

Labgear

S701

Multiplatform DVB-S2/T2/C Signal Meter/Analyser

User Guide



General Safety

- Protect this product from rain, moisture, very high and low temperatures, strong magnetic fields and dusty environments
- Disconnect power to the unit before cleaning. Do not use abrasives or solvents to clean the surface of the unit, wipe with a clean soft cloth and a mild detergent if necessary.
- Do not disassemble the meter it contains no user serviceable parts. Refer servicing to qualified personnel only. Only the battery is replaceable.
- The meter should only be charged using the AC/DC adaptor or car adaptor supplied with it. Unplug the adaptor from the mains if the unit is not being charged.

Main Functions:

- Digital meter for signal strength and quality
- Spectrum analyser
- Constellation analyser
- Optical power measurement
- Auto calculation of Azimuth & Elevation angle
- Sound and Light Alarm for Locked Signal
- HDMI input and output
- AV out and AV in
- LNB short protection

Support for:

- MPEG-2 / H.264 / H.265 (10 Bit) Hardware decoding
- Fully DVB-S/S2/T/T2/C, MPEG-2/MPEG-4 compliant
- Supports Auto, Blind, Manual & NIT scans
- Supports DISEQC 1.0/1.1/1.2, Unicable, 0/22kHz Tone
- Supports Wi-Fi and Ethernet connectivity
- Software upgrade via USB por

Main Features:

- 7-Inch-High Definition TFT LCD screen
- 7.4V/5000mAh High-capacity Li-Ion battery
- Integrated Speaker
- Built-in LED Torch



Meter Controls and Connections

No	Key/LED	Function
1	Power	Power indicator light
2	H/V	Vertical / Horizontal polarization voltage output light
3	LOCK	Signal lock indicator light
4	CHG	Charger indicator light
5	0-9	Number key to select channels or enter programming
6	INFO	INFO key/Information on Channel/Transponders
7	MUTE	MUTE the sound
8	EXIT	Exit from current menu and save the settings
9	MENU	Show the main menu on the screen or jump back to the previous menu in sub-menu setting conditions
10	Navigation Keys	Volume adjust or move cursor, channel or change, confirm etc
11	F1	Auxiliary function key
12	F2	Auxiliary function key
13	F3	Auxiliary function key
14	AVS	Signal source switching key (HDMI In/AV In/Meter)
15	Red & AUDIO	Red KEY & Audio setting (Track/Mode)
16	Green & TV/R	Green key & TV and radio switch
17	Yellow & SAT	Yellow key & Shortcut key for Satellite signal/spectrum
18	Blue & SYS	Blue key & Shortcut key for System setting/EPG
19	Power Switch	Turn on/off meter
No	Port	Connection
20	LNB In	Connects to satellite cable
21	ANT In	Connects to terrestrial aerial downlead
22	USB	USB port connection for software upgrade or multimedia playing
23	HDMI OUT	HDMI output port
24	LAN	Ethernet connection port
25	AV OUT	Audio/Video output port
26	DC OUT	DC 12V output for external equipment
27	Optical fiber port	Connect to optical device
28	DC IN	Connect to power adaptor
29	AV IN	3.5mm Audio/Video input port
30	HDMI IN	HDMI input port
No	Feature	Function
31	Display	LCD Screen
32	Torch LED	Turn LED torch on/off

Box contents

- 1x Multiplatform Meter / Analyser
- 1x Silicon Case
- 1x Protective Shoulder Bag
- 1x Mains Charger/PSU
- 1x Car Charger
- 1x Charger Extension Cable
- 2x F Connector Adaptors
- 1x Jack to 3 Phono Lead
- 1x BNC Adaptor
- 1x Coax Adaptor
- 2x Optical Adaptors
- 1x User Guide

Operation

1. Charging / Powering

Connect the mains charger/PSU or the car charger to the DC In port 28 to charge/power your meter. The charger indicator LED 4 will light up during charging

2. Main Menu

Once all cables for testing are connected press the Power key 19 to start then press the MENU 9 key to display the Main Menu:

- Satellite • Terrestrial • Cable • Spectrum
- Network • Other • Media Center • Setting

Press the keys of ▲▼◀▶ to move the cursor around the screen from one menu item to another then press the OK key to confirm the selection.

2.1. Satellite

Select Satellite, then press OK to enter Satellite Setup.

2.1.1 Satellite list

Press OK to enter the satellite list. Use the ▲▼ keys to move the cursor, then press OK to select the satellite you want. (Sky UK = 28.2E Ku_Astra 28.2)

2.1.2 LNB Frequency

Press OK to enter the LNB Frequency list. Use the ▲▼ keys to move the cursor, then press OK to select the LNB Frequency you want.



2.1.3 Transponder

Press OK to enter the TP list. Use ▲▼ keys to move the cursor then press OK to select the TP you want.

2.1.4 Frequency

The frequency of the current transponder, input the value using the number keys.

2.1.5 Symbol Rate

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

2.1.6 Polarity

Use the ◀▶ keys to select vertical or horizontal polarization.

2.1.7 22KHZ

Use the ◀▶ keys to turn 22kHz TONE Switch On/Off

2.1.8 DISEQC 1.0

Use the ◀▶ keys to set the DiSEqC 1.0 port range from port 1 to port 4.

2.1.9 DISEQC 1.1

Use the ◀▶ keys to set the DiSEqC 1.0 port range from port 1 to port 16.

2.1.10 LNB Power

Use the ◀▶ keys to Switch LNB Power On/Off.

2.1.11 Quick Search

When parameters have been set, press OK to enter Satellite quick search.

Signal information will be displayed on the screen.

- TP Search: Press OK to search the current TP.

- Auto Search: Press the Red key to automatically search for the current satellite.

- Constellation: Press the Green key to enter the constellation.

- Spectrum: Press the Yellow key to enter the Satellite Spectrum, Please refer to 3.4.1 Spectrum_S2 for detail.

- Capture: Press the Blue key to capture the current picture (a USB storage device must be connected).



2.2 DVB-T/T2

Select Terrestrial, then press OK to enter the terrestrial Setup.

2.2.1 Country

Press OK to enter the country list. Use ▲▼ keys to move the cursor, then press OK to select the country you want.

2.2.2 Channel

Press OK to enter the channel list. Use ▲▼ keys to move the cursor, then press OK to select the channel you want.

2.2.3 Frequency

The frequency of the current channel, input the value using the number keys.

2.2.4 Bandwidth

Use the ◀▶ keys to change the bandwidth, select 5, 6, 7 or 8

2.2.5 LCN (Logical Channel Number)

Use the ◀▶ keys to switch LCN On/Off.

2.2.6 Antenna Power

Use the ◀▶ keys to change the antenna power setting, there are 3 options: 5V/12V/24V.

2.2.7 Antenna Setup

Use the ◀▶ keys to switch the antenna power On/Off

2.2.8 Quick Search

When parameters have been set, press OK to enter quick search.

Signal information will be displayed on the screen.

• TP Search: Press OK to search the current TP.

• Auto Search: Press the Red key to automatically search for the current country channels.

• Constellation: Press the Green key to enter the constellation.

• Spectrum: Press the Yellow key to enter the Terrestrial Spectrum. Please refer to 2.4.1 Spectrum_T2 for detail.



2.3 DVB-C

Select Cable, then press OK to enter the Cable Setup.

2.3.1 Country

Press OK to enter the country list. Use ▲▼ keys to move the cursor, then press OK to select the country you want.

2.3.2 Channel

Press OK to enter the channel list. Use ▲▼ key to move the cursor, then press OK to select the channel you want.

2.3.3 Frequency

The frequency of the current channel, input the value using the number keys.

2.3.4 Symbol Rate

Input the symbol rate using the number keys.

2.3.5 Modulation

Use the ◀▶ keys to switch modulation mode, select from QPSK/QAM16/QAM32/QAM64/QAM128/QAM256.

2.3.6 Antenna Power

Use the ◀▶ keys to change the antenna power setting, there are 3 options: 5V/12V/24V.

2.3.7 Antenna Setup

Use the ◀▶ keys to switch the antenna power On/Off.

• Capture: Press the blue key to capture the current picture (USB storage device must be connected).

2.3.8 Quick Search

Please refer to 2.2.8.



2.4 Spectrum

- Spectrum_S2
- Spectrum_T2
- Spectrum_C

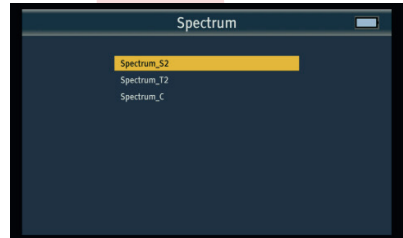
2.4.1 Spectrum_S2

Use the ◀▶ keys to set the Frequency;

Press the Red key to select a span option: 240MHz/640MHz/Full;

Press the Green key to select vertical or horizontal polarization;

Press the Yellow key to switch 22K On / Off;



2.4.2 Spectrum_T2

Use the ◀▶ keys to change Frequency;

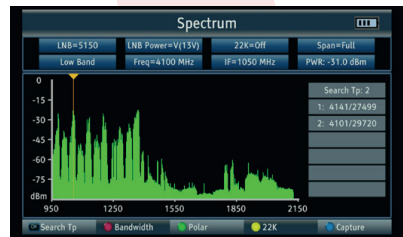
Press the Red key to change span Full/Channel;

Press the Green key to enlarge showing the point you selected,

press again to change view back.

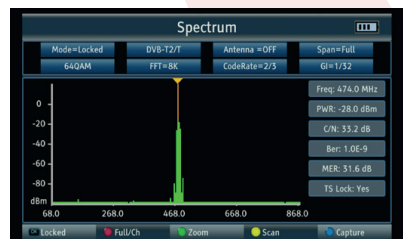
Press the Yellow key scan the current channel.

Press the Blue key to capture the current screen shot (make sure a USB storage device is connected to store the image to).



2.4.3 Spectrum_C

Please refer to 3.4.2.



2.5 Network

- WiFi
- Ethernet
- Youtube

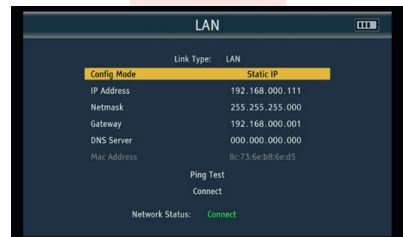
2.5.1 Wi-Fi

- Link Type: The current link type is Wi-Fi
 - Wi-Fi Manager: Press OK to enter the Wi-Fi Manager interface, and display the Wi-Fi device list, select the one you want to connect to.
 - Config Mode: Supports DHCP mode and Static IP mode
- In Static IP mode:
- IP Address: Use the number keys to Input IP address
 - Netmask: Then use the number keys to input Netmask address
 - Gateway: Then use the number keys to input Gateway address
 - DNS Server: Then use number keys to input DNS Server address
 - Mac Address: Local Mac address.
 - Ping Test: Test network using ping IP address.
 1. URL Type: Use the ◀▶ keys to select URL Type, Number type and String type;
 2. IP Address: Use the number keys to input the IP address or domain name
 3. Times: Set the number of repeats for the Ping test.
 4. Start: Start testing button.
 - Connect: WiFi connection button.



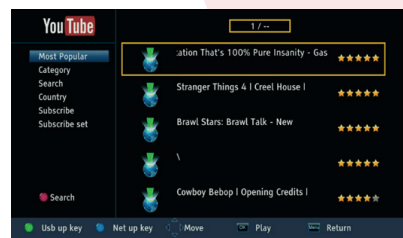
2.5.2 Ethernet

Please refer to 2.5.1.



2.5.3 YouTube

Built in YouTube application.



2.6 Others

- TV Channel List
- Radio Channel List
- Satellite List
- Transponder List
- Motor Setup
- Scan Mode
- Loop Search
- Angle Calculation
- Optical Power

2.6.1 TV Channel List

Shows TV channel list and channel

- Group: Press the F1 key to switch to a different group in the channel list,
- Lock: Press the Red key to enter lock mode, then press OK to mark the channel you want to lock,
- Skip: Press the Green key to enter skip mode, then press OK to mark the channel you want to skip,
- Move: Press the Yellow key to enter move mode, then press OK to mark the channel and ▲▼ keys to move cursor where you want to insert the channel. Then, press the INFO key to complete the channel move,
- Edit: Press the Blue key to enter edit mode.
 1. Sort: Press the Red key to list sort type: Name(A-Z), Name(Z-A), Free/Scramble, Lock, Default, Top up and Top down,
 2. Edit: Press the Green key to enter edit mode, press OK to start renaming channel,
 3. Del: Press the Blue key to enter delete mode, press OK to mark the channel you want to delete it.



2.6.2 Radio Channel List

Please refer to 3.7.1 TV Channel List.

2.6.3 Satellite List

All satellites are displayed, Press the F1 key to switch to the transponder list for the current satellite.



Press the Red key to add a new satellite to the list

Press the Green key to edit selected satellite information

Press the Yellow key to delete the current satellite from the list.



Press the Blue key to scan the current satellite.

2.6.4 Transponder List

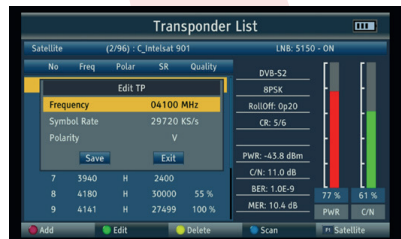
All the transponders under the current satellite will be displayed on screen, Press the F1 key to go to the satellite list.



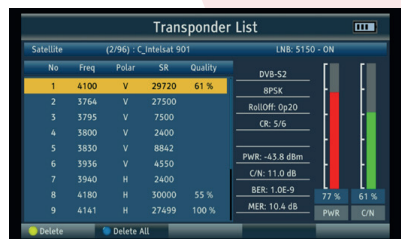
Press the Red key to add a new transponder to the list.



Press the Green key to edit the current transponder.



Press the Yellow key to delete the current transponder.



Press the Blue key to scan the current transponder.

2.6.5 Motor Setup

There are 5 modes in motor setup:

- USALS
- DiSEqC 1.2
- East Limit
- West Limit
- Disable Limit

Press the Red key to turn to the previous page.

Press the Green key to turn to the next page.

Press the Yellow key to start TP search.

Press the Blue key to recalculate motor.

2.6.6 Scan Mode

- FTA Only: Select Free-to-air mode or not.
- Scan Channel: Select TV+Radio, TV Channel or Radio Channel.
- Network Search: Only use in Full Scan mode.
- Auto Search: Select Blind Scan or Full Scan.

2.6.7 Loop Search

1 country/satellite and 8 channels are displayed in this menu use the ◀▶ keys to change them.

There 3 available modes: DVB-S2, DVB-T2 and DVB-C, press the Yellow key to change modes.

Press OK to start loop search

Signal strength and quality for each channel is displayed. Very useful for a quick scan of 8 local mux 's on DVB-T.

2.6.8 Angle Calculation

Input satellite longitude, local longitude to calculate the polarization angle, azimuth and elevation which is displayed in the top half of the screen.

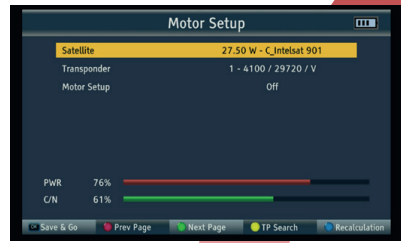
Press the Red key to calibrate.

2.6.9 Optical Power

Connect the fibre optic cable to the optical port using one of the adaptors supplied.

To test the optical power use the ◀▶ and ▲▼ keys to select the wave length and PWR unit.

The test result is displayed in the middle of the screen.



2.6.10 Multimedia

Before entering the Media Center interface, connect the USB device with media stored on it to the USB port.

- Music/Picture/Movie

Select media type.

Select a file and press OK to play it.

- Record Manager

Press the Red key to rename file.
Press the Green key to partition file.
Press the Yellow key to lock file.
Press the Blue key to delete file.

- Ts Record

Press the OK button to record the TS file after the signal is locked.



2.7 System Settings



- Language: Use the ◀▶ keys to change the OSD language, the default is English.
- Country: Use the ◀▶ keys to change the country.
- TV System: Use the ◀▶ keys to select the TV system type: PAL/NTSC/Auto.
- Video Resolution: Use the ◀▶ keys to select the video output resolution: 576i/576p/720p/1080i/1080p/Auto.
- Aspect Mode: Use the ◀▶ keys to select the aspect ratio: 4:3 LetterBox/4:3 PanScan/16:9/Auto.
- GMT Offset: Use the ◀▶ keys change the Greenwich Mean Time offset.
- Beep Tone: Use the ◀▶ keys to switch the beep tone On/Off.
- Torch: Use the ◀▶ keys to switch the torch On/Off.

- PWR Unit: Use the ◀▶ keys to select units for PWR: dBm/dBuV/dBmV.
- Back LED: Use the ◀▶ keys to switch the keyboard LED backlight On/Off.
- Key Tone: Use the ◀▶ keys to switch the key tone On/Off.
- Speaker: Use the ◀▶ keys to switch the speaker On/Off .
- 12V: Use the ◀▶ keys to switch DC 12V output On/Off.

Parental Lock: Use the number keys to enter the password (default password is 0000)

1. Age Limit: Use the ◀▶ keys to see options; Lock All, View All, 7 years, 12 years , 15 years and 18 years press OK to select.
2. Menu Lock: Use the ◀▶ keys to switch menu lock on/off.
3. Channel Lock: Use the ◀▶ keys to switch channel lock on/off.
4. New Password: Use the number keys to set a new password.
5. Confirm Password: Re-enter to confirm the new password.

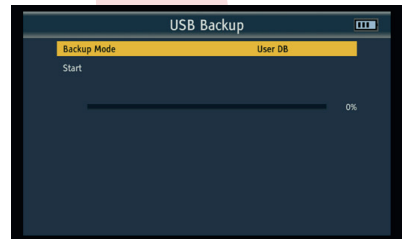
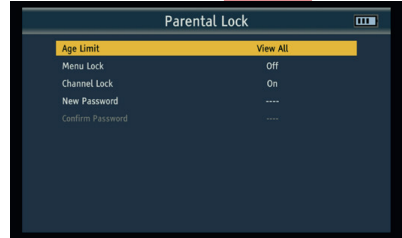
- Factory Setting: Press OK to start a factory reset.

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

- USB Upgrade: Before entering the USB Upgrade interface, you need to connect the USB upgrade source to the USB port. Use the ◀▶ keys to select an Upgrade Mode: All Code, Maincode or User DB.

Select an upgrade file, then press the Start button to upgrade.

WARNING: Please don't turn the power off or disconnect the USB, during an upgrade as this may damage the meter's software, and prevent it booting up again.

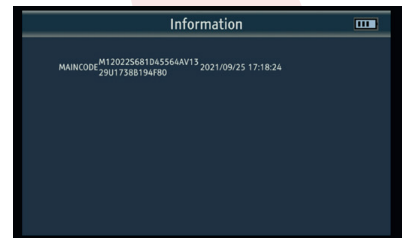


- USB Backup: There are two backup modes: select User DB and Preset.

Press the Start button to backup.

- Software Version

Press the INFO key to see information about MAINCODE.



3. Technical Specifications

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	800 x 3(RGB) x 480
Active area (WxH)	154.08 x 85.92 mm2
AV output interface	
Connector Type	3.5 mm jack
Video Output	CVBS
Audio Output	Stereo Audio L/R output
HDMI output connector	
Format	HDMI 1.3a
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-1Decoding,MPEG-4 ASP@L5 HD resolution,H.264 MP&HP@L4,HW JPEG decoding, HEVC/H.265(10 Bit)
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/5000mAh
Adapter	OUTPUT :DC12V/1.5A, INTUPT:100~240VAC 50/60Hz
Power Consumption	Max. 10W
Physical Characerstics	
Size (W x D x H)	25 x 15.6 x 4 (cm3)
Net Weight	1kg

4. Power Supply Specifications

Power Supply: ErP/EuP directive No. (EU) 2019 (1782)	
Manufacturer Trademark Address	Philex Electronic Ltd, London Road, Bedford, MK42 0NX, UK, Registration No. 339123
Model identifier	YB03A-120150B
Input voltage	100-240VAC
Input AC frequency	50/60Hz
Output voltage	12V DC
Output current	1.5A
Output power	18.0W
Average active efficiency (230V/50Hz)	88.81%
Efficiency at low load (10 %) (230V/50Hz)	86.65%
No-load power consumption (230V/50Hz)	0,07W

5. Troubleshooting

Problem	Possible Causes	What To Do
Display doesn't light up	Power not on Run Battery not charged	Check to make sure power is on. Check adaptor is powered
No sound or picture, but the front panel power light is ON.	AV IN port connected, but no video input	Check AV IN connection
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 all cable connections for 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 image (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.
A key/s are not working	Battery not charged	Check adaptor is connected and powered
	Key blocked	Make sure no blocks between the front panel

5. Technical Support

For further information or any queries please contact

Technical Support:

www.labgear.co.uk/support

6. Disclaimer

Updates to Firmware and/or hardware components are made regularly. Therefore some of the instructions, specifications and pictures in this documentation may differ slightly from your particular situation. All items described in this guide are for illustration purposes only and may not apply to your particular situation. No legal right or entitlements may be obtained from the description made in this manual.

7. Declaration Of Conformity

Philex Electronic Ltd. hereby, declares that the radio equipment: model S701 Multiplatform Signal Meter / Analyser is in compliance with the Radio Equipment Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.philex.com/doc



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.



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