

Labgear

S501

Satellite & Terrestrial
Signal Meter

User Guide



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1. GUIDE

1.1 IMPORTANT SAFETY INSTRUCTIONS

Thank you for choosing our product. Before installation, we would like to remind you some notes, which is very important for operating safely and properly, as follows:

- Be sure to read this user manual before starting your operation.
- You must install the dish with correct direction and angle. If the dish is not working properly, contact your local dealer.
- When the unit is suddenly moved to a hot area from a cold area, it may cause some problems. In that case, turn off the power, and turn on again after 1-2 hours.
- Keep meter placed in clean space with sufficient ventilation.
- Do not cover the meter with or place it on a unit that emits heat.
- Clean the case by a soft cloth with a little washing liquid.
- Do not remove the cover.
- Do not let the unit exposed to extreme heat, cold or humid conditions.
- No liquids or any other materials to come inside of the unit.

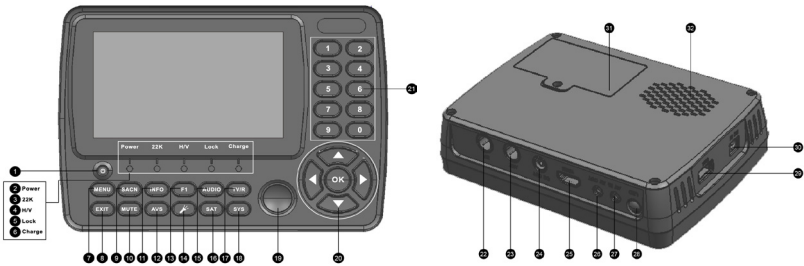
1.2 UNPACKING

Open the package and make sure it includes all below items, if any missing, please contact the reseller for replacement.

1. Digital Satellite Meter
2. User's manual
3. AV cable
4. Car charger cable
5. Power adaptor
6. Carrying bag
7. DC 12V connect line
8. BNC-Connector

NOTE: Please refer to our actual configuration.

1.3 PRODUCT OVERVIEW& ILLUSTRATION



NO	Description	FUNCTION
1		Turn on/off meter
2	Power	Power indicator light
3	22kHz	22kHz indicator light
4	H/V	Vertical /Horizontal polarization voltage output light
5	LOCK	Signal lock indicator light
6	Charge	Charger indicator light
7	MENU	Show the main menu on the screen or jump back to previous menu in sub-menu setting conditions
8	EXIT	Escape from present menu and save the settings
9	SCAN	Shortcut key for DVB-S2 menu
10	MUTE	MUTE
11	INFO	Channel information
12	AV-S	AV IN/OUT switch key
13	F1	Auxiliary function key
14		Turn on/off Torch
15	AUDIO	Audio type selection / Red key
16	SAT	Shortcut key for Sat Installation menu
17	TV/R	TV/Radio switch key
18	SYS	Shortcut key for System Setting menu
19	Compass	Mechanical compass
20	NEVIGATION KEY	Volume Control or move cursor, channel or change, confirm etc
21	0-9	Number key to select channels or enter programming

NO	Description	FUNCTION
22	RF	Connect to satellite antenna cable
23	ANT	Connect to antenna
24	DC OUT	DC 12V output for extern equipment
25	HDMI	HDMI output port
26	AV OUT	AV output port
27	AV IN	AV input port
28	LED	Torch
29	USB	USB port for software upgrading or multimedia playing
30	DC IN	Connect to power adaptor
31	Battery	Battery
32	Speaker	Speaker integrated

2. OUTLINE

- 4.3 Inch High Definition TFT LCD Screen
- Fully DVB-S/S2/T/T2/C compliant
- MPEG2, MPEG4, H.264/MPEG4 AVC, H.265/HEVC hardware decoding
- Digital meter for signal strength and quality
- Supports Auto Scan and Manual Scan
- Sound and Light Alarm for Locking Signal
- Auto Calculate Angle of AZ ,EL
- Supports DISEQC 1.0/1.1/1.2, Unicable, 0/22kHz Tone
- Speaker Integrated
- Support both AV out and AV in
- Support both HDMI out
- LNB short protect
- 7.4V/2600mAh Li-Ion Battery Included
- Software upgrade via USB port
- Easy to carry

3. THE MENU OSD INSTRUCTION

If you have installed and connected the cables to the finder, pressing **MENU** display the Main Menu.

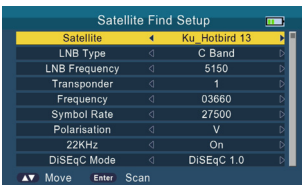
- DVB-S2
- DVB-T2
- DVB-C
- Loop Search
- Angle Calculation
- Others
- Multimedia
- System Setting



Press the keys of **▲▼◀▶** to move the cursor up or down in the menu interface, then use **OK** to confirm a selection.

3.1 DVB-S2

Select DVB-S2, then press **OK** into the Satellite Find Setup.



3.1.1 SATELLITE

Press **◀▶** key into the satellite list. Use **▲▼** key to move the cursor, then press **OK** to select the satellite you want.

3.1.2 LNB TYPE

There are 4 types you can select: C Band/Ku Band/Unicable I/Unicable II.

3.1.3 LNB FREQUENCY

Press **◀▶** key to switch LNB frequency you want.

3.1.4 TRANSPONDER

Press **◀▶** key into the TP list. Use **▲▼** key to move the cursor then press **OK**

to select the TP you want.

3.1.5 FREQUENCY

Frequency of the current transponder, input the value by using the number keys.

3.1.6 SYMBOL RATE

Symbol rate of the current transponder, input the value by using the number keys.

3.1.7 POLARISATION

Press ◀▶ key to change vertical or horizontal of polarization.

3.1.8 22KHZ

Press ◀▶ key to turn on or off 22kHz TONE Switch.

3.1.9 DISEQC MODE

Press ◀▶ key to set the type of port as None/DiSEqC1.0/1.1.

3.1.10 DISEQC TYPE & INPUT

In C/Ku Band mode:

we can press ◀▶ key to set DiSEqC 1.0/1.1 as A/B port, and set Tone Burst Mode as NONE/Tone Burst A/B.

In Unicable mode:

we can press ◀▶ key to switch IF Index from 1 to 8, or use number key to modify IF Freq, and then press ◀▶ key to select A/B as Sat Position.

3.1.11 LNB POWER

Press ◀▶ key to Switch LNB Power ON/OFF.

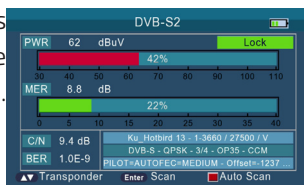
3.1.12 BEEP TONE

Press ◀▶ key to Switch beep tone ON/OFF. If we open it, the beep of lock alarm will open when we enter into the search screen.

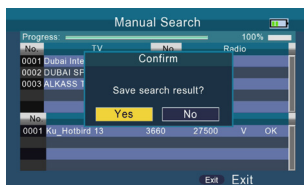
3.1.13 QUICK SEARCH

When parameters have been set done, press **OK** into quick search. There will have some signal information displayed on the screen.

Press **▲▼** key to change transponder.



- Scan: Press the ENTER key to search the current TP.



- Auto Scan: Press the red key to auto blind search the current satellite.



3.2 DVB-T2

Select DVB-T2, then press **OK** into the Scan Setup.



3.2.1 COUNTRY

Press **◀▶** key to change the default country.

3.2.2 CHANNEL NO

Press **◀▶** key to change the channel number.

3.2.3 FREQUENCY

Frequency of the current channel, input the value by using the number keys.

3.2.4 BANDWIDTH

Press **◀▶** key to change the bandwidth, we can select 5, 6, 7 or 8M.

3.2.5 MODE

Press ◀▶ key to change the DVB standard, we have there types including T/T2/T+T2, you can select one you want.

3.2.6 ACTIVE ANTENNA

Press ◀▶ key to switch antenna power ON/OFF.

3.2.7 LNB POWER

Press ◀▶ key to change the antenna power, there are 3 types including 5V/12V/24V.

3.2.8 LCN

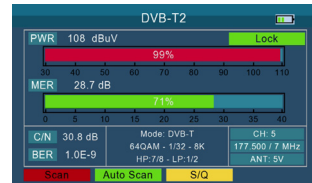
Press ◀▶ key to switch LCN ON/OFF.

3.2.9 BEEP TONE

Press ◀▶ key to Switch beep tone ON/OFF. If we open it, the beep of lock alarm will open when we enter into the search screen.

3.2.10 QUICK SEARCH

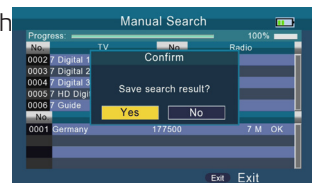
When parameters have been set done, press **OK** into quick search. There will have some signal information displayed on the screen.



- Scan: Press **OK** or red key to search current channel.



- Auto Scan: Press green key to auto search the current channel.



OK

- S/Q: Press blue key to enlarge showing of the signal strength and quality.



3.3 DVB-C

Select DVB-C, then press **OK** into the Scan Setup.



3.3.1 COUNTRY

Press ◀▶ key to change the default country.

3.3.2 CHANNEL NO.

Press ◀▶ key to change the channel number.

3.3.3 FREQUENCY

Frequency of the current channel, input the value by using the number keys.

3.3.4 STANDARD

There are 2 types of standard you can select: J83.A/C and J83.B.

3.3.5 BEEP TONE

Press ◀▶ key to switch beep tone. If we open the it, the beep of lock alarm will open when we enter into the search screen.

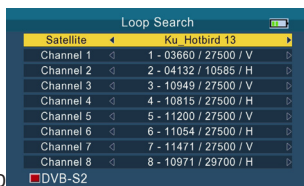
3.3.6 QUICK SEARCH

Please refer to 3.2.10.

3.4 LOOP SEARCH

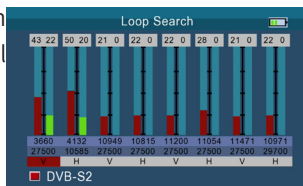
We can see 8 TP or channels when we enter into this interface, and press **OK** to edit.

There are 3 modes we can choose: DVB-S2, DVB-T2 and DVB-C. Press the red key to



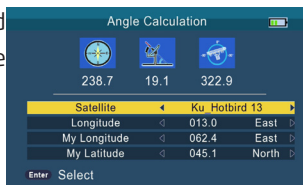
change.

It will finish loop search after edition, then signal strength and quality of each TP or channel will be displayed on the screen.



3.5 ANGLE CALCULATION

Input satellite longitude, local longitude and latitude by number key, and device will calculate the polarization angle, azimuth and elevation on the top of the screen.



3.6 OTHERS

- Channel Manager
- Satellite List
- Transponder List
- Motor Setting
- EPG



3.6.1 CHANNEL LIST

- SAT

Press F1 key to switch different channel list.

- Lock

Press ▲▼ key to select programs we want to lock, then press the red key to lock them.

- Del

Press the green key to delete current channel.

- Move

Select a channel first, then press the orange key to move to other position.

- Edit

Press the blue key to confirm channels which need operating.



3.6.2 SATELLITE LIST

All the satellite will be displayed on the screen.



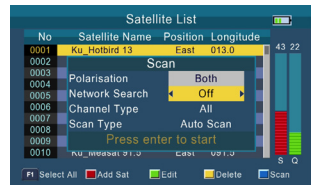
Press the red key to add a new satellite.



Press the green key to edit current satellite.

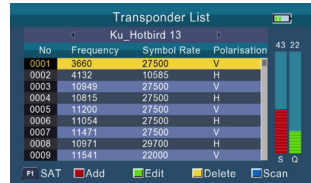


Press the orange key to delete current satellite.
Press the blue key to scan current satellite.



3.6.3 TRANSPONDER LIST

All the transponders under the current satellite will be displayed on the screen, and press ◀▶ key to switch satellite.



Press the red key to add a new transponder.



Press the green key to edit current transponder.



Press the orange key to delete current transponder.

Press the blue key to scan current transponder.



3.6.4 MOTOR SETTING

There are 5 modes in motor setting:

- USALS

Controlling motor according to your local position, you can modify it in Angle Calculation.

- DiSEqC 1.2

There are 64 position you can select to move motor.

- Set East Limit

Move motor to east.

- Set West Limit

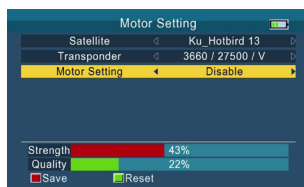
Move motor to west.

- Disable Limits

Unlimited movement.

Press the red key to save setting.

Press the green key to reset setting.



3.6.5 EPG

Press ▲▼ key to change program. If the current program has EPG information, it will appear on the right side of the window. Press ◀▶ key to change date of the EPG.



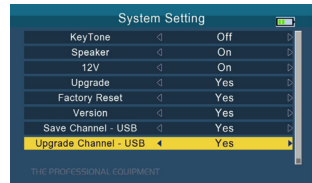
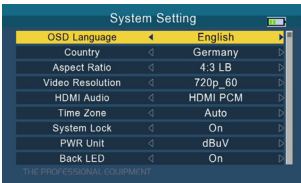
3.7 MULTIMEDIA

Will need to play the files in the USB and insert it into the USB port.

Select a file and press **OK** to play it.



3.8 SYSTEM SETTING



- Language
Press ◀▶ key to change the OSD language, default is English.
- Country
Press ◀▶ key to change the country.
- Aspect Ratio
Press ◀▶ key to change the aspect ratio: 4:3 LB/4:3 PS/16:9/full screen.
- Video Resolution
Press ◀▶ key to change the video output resolution: 480p/576p/720p/1080i/1080p.
- HDMI Audio
Press ◀▶ key to change the digital audio output format: PCM/RAW/MUTE.
- Time Zone
Press ◀▶ key to change the Time Zone.
- System Lock
Press ◀▶ key to switch system lock on/off.
- PWR Unit
Press ◀▶ key to change the PWR unit: dBm/dBuV/dBmV.
- Torch
Press ◀▶ key to switch torch on/off.
- Back LED
Press ◀▶ key to switch keyboard LED on/off.
- KeyTone

Press ◀▶ key to switch key tone on/off.

- Speaker

Press ◀▶ key to switch speaker on/off.

- 12V

Press ◀▶ key to switch DC 12V output on/off.

- Upgrade

Will upgrade the file into the USB, then insert the machine. Press **OK** to upgrade interface, use the direction key to select update file, and press **OK** to upgrade.

Warning: Please don't turn power off or pull out the USB, otherwise it will damage the machine's software, and can't boot again.

- Factory Reset

Press **OK** to start factory reset.

NOTE: if you set factory setting, all the user settings and the database will be reset.

- Version

Press **OK** to see some information about this hardware/software.

- Save Channel - USB

Save channel list to USB disk as default database.

- Upgrade Channel - USB

Restore channel list from USB disk as default database.

4. TECHNICAL SPECIFICATION

TRANSMISSION STANDARDS	
DVB-S2/S, DVBT/T2, DVB-C	
SATELLITE INPUT/DEMODULATION	
Connector Type	F Type
Input Frequency	950 to 2150 MHz
Signal Input Level	- 65 to -25 dBm
Band Switch Control	22KHz
LNB Supply	13V/18V, IMax 400mA
Demodulation Type	QPSK,8PSK,16APSK
Symbol Rate	2<Rs<45Mband(SCPC/MCPC)
DVB-T/T2/C INPUT/DEMODULATION	
Connector Type	Female Type
Input Frequency	48 to 862 MHz
Signal Input Level	-79.5dBm (MAX)
ANT Supply	5V, 12V/24V Imax 100mA
Demodulation Type	QPSK,16QAM.64QAM,256QAM
LCD FEATURES	
LCD Type	TFT Transmissive
Number of Dots	480 (RGB) x 272
Active area (WxH)	95.04x53.86 mm ²
AV output interface	
Connector Type	3.5 mm jack
Video Output	CVBS
Audio Output	Stereo Audio L/R output
HDMI output connector	
Format	HDMI 1.4
AV input interface	
Connector Type	3.5 mm jack
Video Input	CVBS
Audio Input	Stereo Audio L/R input
AUDIO/VIDEO PROCESSING	
Video decompression	MPEG-2 MP@HL, MPEG-1 Decoding,MPEG-4 ASP@L5 HD resolution,H.264 MP&HP@L4, H.265/HEVC,HW JPEG decoding

Resolving rate	PAL-25 frame@720*576,NTSC-30 frame@720*480
Signal compatibility	Support conversion for different video formats
Video Format	4:3,16:9,By Pan & Scan and Letter Box conversion
Audio Decompression	MPEG-1 Layer I/II, MPEG-2 Layer I/II
Audio Output Mode	Stereo, Mono,R/L
DATA SERVICE PORT	
Connector	USB
Data Protocol	USB2.0 interface
File Management System	NTFS,FAT32,FAT16
File Format	wma,mp3,mp4,avi,jpg,jpeg,bmp,img
POWER SUPPLY	
Li-Ion Battery	7.4V/2600mAh(The machine behind labeling shall prevail)
Adapter	OUTPUT :DC12V/1.2A, INTUPT :100~240VAC 50/60Hz(Will be subject to actual configuration)
Power Consumption	Max. 10W
PHYSICAL CHARACERSTICS	
Size (W x D x H)	17 x 12 x 4 (cm ³)
Net Weight	1kg

5. TROUBLE SHOOTING

Problem	Possible Causes	What To Do
No display light up	Power switch is not on Run out of batteries	Check to make sure power on. Even on adapter
No sound or picture, but the front panel power light is ON.	AV IN jack insert, but no video input	Pull out AV IN cable
No sound or picture	The satellite dish is not pointing at the satellite.	Adjust the dish. Check the Signal Level in the Antenna Setup Menu
Bad picture/Blocking Error	No signal or weak signal	Check the cable connections. LNB and other equipment connected between the LNB and the meter and adjust the dish.
	The satellite dish in not pointing at the satellite	Adjust the dish.
	Signal is too strong	Connect a signal attenuator to the LNB input
	Satellite dish is too small	Change to a larger dish
	LNB noise factor too high	Change to an LNB with lower noise factor
	The LNB is faulty	Change the LNB
AV out No picture(Video)	The system is connected by SCART cable and TV is not in AV mode.	Check the UHF channel fixed in your system and tune the UHF properly.
The key is not working	Out of battery	Even on adapter
	Key blocks	make sure no blocks between the front panel



Waste electrical and electronic products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority for recycling advice.