DEVISER C1200 Plus Catv Signal Level Meter Instruction Manual

Contents

DEVISER C1200 Plus Catv Signal Level Meter

FAQs

- **Q: What should I do if there are signs of shipping damage to the outer enclosure?**
  - A: If there are signs of shipping damage, do not perform electrical tests and contact the manufacturer or authorized distributor for assistance.
- **Q: How long is the warranty period for the C1200+ DVB-C Meter?**
  - A: The product is warranted against defects for 12 months from the date of shipment.

Warranty

Safety Notices

Observe the following safety precautions whenever you operate any Deviser Instruments equipment. Failure to comply with these and other specific warnings and cautions is a violation of Deviser Instruments Inc.'s safety standards of design, manufacturing, and intended use of the measurement device. Deviser Instruments Inc. assumes no liability for the operator's failure to comply with these precautions.

Product Damage

- Danger! Do not use this product if it shows visible damage, fails to perform, has been stored in unfavorable conditions, or has been subject to severe transportation stresses. Make the product inoperative and secure it against any unintended operation. Contact
- your Deviser Instruments Inc. representative for assistance.
- Explosion Hazard Danger! Do not operate the instrument in the presence of flammable gases or fumes.
- Electric Shock HazardDanger! To avoid the possibility of severe injury or death, observe the following

precautions when using any Deviser Instruments equipment:

- Do not remove the system covers, and do not perform electrical tests if there are signs of shipping damage to the outer enclosure.
- When connecting test cables to a line, do not touch the cable's metal contact points, or allow the cable leads to touch each other.
- Use only the supplied power cords and connect only to a properly grounded wall outlet. Do not use extension cords that do not have a protective ground conductor.

Symbols

The following are general definitions of safety symbols used on equipment and in manuals.

This Deviser Instruments Inc. product is warranted against defects in material and workmanship for 12 months from the date of shipment. During the warranty period, Deviser Instruments Inc. will, at its option, either repair or replace products that prove to be defective. For warranty service or repair, this product must be returned to an authorized service center designated by Deviser Instruments Inc. The buyer shall prepay shipping charges to Deviser Instruments Inc or the service center and Deviser Instruments Inc or the service center shall pay the shipping charges to return the product to. However, the buyer is responsible for all shipping charges, duties, and taxes, both ways, for products returned to Deviser Instruments Inc. or one of its authorized service centers that are out of the warranty period. Deviser Instruments Inc. warrants that its software and firmware are designated by Deviser Instruments Inc. for use with Deviser Instrument equipment, and will execute its programming instructions when properly installed on that instrument. Deviser Instruments Inc. does not warrant that the operation of the instrument, software, or firmware will be uninterrupted or error-free but strives to ensure the best operating

condition as per specifications and datasheets.

LIMITATION OF WARRANTY

Unauthorized repair or update, physical damage, or improper operational voltage (at the power supply or RF input) will void this warranty. The main lithium battery is covered for a period of 12 months. The foregoing warranty shall not apply to defects resulting from improper or inadequate use or maintenance by Buyer, Buyer-supplied software or interfacing, unauthorized modification or misuse, or operation outside of the environmental specifications for the product. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. DEVISER INSTRUMENTS IINC.SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Maintenance and Safety

Considerations

Calibrating the Meter

All the instruments have analog circuitry: preamplifiers, and filters, whose performance can change over time. A regular schedule of calibrations will keep your instrument in optimal condition to support your design, troubleshooting, and manufacturing work.
It is recommended to calibrate and verify the meter at least once a year to ensure that the meter meets the original designed performance and specifications. To avoid damaging the default calibration data stored in a non-violated memory, a calibration to the meter can only be done by an authorized service center and qualified personnel with appropriate equipment. For detailed information on the calibration procedures, please contact the factory or authorized distributor. Environmental condition: Calibration or verification test should be performed under laboratory conditions whereby the ambient temperature or relative humidity can be controlled. Warm-up: Allow up to at least 5 minutes warm-up before performing calibration to the meter. After exposure or storage in a high humidity (condensing) environment, a relative recovery period is required essentially.

About Battery, Adapter, and Firmware upgrade

Please charge-discharge the battery every 3 months to extend battery life!

- **Warning** Danger of explosion if the battery is incorrectly replaced. Replace only with the same type of battery recommended. Do NOT dispose of batteries in a fire. Do NOT place batteries in the trash. Batteries must be recycled or disposed of properly.
- **CAUTION**: Recharge the battery only in the meter. If left unused, a fully charged battery will discharge itself over time.
  Never use a damaged or worn-out adapter or battery. Charging the batteries internally, even while the analyzer is powered off, the analyzer may keep warm. To avoid overheating, always disconnect the analyzer from the AC adapter before storing the analyzer in the soft carrying case.
- **CAUTION**: Connect the automotive adapter to the power output connector for IT equipment, when charging the battery on your automotive.
- **CAUTION**: Temperature extremes will affect the ability of the battery to charge. Allow the battery to cool down or warm up as necessary before use or charging. Storing a battery in extreme hot or cold temperatures will reduce the capacity and lifetime of a battery. Battery storage is recommended at a temperature of less than 25°C. The analyzer cannot be used in the standard soft carrying case for more than 1 hour if the ambient temperature is higher than 35°C.
- **CAUTION**: Use only the original AC-DC adapter or originally supplied battery for the power source. Whether the

meter works or is powered off, you can charge the battery.

1. Insert the battery in the analyzer.
2. Plug in the AC-DC adapter and switch on the external power.
3. The charge indicator lights indicate that the battery is charging. When the battery is fully charged, the green charging indicator turns off. The charging time for a fully depleted battery is approximately four hours. If the meter is powered on, the charging time is longer.

- **CAUTION**: In the updating process, there must be a constant power supply for at least 10 minutes. If power fails during the updating process it can cause damage to the instrument.

General Introduction

C1200+ DVB-C Meter is specially designed for installation and field technicians seeking to quickly ensure the quality of digital and analog cable services. With a Streamlined appearance design and simple user interface, C1200+ offers the most cost-effective choice for a variety of applications. The digital measurements include modulation error ratio (MER), and pre-and post-FEC bit error rate (BER). It also possesses the features expected in a good SLM including analog channel video level, video-to-audio level, full scan, and tilt, etc. This palm-sized meter with only 350g weight allows the field technicians to work for 4 hours continuously.

Panel Introduction

Appearance

Figure 3-1 Front Side Introduction

Figure 3-2 Right Side Introduction

Keypad

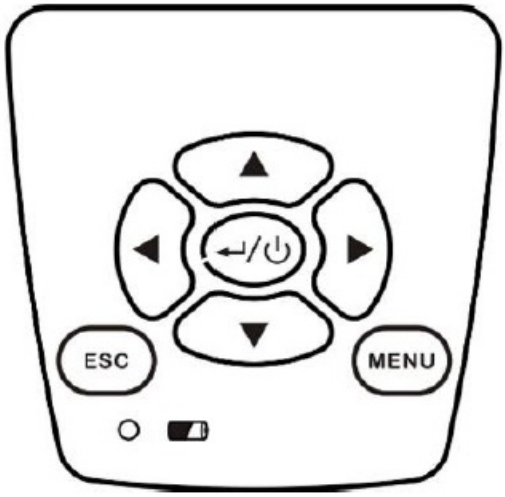


Figure 3-3 Keyboard

- , Increase and decrease.
- . Left and right circle selection.
- Power on/off (hold it over 3 seconds to power off) or Confirmation.
- Main Menu.
- Return to the previous menu or cancel.
- Charger Indicator

Display Description

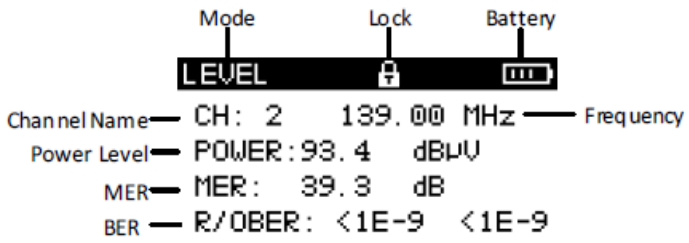


Figure 3-4

- Mode
- Lock
- Channel Name The Frequency, Power Level, MER, and BER are displayed on the same screen.
- Battery Capacity of battery.

Power Supply

Battery

With a built-in 7.4V /1.6AH Lithium battery, the meter can continuously work for above 4 hours. When the battery voltage drops below 6.0V, C1200+ Plus will automatically power off, and then users must charge it with the attached charger for about 3 hours.

NOTE:

1. Only use the charger provided with the meter.
2. Power off the meter when charging.
3. A lower temperature may cause the battery capacity reduction but does not damage the battery.
4. Replace a new battery when the battery working time is reduced.

Charging

Charge the meter before the first time use. Please charge the meter as follows:

1. Insert the charger output plug into the C1200+ DC charge socket.
2. Connect the charger to AC 100V-240V Power and the charger indicator of the meter with a red light.
3. When the indicator switches to green, the instrument has been fully charged(It is suggested to charge an extra one hour after the indicator is switched to green, which will be helpful to extend the battery life). Then you can disconnect the power and pull out the charger output plug.

NOTE: Only charge in the temperature 10°C 35°C.

Using the Instrument

Power on C1200 +, as Figure 5-1.

Figure 5-1

Figure 5-2

These icons are listed in C1200+ Main Interface: LEVEL, TILT, SCAN, C/N, TRUNK, and SETUP option. Press “Left and Right” to select the functions, press “ENTER” to enter the function

Level Test

C1200+ can measure both analog and digital signals, as Figure 5-3 Analog Signal Measurement Interface and Figure 5-4 Digital Signal Measurement Interface.

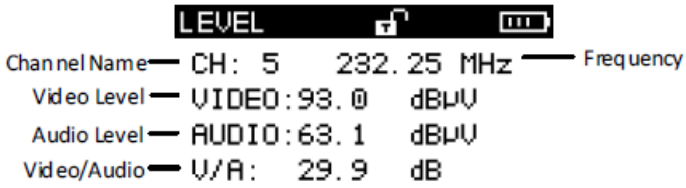


Figure 5-3 Analog Signal Measurement

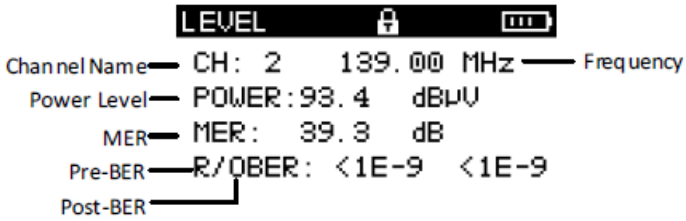


Figure 5-4 Digital Signal Measurement Interface

Press “Up and Down” to select CH, and press “Left and Right” to edit the Channel parameters.

Enter the edit channel parameters interface, press “Up and Down” to select the parameter item, press “Left and Right” to choose the edit position, and press “Up and Down” to select the parameter value. Press  to confirm the operation. If you complete all parameters edit, you must choose the last item “SAVE AND EXIT”, otherwise the meter can’t save any changed content.

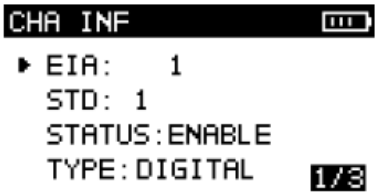


Figure 5-5

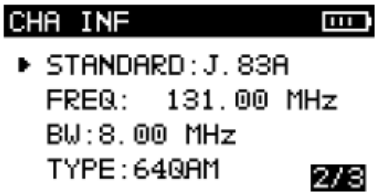


Figure 5-6

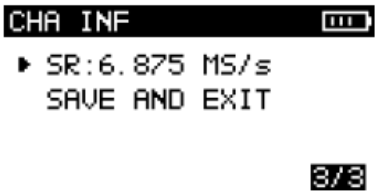


Figure 5-7

Tilt

The tilt/Level list test is the effective solution to check the flatness and splitter's gain of the cable system, C1200+ can get levels of 8 channels and observe the measurement result and graph easily. Users must choose at least two channels to do tilt measurement.

Figure 5-8

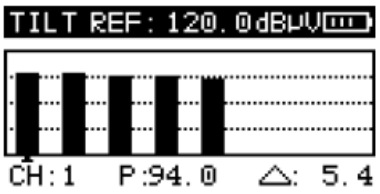
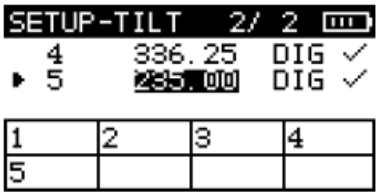


Figure 5-9 Tilt



1	2	3	4
5			

Figure 5-10 SETUP-TILT

Channel Scanning

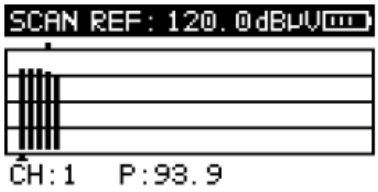


Figure 5-11 Channel Scanning

C1200+ supports a channel scanning function to test the flatness and amplitude of cable TV systems quickly.

C/N Measurement

Press “Up and Down” to select CH, and press “Left and Right” to edit the Channel parameters.

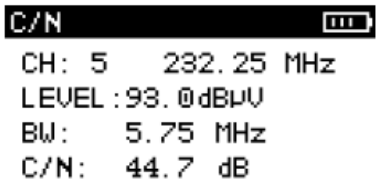


Figure 5-12 C/N

Parameter BW is Noise measurement bandwidth. For different TV standards, use different noise bandwidths. The meter uses offset (Vison-sound carrier spacing) to modify noise bandwidth. The below describes the different standard required noise bandwidth settings and related offset (Vison-sound carrier spacing) value settings.

Standard	B G	D K	M N
Video bandwidth	5.75	6.75	4.95
Vison-sound carrier spacing (Offset)	5.5	6.5	4.5
Noise bandwidth	4.75	5.75	4.00

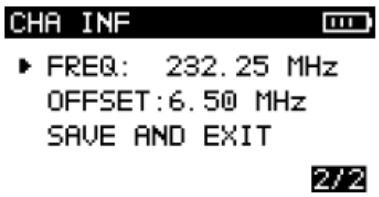


Figure 5-13

After setup parameters, must choose the “SAVE AND EXIT” option to save your modification.

Trunk Voltage

As Figure 5-14 and Figure 5-15, you can get the Trunk Voltage in this interface. The meter automatically judges whether the trunk voltage is AC or DC.

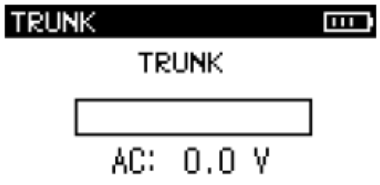


Figure 5-14

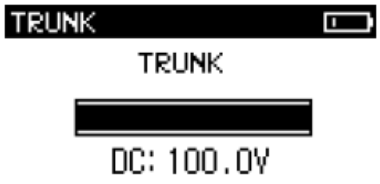


Figure 5-15

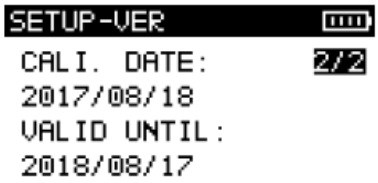
Setup

Press to select “SETUP” in the main menu. Press to set the interface as Figure 5-16, and choose “INFORMATION”.

Figure 5-16

System InformatioFor thehe information on the instrument, Refer to Figure 5-17 and Figure 5-18. It includes the serial number, software version, hardware version, calibration date, and so on.

Figure 5-17



General

Press to select “Configure” in Figure 5-16, then select the “CONFIGURATION” icon, as in Figure 5-19.

Figure 5-19

1. **Backlight**

- Set the backlight ON and OFF by pressing or , referring to Figure 5-20.

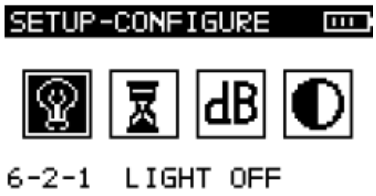


Figure 5-20

Shutdown Time

Set shutdown time for inactive keypad after 5 minutes, 15 minutes, 30 minutes, and on by pressing or Refer to Figure 5-21.

Figure 5-21

Level Units

Set level unit dBuV, dBmV, or dBm by pressing or buttons. Refer to Figure 5-22.

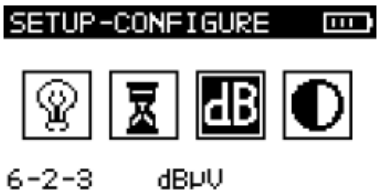


Figure 5-22

LCD Contrast

As Figure 5-24. Press or to adjust the contrast.

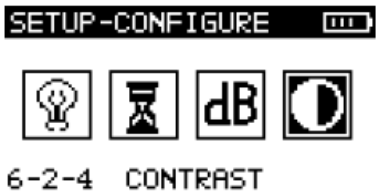


Figure 5-23

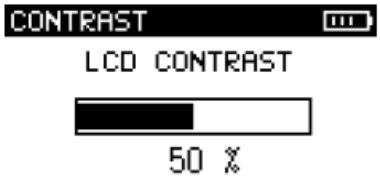


Figure 5-24

Channel Plan Setup

In the setup interface, select the “CH SETTING” icon.

Figure 5-25

The ANA is an analog TV channel, the DIG is a digital channel. A default Channel Plan is programmed in C1200+ when delivery. You can modify the Channel Plan parameters in this interface. As Figure 5-26:

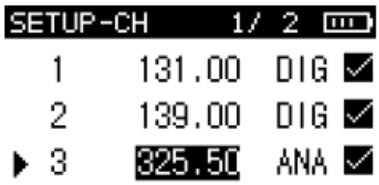


Figure 5-26

In the same time, you can also modify and edit the Channel Plan through Toolbox software on PC, and upload the Channel Plan to C1200+, or press “ENTER” to edit the selected plan by hand. In the DIG channel press STATUS TYPE

STANDARD FREQ SR BW TYPE press to enter into parameters edition and press or to input parameters. As Figure 5-27, Figure 5-28, Figure 5-29:

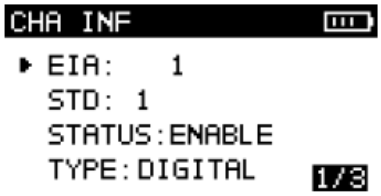


Figure 5-27

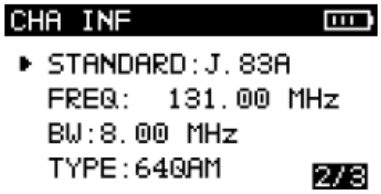


Figure 5-28

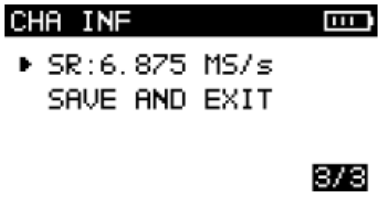


Figure 5-29

After you complete modify parameters, you must move the cursor on the “SAVE AND EXIT” item and confirm. If you do not save modifications, any change can’t be saved. In the ANA channel press STATUS TYPE FREQ OFF SET OFF SET press to enter into parameters edition, and press or to input parameters. As Figure 5-30, Figure 5-31 :

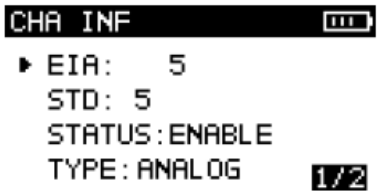


Figure 5-30

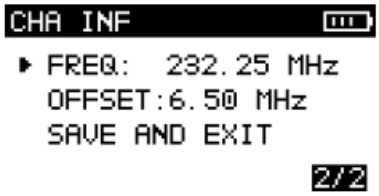
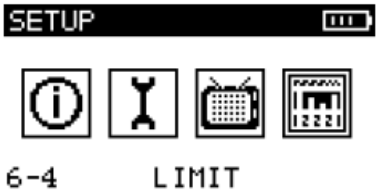


Figure 5-31

The parameter “OFFSET” can change the carcarrier-to-noisetio to measure noise bandwidth. The detailed information please reference part 5.4. User also can use PC-installed Toolbox software to generate new channel plans and download them to a meter or upload the meter-used channel plan on their PC and edit this channel plan. If use the tool box download the channel plan on the meter, the meter used channel plan will be overwritten.

LIMIT Setup

Move the cursor on the LIMIT icon, press  enter on the LIMIT setup interface.



As Figure 5-32, you can press  VIDEO VA POWER MERMER press  to enter into parameters edition, and press  or  to input parameters.

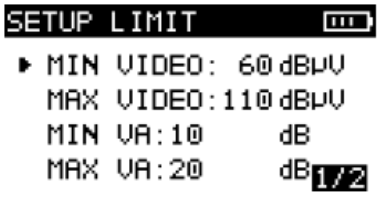


Figure 5-32

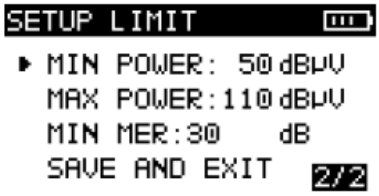


Figure 5-33

Battery State

Move the cursor on the BATTERY icon, press  enter the battery remaining capacity interface.

Figure 5-34

The battery's remaining capacity is shown as a column graph in Figure 555. When the voltage is lower than 0%, the instrument will automatically power off.

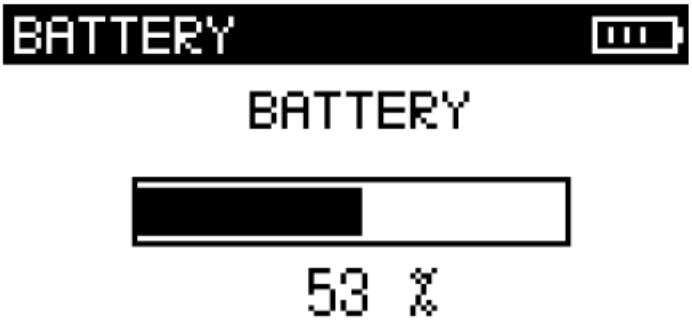


Figure 5-35

Power Saving

Move the cursor on the POWER SAVING icon, and press enter the power saving interface, as Figure 5-36 and Figure 5-37 show.

Figure 5-36

Figure 5-37

If the usisois fofthe power-saving item, the meter will always work till the battery's remaining capacity is 0% and automatically power off the meter.

USB Port

The instrument can communicate with a PC through the Mi Mini USB communication port. Refer to Figure 6-1.

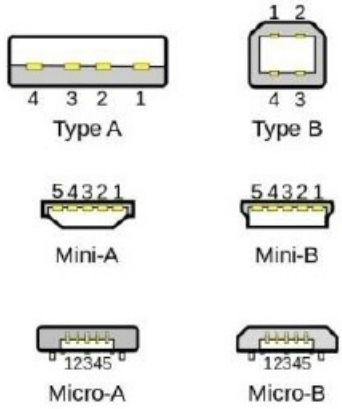


Figure 6-1USB port type

Management PC software-Toolbox is provided as standard. You can remotely control the instrument to upload or download the channel plan.

User Channel Plan

Upload and Download Channel Plan

The instrument can be connected with PC by USB cable to upload and download channel plan.

Specification

Analog CATV	
Frequency Range	5~1010MHz
Level	30~120dBuV
Accuracy	±2.0dB
RBW	300K
C/N	>50dB
C/N Accuracy	±3.0dB
Others	Channel Scan, Tilt, Trunk Voltage
DVB-C	
Frequency Range	46~1010MHz
Power Level	40~110dBuV
Power Level Accuracy	±2.0dB
MER	>40
MER Accuracy	±2.0dB
BER	1E-3~1E-9
Modulation Type	16/32/64/128/256QAM(J.83A/C) 64/256QAM(J.83B)

SR	4~7Msps
Interface	
RF Input	75 Ω Type-F(f)
AC Adapter	12V/1.2A
USB	Mini-USB
Battery	
Capacity	7.4V/1.6AH
Working Time	>4 hours
Charging Time	3 hours
Other Specification	
Dimension	153 × 93 × 42mm
Weight	358g

Accessories

Charger PW09021915W	1
USB data cord (P.900000421)	1
CD(Manual and Toolbox software)	1
Soft Case PK1S3000000	1
F Connector P.121068J8J	1
Manual	1

CONTACT INFORMATION

- Toner Cable Equipment Inc.
- 969 Horsham Rd. Horsham, PA 19044
- T. 215 675 2053 | 800 523 5947
- info@tonercable.com | www.tonercable.com

Documents / Resources

	DEVISER C1200 Plus Catv Signal Level Meter [pdf] Instruction Manual C1200 Plus Catv Signal Level Meter, C1200 Plus, Catv Signal Level Meter, Signal Level Meter, Level Meter, Meter

References

- Home - Toner Cable
- User Manual