVR and press "OK", press [▲ / ▼] to select the [HBPVR] file and press "OK", then you will see the program you have recorded.
4. The next time if you want to restore the factory default and keep the recorded information, you can press Backup to USB.
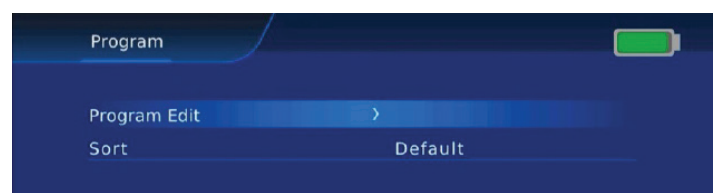
3.7 Setting
Move cursor to "Setting "and press "OK", then you will enter the "System Setting" interface.

3.7.1 Program
Move cursor to "Program" and press "OK", then you will enter the "program" interface.

1. Press [▲ / ▼] on Program Edit option and press "OK", enter password: 000000 then you will see the TV list.

Moving a service position
1. Press [▲ / ▼] on channel list, select the channels which you want to edit in channel list by pressing [Red/F1] Key.
2. Press [▲ / ▼] to move the cursor to the position you want and press the [OK] key.
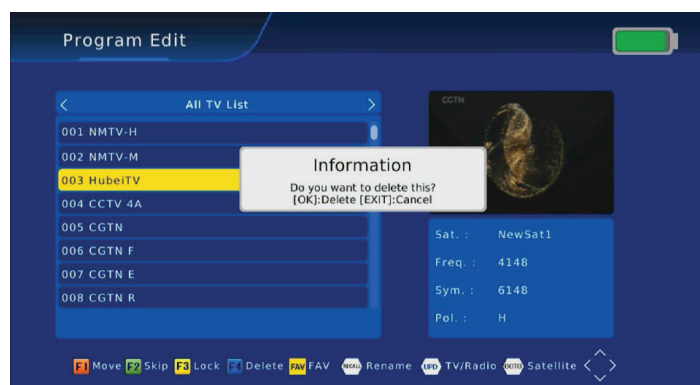3. Press [EXIT] Key to save the settings.
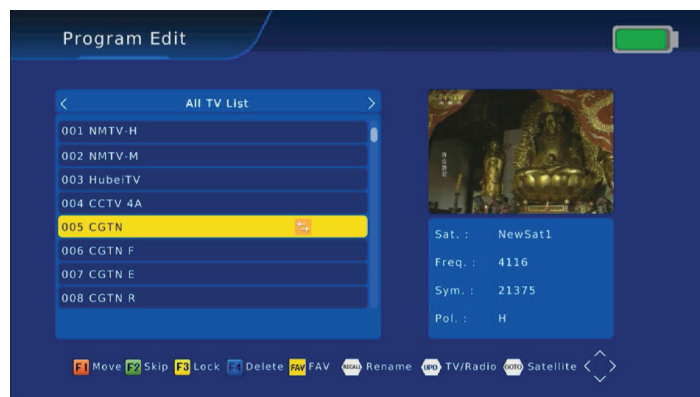
Lock (Password: 000000)
1. Press [▲ / ▼] on channel list, select the channel which you want to edit in the channel list by pressing [Yellow/F3] Key.
2. Press [Yellow/F3] Key to lock or unlock the channel.
3. Press [EXIT] Key to save the settings.
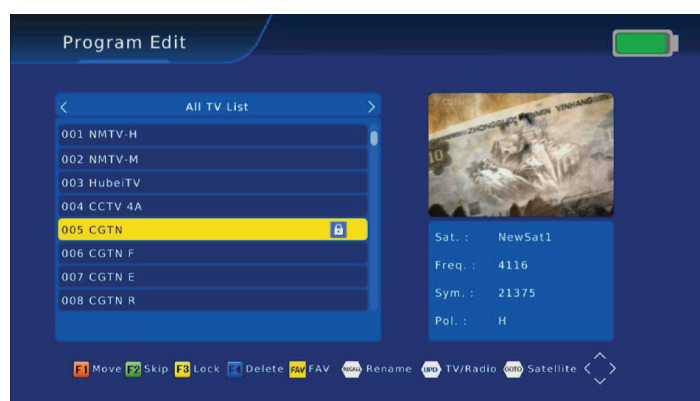
Delete
1. Press [▲ / ▼] in channel list, select the channels which you want to edit in channel list by pressing [Blue/F4] Key.
2. Press the [OK] key to confirm to delete the channel.
3. Press [EXIT] Key to save the settings.

FAV (Favourite)
1. Press [▲ / ▼] in channel list, select the channels which you want to edit in the channel list by pressing [FAV] Key.
2. Press [▲ / ▼] to choose what "Favourite Type" and press the [OK] key.
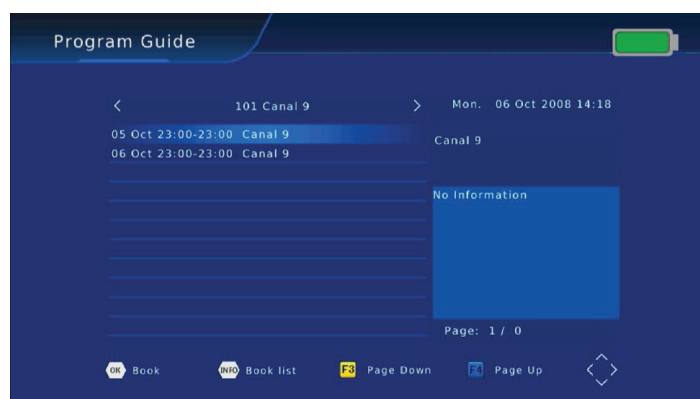3. Press [EXIT] Key to save the settings.

Skip and rename
Follow the same way to set for Skip or to give a new name.

1. Press [▲ / ▼] on Sort option, here you can Press [◄ / ►] to select "By Freq", "By Service Name", "Default" or "By Encrypt".
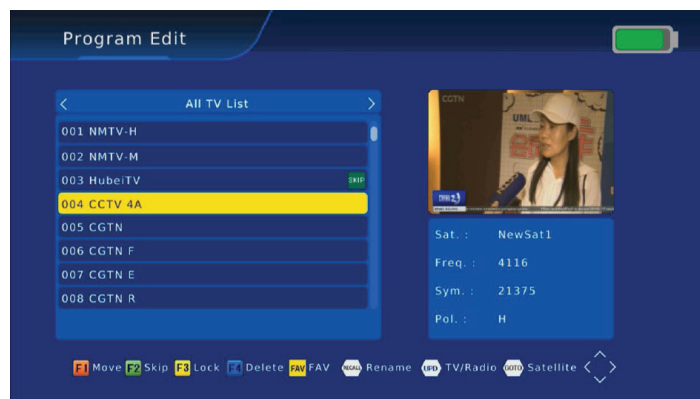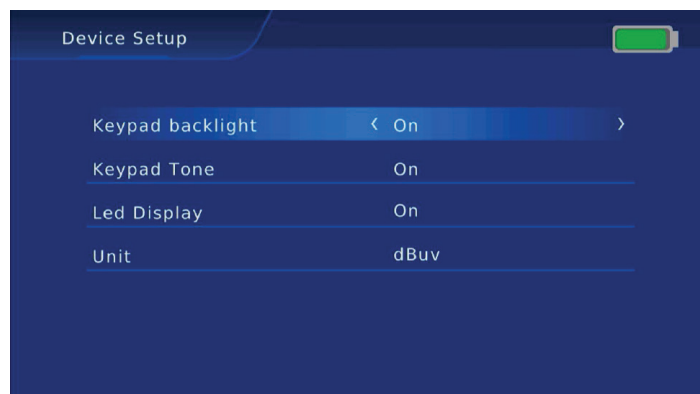
3.7.2 EPG
Press [▲ / ▼] on EPG option and press "OK", to see the program guide.

3.7.3 Device Setup
1. Press [▲ / ▼] on "Device Setup" option and press "OK", then you will see the following menu.
2. Press [▲ / ▼] on Keypad backlight, Keypad Tone, or Led Display option, then press [◄ / ►] to choose backlight, Keypad Tone or Led Display between "On" & "Off".
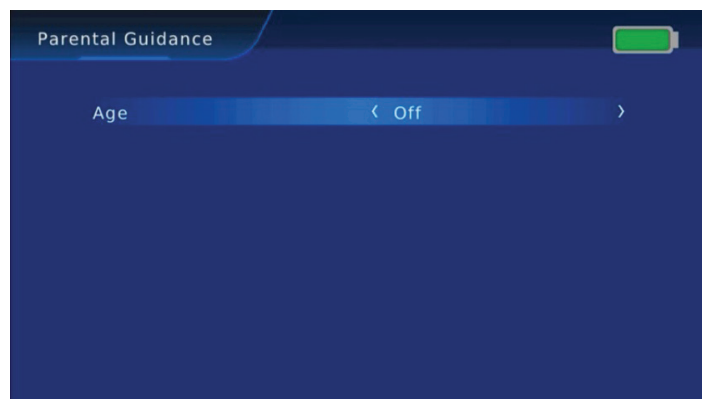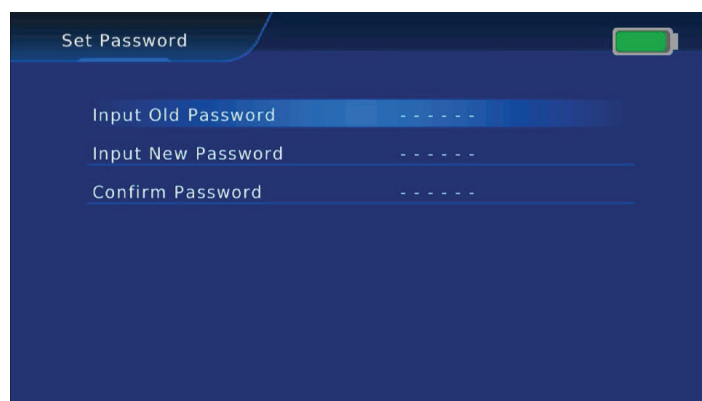
3.7.4 System
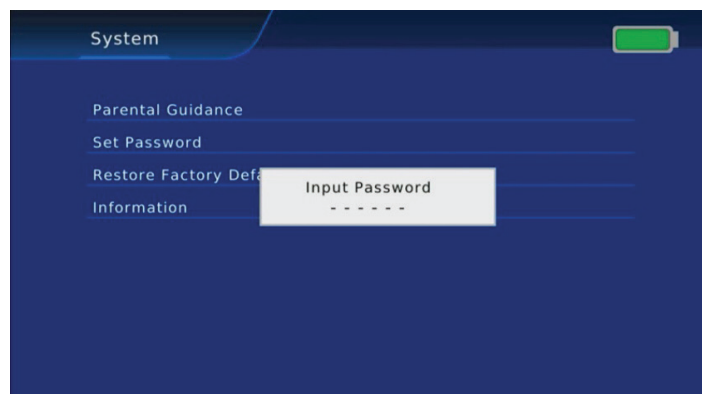1. Press [▲ / ▼] on "System" and press "OK", then you will see the following menu.

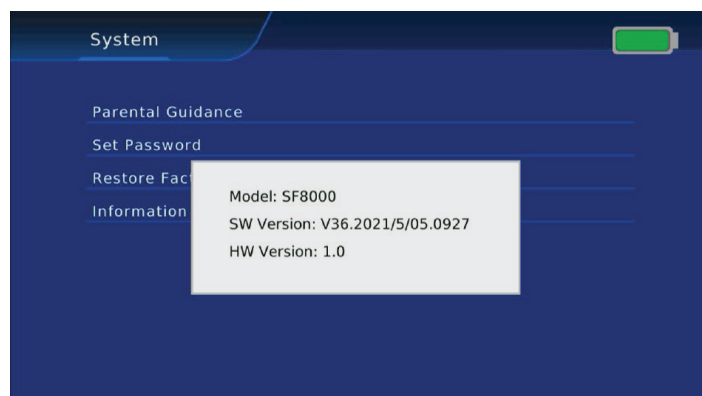2. Press"OK" to get into the Parental Guidance (the default password is 000000).

3. Press "OK" on Set Password option to reset the user password.

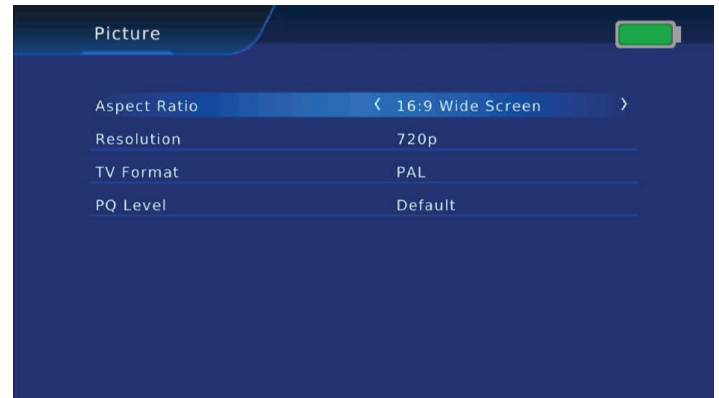4. Press "OK" on Restore Factory Default to Factory Reset.

5. Press "OK" on information option to get the hardware or software version.
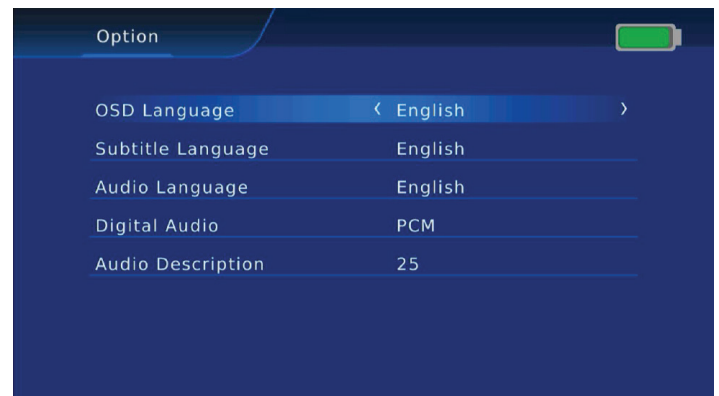
3.7.5 Picture
Press [▲ / ▼] on "Picture" and press "OK", then you will see the following menu. Here you can set the Aspect Ratio, Resolution, TV Format and PQ level.
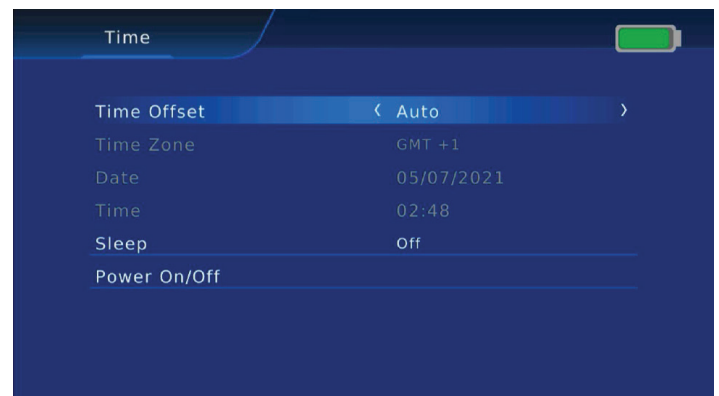
3.7.6 Option
1. Press [▲ / ▼] on Option and press "OK", then you will see the following menu.
2. Press [▲ / ▼] to choose OSD Language, Subtitle Language or Audio Language you want.

3.7.7 Time
1. Press [▲ / ▼] on Time option and press "OK", then you will see the following menu.
2. Press [◄ / ►] to select Auto or Manual for Time Offset adjustments and to Choose Time Zone, Date or Time when [Time Offset] is set to Manual.

3.7.8 USB Upgrade
Save the SW onto a FAT32 formatted USB, and move cursor to "USB Upgrade" and press "OK", then you can enter the "Software Update" interface to choose the correct SW to upgrade to.
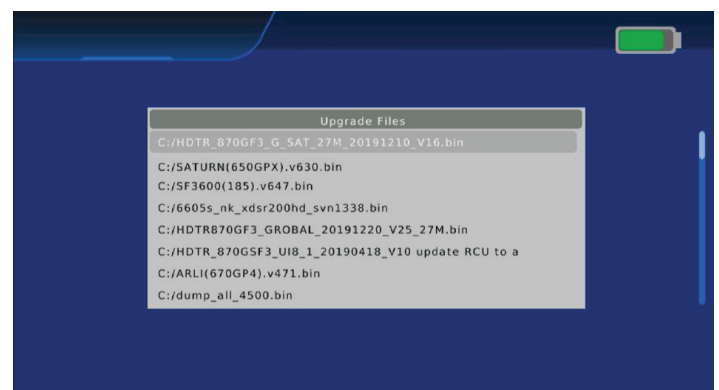
4 TECHNICAL SPECIFICATIONS

System Resources	
Main Processor	600MHz based CPU
Flash Memory	64M Bits
DDR SDRAM	1024M Bits
Tuner/Front-end	
DVB-S/DVB-S2	
Input Connector	F-type, Connector, Male
Frequency Range	950MHz~2150MHz
Signal Level	25~107dBμV
Impedance	75Ω
LNB Power & Polarization	Vertical: +13V
	Horizontal: +18V
	Current: Max.500mA
	Overload Protection
DiSEqC Control	Version 1.0/1.1/1.2/1.3,USALS Available
22KHz Tone	Frequency: 2231KHz
Demodulation	QPSK, 8PSK
Symbol Rate	2~45Msps
DVB-T/DVB-T2 DVB-C	
Input Connector	IEC-type, Connector, Male
Input Frequency	UHF: 470-866MHz VHF: 170-230MHz
Signal Level	30~109dBμV
Impedance	75Ω
DVB-T Power Output (VDC)	5V (Maximum 150mA), 12V and 24V (Maximum 350mA)
Demodulation	QPSK,16-QAM, 64-QAM, 256-QAM
Bandwidth	6,7,8 MHz
Power Supply	
Input Voltage Adapter	100-240V AC 50/60Hz
Power Consumption	11W MAX
Power charger output	14V DC 3.0A
Battery	12.6V/4000mAh
Battery charging time	3~6H
Battery standard discharging time	>5H
A/V Data input/output	
A/V IN/OUT	CVBS (Remark: AHD/TVI/CVI/CVBS is optional) input/ CVBS output
	Audio L input/ L/R output
Audio output	Built-in Loudspeaker
HD TV OUT	Up to 1080p
HD TV IN	Up to 1080p
USB	1*USB 2.0 slot Compatible for Host
Transport Stream	MPEG-2/4 H.264 H.265
Supported Audio Codecs*	AAC, MP3, WMA, WAV
Physical Specification	
LCD Display	5 inch
Size (WxHxD)	210x150x52mm
Net Weight	0.93Kg
Operating Temperature	0°C ~ + 45°C
Storage Temperature	-10°C ~ + 70°C
Storage Humidity	5%~95% RH (Non-Condensing)

* Not all audio formats supported. Sound may not be available on all select channels.