



# HD-TRIO

Digital Combo meter  
DVB-S2+T2+C  
Pre BER Post BER  
Spectrum Analyzer

An abstract graphic at the bottom of the page consisting of numerous overlapping, semi-transparent circles and ovals in various colors including purple, blue, yellow, orange, and pink, creating a vibrant, multi-colored effect.

**USER'S MANUAL**



## Preface

Please read this manual carefully before using your Digital Satmeter for the first time.

This operating manual will help you in the

- Appropriate,
- Safe
- Favorable

The technical specifications and operating methods included in this manual are subject to changes without notice. In case of any inquiries after a period of usage, please contact the manufacturer.

## Safety Precaution

Please read the safety instructions carefully before operating the device.

Please follow all warnings and instructions on the equipment and in the operating manual.

### Safety of persons

Ensure that nobody can be hurt by falling tools or parts of the satellite antenna during the adjustment and installation of the antenna. For own security, use a rope on sloping roofs.

### Attention for adapter

The device should only be operated with the supplied AC adapter at the mains. Do not open the meter or the included AC adapter. There is danger of life through electric shock! Wrong usage of the ports can lead to the destruction of the measuring device.

### Proceed carefully with the measuring device:

- Avoid low temperatures (below 0 °C) or to high humidity.
- The TFT display can be damaged by mechanical impacts.
- Avoid excessive input voltages. Please refer to the technical data

### Do not operate with the device:

- If it has visible damage,
- If there are loose parts in the device,
- If the device was located outdoors or in damp rooms a extended period of time.

### Main Supply:

Before operating, please check the units operating voltage is 90~240V AC 50/60Hz.

### Overload:

Do not overload a wall outlet, extension cord or adapter, neither use damaged power cord or touch it with wet hand as this may result in electric shock.

### **Liquid:**

The receiver shall not be exposed to dripping or splashing water, and that no objects filled with liquids, such as base, shall be placed on the apparatus.

### **Ventilation:**

Keep the slots on top of the receiver uncover to allow sufficient airflow to the unit. Do not put the receiver on soft furnishings or carpets. Do not expose there receiver to direct light or do not place it near a heater or in humid conditions. Do not stack other electronic equipments on top of the receiver.

### **Cleaning:**

Plug out the receiver from the wall outlet before cleaning. Clean the receiver by a soft cloth or mild solution of washing-up liquid (no solvents).

### **Location:**

Put the receiver indoor in order to avoid lightening, raining or sunlight.

### **Uncover:**

Do not remove the cover, to reduce the risk of electric shock. Contact qualified and licensed service personnel to repair the receiver, or contact your dealer.



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# I. Reference

## 1.1 General Features

DVB-S2 Compliant (MPEG-4), DVB-T2 Compliant, DVB-C Compliant

MPEG-4 MPEG-2 Video (MP@ML), MPEG-1 Audio Layer1, Layer2

## 1.2Brilliant on Screen Graphic

User Friendly OSD Menu with Full Function

Storing 8000 Channels

USB 2.0 Host Controller

Software Upgrade via USB

Satellite Identify

DiSEqC Search

Spectrum

Constellation

# II. Product Overview

DVB - S2/T2/C



### 1. POWER key:

Turn the product on/off

### 2. LCD Screen:

Shows Menus and Programs clearly

### 3. Power light:

Indicates the power status

Red: the product is power on

Green: the product is power off

#### **4. LOCK light:**

This light will be on when signal is locked

**5.13V/18V light:** Indicate the 13V/18V

#### **6. Function key:**

Made of 4 keys, F1 - F4

#### **7. Arrow key and OK key:**

Press the Arrow key to select the right item then press OK key to confirm

#### **8. SYSTEM key:**

Enter the settings menu, you can set all system parameters products

#### **9. AV IN key:**

Use this product as a television

#### **10. FIND key:**

Enter the menu of measurement signal, you can measure the signal about transponder quickly.

#### **11. MENU key:**

Enter the main menu

#### **12. EXIT key:**

Exit from the present menu and back to the previous menu

#### **13. SCAN key:**

In the S2 model, it is blind scan, in the T and C model, it is auto search

#### **14. USB Port:**

One USB Host Port

#### **15.HDMI Port:**

Use HDMI line connect to TV

#### **15.ON/OFF:**

Switch the battery on/off

### **III. Connection with Other Device**

The following chapter shows you the connections among product, ANT and other equipment, please read this first if you are not sure about the connection, and it will guide you to the correct connection.

You can connect one receiver directly to the ANT IN.

## IV. Detailed operation Guide

You should installation the receiver when powering on your product for the first time after purchase.

### 4.1 Powering On

1. Connect the power cord of the product to a wall outlet.
2. Power on by pressing the POWER button on the panel.



### 4.2 Satellite

*Main Menu-> satellite*

Press **OK** enter the satellite model

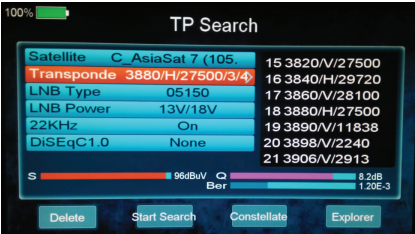


#### 4.2.1 TP Search

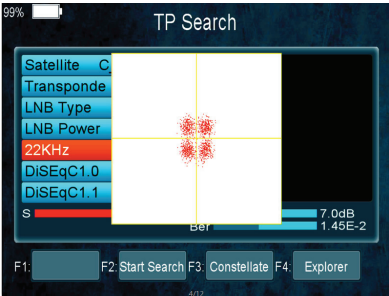
*Main Menu-> Satellite -> TP Search*

Press **OK** enter the TP search, first, you should select satellite, in this picture, you also can **delete**, **move**, and **rename** the

satellite. When you fixed on a satellite, then press **OK** the following window will appear. Use **[▲/▼]** button to move cursor, it'll show the satellite name, Transponder , LNB , 22KHz, DiSEqC port . When all parameters confirm, press **F2** button search the channels. You also can press **F1** to delete the satellite, or press **F3** to view the constellation, or press **F4** to explorer the signal information.



you can display constellation by **F3** button.



## 4.2.2 Satellite IDE.

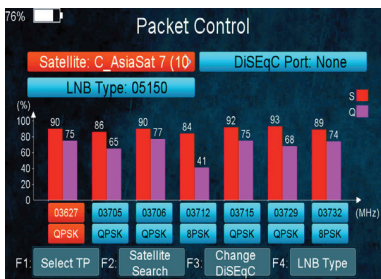
**Main Menu-> Satellite ->Satellite IDE.**

If you don't know the signal information of some usual sat, in this menu, please wait a moment, it will find the satellite identify.

## 4.2.3 Packet Control

**Main Menu-> Satellite -> Packet Control**

In this menu, you can know the strength and quality of each transponder under the satellite.



#### 4.2.4 DiSEqC Search

**Main Menu-> Satellite -> DiSEqC Search**

Press **OK** enter the DiSEqC search, in this menu, connect the DiSEqC port, the view will be display the sat which can connect, then you can search the channel by DiSEqC. Press **F4** button to switch LNB Type.

#### 4.2.5 Motor Search

**Main Menu-> satellite -> Motor**

Press **OK** enter the Motor search, select satellite and any transponder, if signal and quality OK press **F3** button to start search, press **F1** button turning Motor to west. Press **F2** button turning Motor to east. Press the **F4** button you can search by Motor; however, you should set up the Angle about the sat use the Angle button first of all.

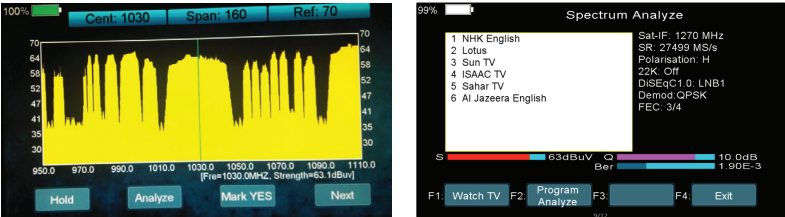


#### 4.2.6 Spectrum

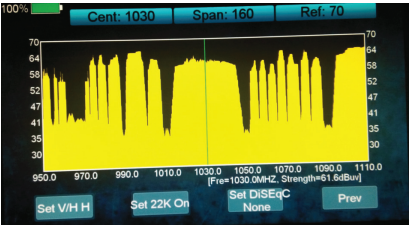
**Main Menu-> satellite -> Spectrum**

In this menu, you can know the strength of all transponders.

Press the **F1** button to keep the spectrum , and press the **F2** button to analyze spectrum , and press the **F3** button to mark spectrum , and press F4 button to next page.



Press the **F1** button to change Polarization control Hor / Ver, and press F2 button to switch 22khz signal on or off, and Press the **F3** button to switch DiSEqC, and press F4 button to previous page .



### 4.3 TERRESTRIAL

Main Menu-> **TERRESTRIAL**

Press **OK** enter the terrestrial model



#### 4.3.1 TP Search

Main Menu-> **TERRESTRIAL-> TP Search**





In this menu, you can Delete, Add, Manual Search, Auto Search transponders.

#### ➤ Delete

In this menu, when you highlight the channel item, you can press the ◀▶ key to choose the transponder which you want to delete, then press the **F1** key to delete.

#### ➤ Add

You can add the transponder which you want with the **F2** key. Here you can input new Frequency, BandWidth. Press the **OK** key to confirm the setting, then this new transponder will be added to the Transponder list.

#### ➤ Manual Search

You can Manual Search the transponder which you want with the **F3** key. You will be asked to confirm whether only search FTA channels or not. If you select "Yes", you will only search FTA channels.

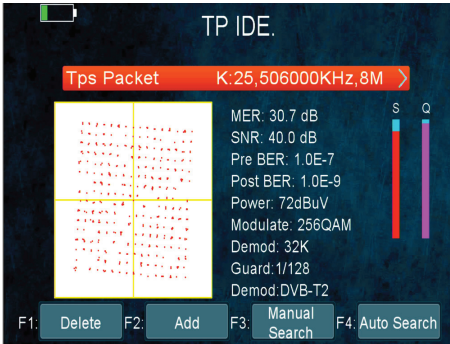
#### ➤ Auto Search

You can search all transponders with the **F4** key.

## 4.3.2 TP IDE

**Main Menu-> Terrestrial-> TP IDE.**

In this menu, you can know the exact information about the transponder and you can also Delete, Add, Manual Search, Auto Search transponders and save the picture of this interface.

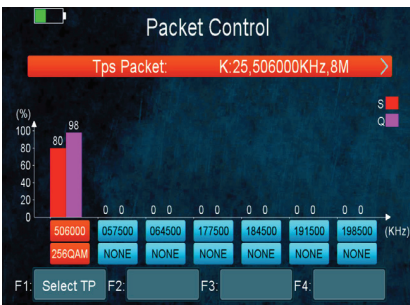


1. MER: Modulation error rate
2. SNR: It will show you the Carrier to Noise Ratio of the transponder you selected.
3. Pre BER: Forward Error Correction
4. Post BER: Afterward Error Correction
5. Strength: It will show you the strength of the transponder you selected.
6. Modulate: Modulation efficiency.

### 4.3.3 Packet Control

**Main Menu-> TERRESTRIAL-> Packet Control**

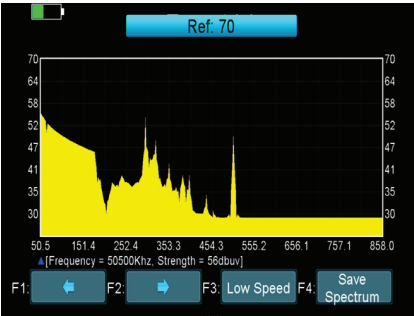
In this menu, you can know the strength and quality of each transponder.



### 4.3.4 Spectrum

**Main Menu-> TERRESTRIAL-> Spectrum**

In this menu, you can know the strength of all transponders.

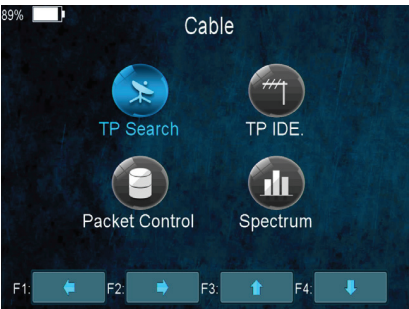


1. ◀▶ : Press the ◀▶ key to change the transponder.
2. ▲▼ : Press the ▲▼ key to change the range of the Y-axis.
3. **Low Speed/High Speed**: Press the **F3** key to change the speed of refresh rate.
4. **Save Spectrum**: Press the **F4** key to save the picture of spectrum.

## 4.4. Cable

Main Menu-> Cable

Press **OK** enter the **Cable** model



### 4.4.1 TP Search

Main Menu-> Cable -> TP Search



In this menu, you can Delete, Add, Manual Search, network search, blind search.

#### ➤ Delete

In this menu, when you highlight the channel item, you can press the ◀▶ key to choose the transponder which you want to delete, then press the **F1** key to delete.

#### ➤ Add

You can add the transponder which you want with the **F2** key. Here you can input new Frequency, BandWidth. Press the **OK** key to confirm the setting, then this new transponder will be added to the Transponder list. You can also highlight the channel item and press the **OK** key to enter the transponder list, then highlight the New TP item and press the **OK** key to add the new transponder.

#### ➤ Manual Search

You can Manual Search the transponder which you want with the **F3** key. You will be asked to confirm whether only search FTA channels or not. If you select “Yes”, you will only search FTA channels.

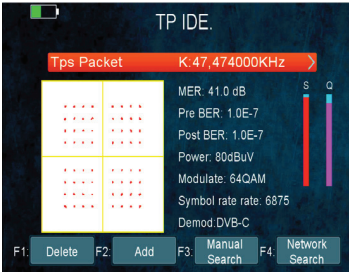
➤ **network search** : You can network search transponders with the **F4** key.

➤ **blind search**: you can search all transponders with **scan** key.

## 4.4.2 TP IDE

*Main Menu-> Cable -> TP IDE.*

In this menu, you can know the exact information about the transponder and you can also Delete, Add, Manual Search, Auto Search transponders and save the picture of this interface.

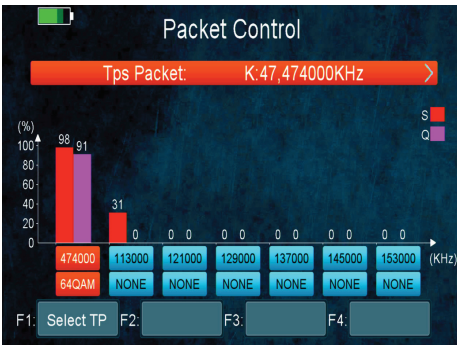


1. **MER:** Modulation error rate
2. **Pre BER:** Forward Error Correction
3. **Post BER:** Afterward Error Correction
4. **Strength:** It will show you the strength of the transponder you selected.
5. **Modulate:** Modulation efficiency.

#### 4.4.3 Packet Control

Main Menu-> **Cable**-> Packet Control

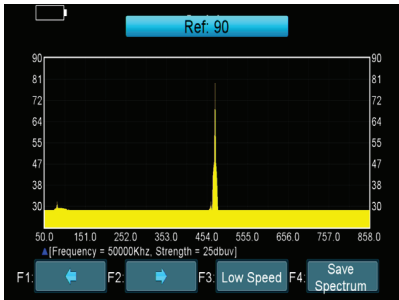
In this menu, you can know the strength and quality of each transponder.



#### 4.4.4 Spectrum

Main Menu-> **Cable** -> Spectrum

In this menu, you can know the strength of all transponders.



1. : Press the key to change the transponder.
2. : Press the key to change the range of the Y-axis.
3. **Low Speed/High Speed**: Press the **F3** key to change the speed of refresh rate.
4. **Save Spectrum**: Press the **F4** key to save the picture of spectrum.

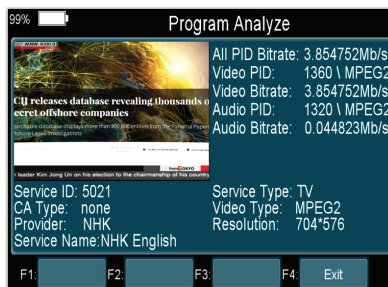
## 4.5 Watch TV

### Main Menu-> Watch TV

Press **OK** enter the Watch TV menu, in this menu, you can press the **F1** button to select any satellite or press the **F2** button to enter the Channel/Radio menu, press the **up/down** key jump to next/previous channel.

Press the **F3** button to watch Full Screen.

Press the **F4** button to analyze program.



## 4.6 Settings

### 4.6.1 System

**Main Menu-> Settings-> System**

In this menu, you can set all the settings here by pressing the ◀▶ key.



Press **OK** enter the setting menu, in this menu, you can set OSD Transparency /signal Audio tone / TV Screen Format/ volume/ language adjust display currently. Factory Reset: Erase all channels and restore the factory default settings.

1. **Menu Language:** Set the menu language.
2. **Audio1:** Set the preferred audio language.
3. **Audio2:** Set the sub-prime audio language.
4. **Power Out 12V:** If you set it on ,it will support 12V voltage.
5. **DVBT Power:** If you set it on ,it will provide voltage for T Tuner.
6. **Fan Control:** If you set it on ,it will open the fan.
7. **Signal Audio :** If you set "ON", in the TP Search interface when you highlight a transponder with signal, it will sound automatically. If you set "OFF", in the TP Search interface when you highlight a transponder with signal, it will not sound.

### 4.6.2 OSD Setup

**Menu->Settings>OSD Setup**

1. **Display Mode:** Set the HD format between 1080p, 1080i, 720p, 480i, 480p.
2. **TV Type:** Set the TV Type on PAL/NTSC/Auto state.

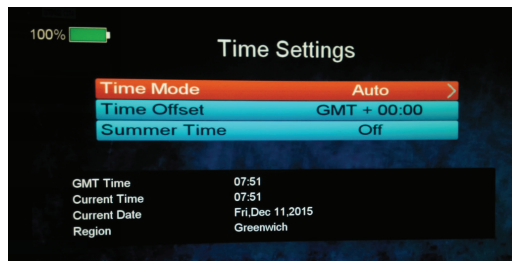
**3. Screen Mode:** Set the display format according to the screen ratio. Select TV screen mode either 4:3 or 16:9 according to the TV type, or press the MODE button of RCU directly.

**4. OSD Timeout:** Set the display time of the program information.

## 4.6.3 Times

*Menu->Settings>Times*

### 1. Time Settings



In this menu, you will set the time mode, time zone and summer time

### 2. Sleep Timer

Set the time to make receiver sleep automatically.

## 4.6.4 Factory Default

*Main Menu-> SETTINGS-> Factory Default*

In this menu, you can restore the product to the factory default and also setup it according to the wizard.

1. All: **All data and settings will be deleted.**

Tip: If you select "Yes" all data and setting will be lost. Then wait a moment, you will enter the wizard menu where you can set the parameter according your mind.

2. **Channel List Only:** All channels data will be deleted.

3. **Radio Channel Only:** All radio channels data will be deleted.

4. **Scramble Channel Only:** All scramble channels data will be deleted.

## 4.6.5 Color Settings

*Main Menu-> SETTINGS-> Color Settings*



You can set the Brightness/Contrast/Saturation in this menu.

## 4.6.6 Screen

**Main Menu-> Settings-> Screen**

In this menu, you can set up Sharpness/Brightness /Contrast/Saturation/LCD Backlight/LED Backlight.

## 4.6.7 System Info

**Main Menu-> SETTINGS-> System Info**

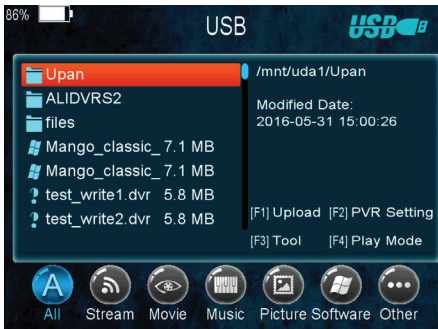
In this menu, you can get the information about the STB, such as Model ID, Hardware & Software version, Load version and Date. When you need service from the dealer you need to submit this information in order to get the correct and fast after sales service.

## 4.7 Expansion

### 4.7.1 USB

**Main Menu-> Expansion -> USB**

In this menu, you can press the ◀▶ key to select the category that you like to play. The media files are partitioned into all, Stream, Movie, Music, Picture , Software and other.



#### 1. Upload

You can upload software or database.

#### 2. PVR Setting

➤ **Record Partition**

Select the Partition where save your record or other result of your operation.

➤ **Record Mode**

Set the Record Mode Channel or Transponder.

➤ **Record Type**

Set the Record Type TS or PS.

➤ **Record Time**

Set the Record Default Time off, 30, 60, 90, 120 minute or input number directly.

➤ **Timeshift Buffer Size(MB)**

Set the Timeshift Buffer Size off, 100, 200, 400, 800, 1600, 3200, 6400MB.

➤ **Timeshift Need Save**

Set the Timeshift if need to Save.

➤ **Timeshift to Record**

It allows you to whether add the content of auto timeshifted into recorded file or not.

➤ **Play Start Pos**

When playing the PVR file, set the Play Start Pos whether head of the file or last pos (Stop play by manual last time) of the file.

### 3. Tool

You can do various operations when using USB HDD or USB disk. In this menu, you can Rename、Delete、Move、Copy、Create Folder、Sort and Format Disk.

### 4.Play mode

➤ **Loop**

Set the Loop state on Normal, Reverse, Random, Single or Off.

➤ **Slideshow Interval**

Set the Slide Show Interval from 2S-10S.

➤ **Photo View Mode**

Set the Photo View Mode state on Full Screen, 2x2 Thumbnail or 2x3 Thumbnail.

#### 4.7.1.2 Play Files

1. Go to **Main Menu ->Expansion->USB** to enter the USB menu.
2. Press the ◀/▶ key to select the file type.
3. Press the ▲/▼ key to change the folder or file and press the **OK** key to open the folder or play the file.

#### 4.7.1.3 Music

It supports \*.mp3 format music files.



**OK:** Play the selected file.

**▲/▼:** Change the highlighted item.

**◀/▶:** Adjust volume.

**EXIT:** Exit the current menu.

➤ **Play/ Pause**

Pause or play the selected file in play list.

➤ **Forward**

Fast forward.

➤ **Backward**

Fast backward.

#### 4.7.1.4 Picture

It supports \*.bmp, \*.jpeg format photos.

#### 4.7.1.5 Movie

It supports\*TS format movie files.

### 4.7.2 Wi-Fi

1. Plug in the wireless USB dongle to the USB port.

2. **Enter Menu->Expansion->WIFI>**

3. Select the network name of your Wi-Fi access point from the list.

4. Press the OK button, then input the right password.

5. Enter Menu-> Expansion->IP Setting.

If the Network is connected, it should get the correct IP address and display the "Connected".

### 4.7.3 IP Setting

#### *Menu->Expansion>IP Setting*

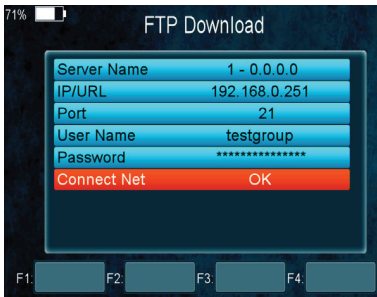
If the Network is connected fine, it will display "Connected". In this menu, you can set IP address manually, also you can get IP address automatically.

**F3:** Get IP address automatically.

**F4:** Test the network if connect correctly.

### 4.7.4 FTP Download

#### *Menu->Expansion>FTP Download*



If the Network is connected, you can download S/W, music, photo and other media files from the FTP.

### 4.7.5 PING

#### *Menu->Expansion>PING*

You can use Ping Test function to test the connection status of network.

## 4.8 Basic Operation

### 4.8.1 PVR

When you watch a program, you can press the **F4** key and select PVR item to begin PVR



#### 1. Start Recording

- 1) You can press the **F4** key then highlight the PVR item and press the **OK** key to start recording while watching program.
- 2) After you recording a program, you can press the **▲/▼** key to switch to another programme and press the **F4** key to record at the same time.

#### 2. Stop Recording

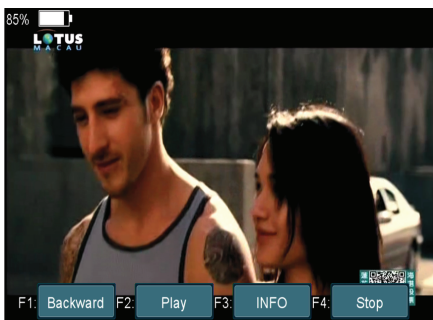
- 1) You can press the **F1** button to stop recording
- 2) If the free space on the USB HDD or USB disk is insufficient, recording will stop.

### 4.8.2 TP PVR

When you watch a program, you can press the **F4** key and select TP PVR item to begin TP PVR. It allows record all programmes under the same TP. At the same time, you can only watch the programme from the same TP.

### 4.8.3 Auto Timeshift

When you watch a program, you can press the **F4** key and select Auto Timeshift item to begin Auto Timeshift.



The function automatically saves the programmes you watch in the USB device.

While it is in timeshift mode, press the **F1** key can Fast backward the programme, press the **F2** key can play the programme, press the **F3** key can show , press the **F4** key can fast backward the programme. If you press the **EXIT** key can exit Auto Timeshift mode.

## V. Additional Information

### 5.1 Technical Specification

#### Satellite Tuner & Demodulator

Frequency Range	950MHz-2150MHz	
Input Connector	Female	
Signal level	-65dBm~-25dBm	
LNB supply	13/18V,max400mA	
LNB switch control	22KHz	
DiSEqC	DiSEqC 1.0 /1.1 / 1.2	
Symbol rate	2Mbps~45Mbps	
Spectral inversion	Auto conversion	

#### Terrestrial and cable Tuner & Demodulator

Frequency Range	107MHZ to 858MHZ	
Input Connector	IEC Female	
RF Impedance	75 $\Omega$ unbalanced	
IF Band width	6M, 7M, 8M	
Demodulation	COFDM	
FFT Mode	Auto	
Constellation	Auto	
Guard Interval	Auto	

Inner Coding Rate	Auto	
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## 5.2Glossary

### Antenna

A device that collects and radiates electromagnetic waves.

### AAC

Advanced Audio Coding, an audio compression format specified by MPEG-2 and MPEG-4, and successor to MPEG-1’s “MP3” format.

### MHz

The prefix mega means million, and Hertz means cycles per second.

### MPEG

Moving Picture Experts Group. Established by the International Standards Organization to provide the basis for a picture coding and compression system.

### PID (Packet Identifier)

A set of numbers that identifies transport stream packets containing data from a single data stream.

### Transponder

An automatic device that receives amplifies and retransmits a signal on a different frequency.







## HD-TRIO

Digital Combo meter  
DVB-S2+T2+C  
Pre BER Post BER  
Spectrum Analyzer

**Customer Name:** \_\_\_\_\_

**Serial No.:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Remark: 1. One year warranty

2. Warranty covers any manufacturing technical defect excluding breakage.

3. Warranty is void if repairing without our consent or warranty seal is broken

4. The warranty does not cover faults resulting from operation careless handling or not following instruction. Also to electric shock cases.

# WARRANTY CARD







