PON Power Meter

User Manual

Version 1.3

CONTENTS

1. Summary

PON Power Meter is specially designed for PON network construction and maintenance which can be connected between OLT and ONT. The voice, data, video signal (1310/1490/1550) online can be measured synchronously and optical power value (1310/1490/1550) can be displayed with this meter. Including special burst mode measurement function, you can process accurate burst optical power measurement to upstream PON signal of 1310nm. You can process pass/fail analysis conveniently through multiple users' adjustable threshold of every wavelength.

It adopts 32 digits CPU with low power consumption, so the functions are more powerful and rapid. 3.97 inch true color LCD screen with 650 thousand colors makes showing more clearly. More conveniently measurement for field and equipment site owe to friendly operation interface, human message management and operation function, overall unit adopting low power consumption design. It's a useful site test tool for the engineers of PON network and maintenance operators.

2. Main features

- Handheld, easy to operate
- Can test 3 wavelengths' power of PON system synchronously: 1490nm, 1550nm, 1310nm
- Can test the burst mode upstream wavelength signal of 1310nm
- 32 digits CPU
- True color screen with 650 thousand colors
- Friendly operation interface, human message management and operation function
- Supply 10 groups of threshold values for operator's choice, analyze and display pass and fail status
- Relative value choice and edit function
- Can save 1000 records and upload the records through USB to management software
- Can set the threshold value, upload data, and calibrate wavelength through management software
- Auto shut off (according to set value)
- Auto backlit off(according to set value)
- 6600mAh Lithium battery
- Power saving design (Low voltage self check and power off)
- Real-time clock display

3. Technical specifications

Calibration wavelengths	1310 (upstream test)	1490 (downstream test)	1550 (downstream test)
Pass zone(nm)	1260～1360	1470～1505	1535～1570
Range(dBm)	-40～+10	-45～+10	-45～+23
Isolation @ 1310nm (dB)		>40	>40
Isolation @1490nm(dB)	>40		>40
Isolation @1550nm(dB)	>40	>40	
Accuracy			
Uncertainty(dB)	±0.5		
Polarization Dependent Loss (dB)	<±0.25		
Linearity(dB)	±0.1		
Through Insertion Loss(dB)	<1.5		
Resolution	0.01dB		
Unit	dBm/xW		

- LCD: 480*800, 3.97 inch true color LCD screen
- Battery: 3.7V 6600mAH rechargeable Lithium battery
- Continuous operating time:about 20 hours for Lithium battery;
- Working temperature: -10～60℃
- Storage Temperature: -25～70℃
- Dimensions（mm）: 185*80*50
- Weight(g): about 370

4. Configuration

ONT interface: Connect with ONT equipment through pigtail when testing

OLT interface: Connect with OLT equipment through pigtail when testing

USB Port: Communicate with the management software through USB connector

Charge socket: Connect with adapter to charge the meter

5. Operation instruction

5.1 ON/OFF

ON: Press ON(“ ⏻ ”) key about 3 seconds, the Power Indicator will be bright, the main menu will be displayed, the meter is on normal working mode, then user can process related measurement.

OFF: Normal shut down; Press OFF key, pop-up window will display "Are you sure to turn off the tester? YES: OK , NO: ESC"

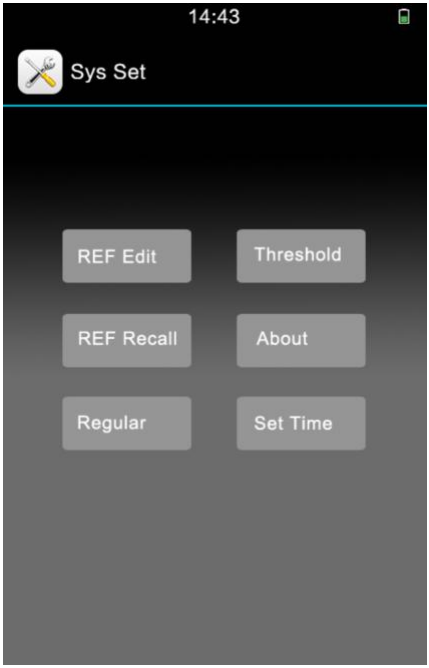
Mandatory Shutoff: Press " ⏻ " about 10 seconds (abnormal shutoff, may cause data loss, be careful).

Fast Keys on Main Menu:

- Press F1 (Shift) to convert the unit dBm/xW.
- Press F2 (Set) to edit Ref value, recall Ref, regular system parameter, set threshold and set time etc.
- Press F3 (Save) to save the current test result.
- Press F4 (Record) to browse the saved test records

5.2 System setup

Under main interface, press F2 (Set) to enter into "sys set" interface. You can choose function through pressing ▲ or ▼, press OK to enter this function.



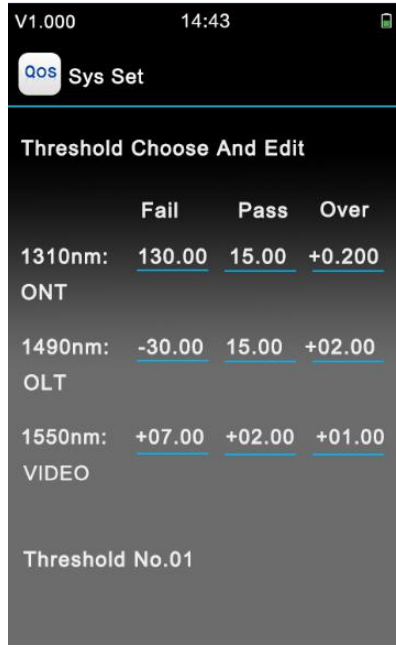
5.2.1 Relative value Modification (REF Edit)

Enter "REF Edit" item by pressing OK or (:::), through pressing▲ or ▼or to edit the relative value, then press OK to

set current value as the standard of relative value.

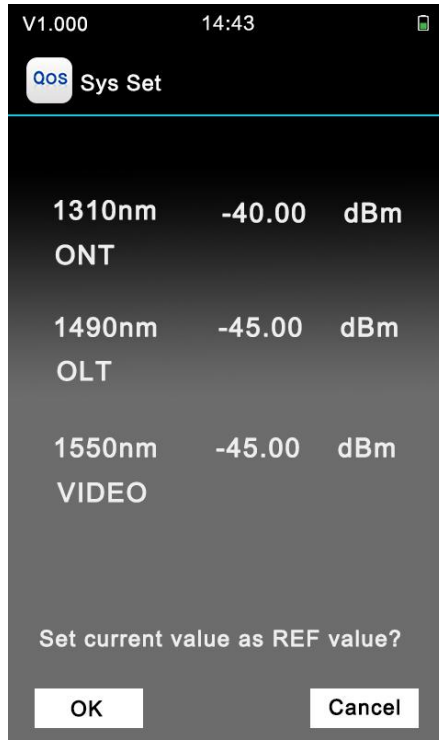
5.2.2 Threshold setup

Enter “Threshold” by pressing OK or (⁝⁝⁝), press ▲, ▼, ▲, ▼ to choose and edit threshold, press "OK" to edit and save the value



5.2.3 REF Recall

REF Recall: Set the current value as reference value



Press F1: OK; Press F4: Cancel

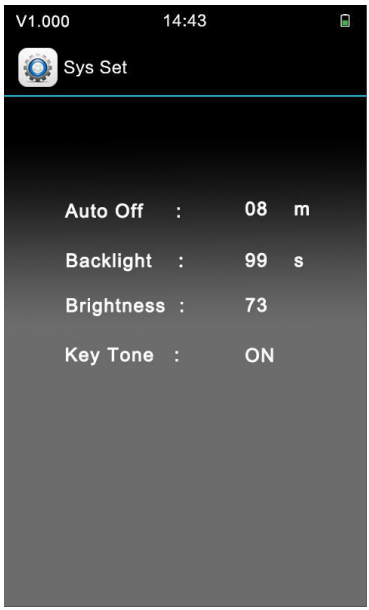
5.2.4 About

In this interface, we can check the hardware version and software version

5.2.5 Regular Setting

In the regular setting, we can set the below parameters

Press OK, and choose ▲, ▼ to edit the parameters;



5.2.6 Set Time

Press OK to enter into the Set time interface, and modify the Year/ Date/ time by pressing ▲, ▼, ▲, ▼

6. Save Records

Press ESC to back to the main menu, and press F3（Save）

to enter into the Record save interface:

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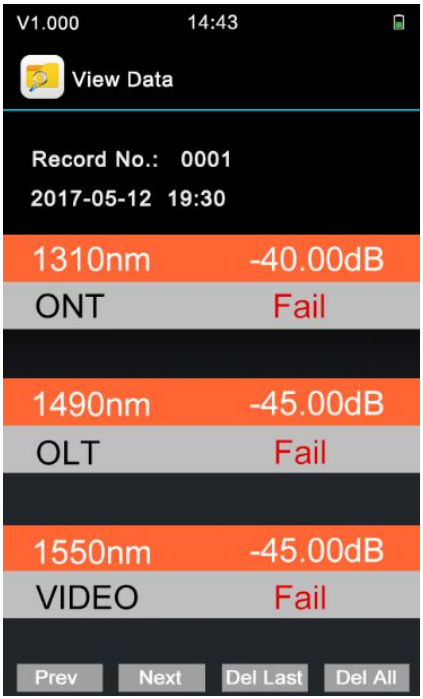
Press F1: OK—Save the records

Press F4: Cancel—Do not save the records

7. View Record view and management

Press ESC to back to the main menu, and press F4（Record）to enter into the view data interface:



F1: Previous Record
F2: Next Record
F3: Delete Last record
F4: Delete all records

Or operators can use ▲, ▼ to choose the previous record or next record.

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7 Battery under voltage

Once the battery voltage is low, the indicator will change to red, and the LCD will appears: “Battery is under voltage please charge! “Please charge the tester (about 6-7 hours) in time, The PWR charge indicator is bright during this period, and the PWR indicator will be off after the battery is full charged.

8. Maintenance

1. Keep the sensor’s head face clean, make sure there’s no dust, no contamination, don’t use unclean and nonstandard adapters, don’t insert poor polished surface, or else it will damage the sensor’s head face.
2. Change the adapter carefully, keep the spared adapters with sealing tight to avoid of touching dirt.
3. Please cover the dust cap timely if meter is leave unused, keep the head face clean, don’t expose the sensor in air for long time, or inaccuracy of measurement will be caused if sensor touches dirt.
4. Clean the sensor’s head face regularly.