JONARD TOOLS®

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XGS-1577 PASSIVE OPTICAL NETWORK POWER METER

FOR XGSPON/XGPON/BPON/EPON/GPON

INSTRUCTION MANUAL

XGS-1577 Passive Optical Network Power Meter Manual

The XGS-1577 XGSPON Meter is a high-performance testing tool designed for accurate and simultaneous measurements of upstream and downstream PON wavelengths in optical networks. With support for 1270 nm and 1310 nm upstream wavelengths, and 1490 nm, 1550 nm, and 1577 nm downstream wavelengths, this meter is ideal for EPON, BPON, GPON, XG-PON, and XGS-PON installations and maintenance.

This Product Includes:

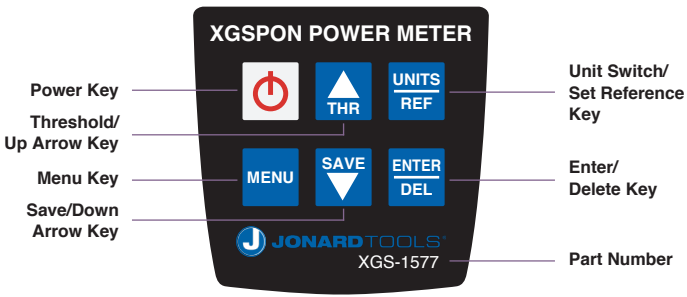
- XGPON Power Meter
- Instruction Manual
- (3) AA Batteries (required for operation)
- (2) Cleaning Swabs
- (2) FC/APC Adapters
- (2) SC/APC Adapters
- Hard Carrying Case

Specifications

MODEL	XGS-1577 PASSIVE OPTICAL NETWORK POWER METER
Network Types	XGSPON/XGPON/BPON/EPON/GPON
Connector Types	SC/APC, FC/APC
Upstream Wavelengths	1270±10 nm, 1310±20 nm
Downstream Wavelengths	1490±10 nm, 1550±10 nm, 1577±6 nm
Upstream Range	+13 ~ -50 dBm @ 1490 nm, +25 ~ -50 dBm @ 1550 nm, +10 ~ -50 dBm @ 1577 nm
Downstream Range	+13 ~ -40 dBm @ 1270/1310 nm
Insertion Loss	≤1.5 dB
Uncertainty	≤0.5 dB
Data Storage	1000 entries
PC Interface	USB-C
Auto-Off	Off, 10 min, 20 min, 30 min
Batteries	(3) 1.5V AA
Battery Life[1]	<90 hours

1. The continuous working time is related to the brightness of the color screen backlight. The higher the brightness adjustment, the shorter the working time.

Key Functions



Power Key: Power the device on or off.

Threshold/Up Arrow Key: Press this key to switch between the different set thresholds. While in the Menu, press this key to move up.

Menu Key: Press to open the Menu. Here you can change the Auto Off, Backlight, Threshold, Date, and Time settings, as well as view the stored data. Press this key to return to the main screen while viewing saved data.

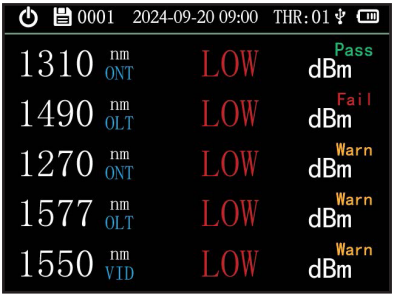
Save/Down Arrow Key: Press this key to Save the current data displayed on screen. While in the Menu, press this key to move down.

Unit Switch/Set Reference Key: Press to switch between different Units of Measure or set a Reference Value.

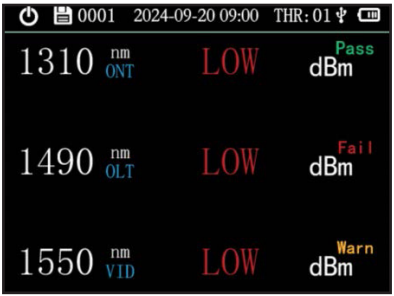
Enter/Delete Key: Press this key to Delete the saved files while viewing them from the Menu.

Screen Display

You can change the screen display to correspond to the different PON networks being tested.



XG/XGSPON - 5 Wavelength Interface



EPON/BPON/GPON – 3 Wavelength Interface

XG/XGSPON – 2 Wavelength Interface

PASS, **WARN**, **FAIL**: The judgment status of the three test results is consistent with the absolute power measured (**Green**, **Yellow**, **Red**). The test power will be displayed in **green** when the measured power is within the specified threshold range, **red** when the test power is higher than the upper or lower limit of the specified threshold, and **yellow** when it is close to passing the upper or lower threshold.

For example, if the below threshold is used:

PON	ONT:1310nm			OLT:1490nm			VIDEO:1550nm		
Name	Pass	Warn	Fail	Pass	Warn	Fail	Pass	Warn	Fail
THR02	+3dBm	-20dBm	-30dBm	+3dBm	-20dBm	-30dBm	+3dBm	-20dBm	-30dBm

If the measured power value at 1310 nm is -10 dBm, it is within the +3 dBm ~ -10 dBm threshold and will display **Pass**. This means that the optical path is normal.

If the measured power value at 1310 nm is -25 dBm, it will be between the -20 dBm ~ -30 dBm threshold and will display **Warn**. This means the optical path may have issues but can be used.

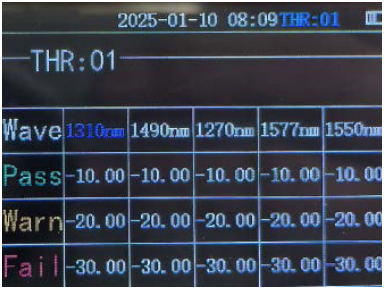
If the measured power value at 1310 nm is -35 dBm or +4 dBm, it will be outside the +3 dBm ~ -30 dBm threshold and will display **Fail**. This means the light intensity in the optical path is either too strong or too weak and cannot be used.

The example on the previous page also applies to the 1490 nm and 1550 nm wavelength tests as well.

Threshold Settings Interface

Short press THR to select a preset threshold group.

Long press THR to enter the Threshold Settings Interface.



Press MENU to select the Wavelength, then press ENTER DEL and the THR and SAVE keys to edit the values.

Press the ENTER DEL button again to save each Threshold after editing.

Hold ENTER DEL to go back to the previous Value to be edited.

Press UNITS REF to save and exit the Threshold Settings Interface.

Data Saving, Viewing, and Deletion

001 : This icon shows the current record, save data 001. This icon will flash white when saving data, will be **yellow** while it's being viewed, and will flash **red** when it is deleted.

Save: While testing a cable, press SAVE to save all data displayed onscreen.

View: Press MENU to enter the Menu and select "Data View" by pressing the ENTER DEL key. Entry 0001 (in yellow) should be displayed onscreen. Press the Up or Down Arrow Keys to navigate the saved entries.

You can also view saved data quickly by holding SAVE.

Delete: While viewing data, press the ENTER DEL to delete the saved entry. Press ENTER DEL again to delete or press Menu to cancel the deletion.

Exit: Press the MENU key to exit from the saved data to the main screen.

Menu Settings

Press MENU to switch between XGPON-5, XGPON-2, PON-3, and the Settings menu.

Select one of the settings using THR or SAVE and press ENTER DEL to enter the setting.

Use the arrow keys to adjust the setting, and press ENTER DEL when done.

Press MENU to exit the Menu to the main screen after changing the settings.

NOTE: The automatic off settings can be changed from OFF to 10 min, 20 min, or 30 min.

XGS/XG/E/B/GPON Power Meter Testing

This PON Power Meter can simultaneously measure the PON network upstream signals of 1310 nm and 1270 nm, as well as downstream data signals of 1490 nm and 1577 nm, and descending output video signals of 1550 nm. After powering the device on while not connected, the optical channels will display “Low”. Before using the meter, ensure you have selected the correct Threshold via the Options Menu before proceeding. If you have not set any thresholds yet, the default ones will be used.

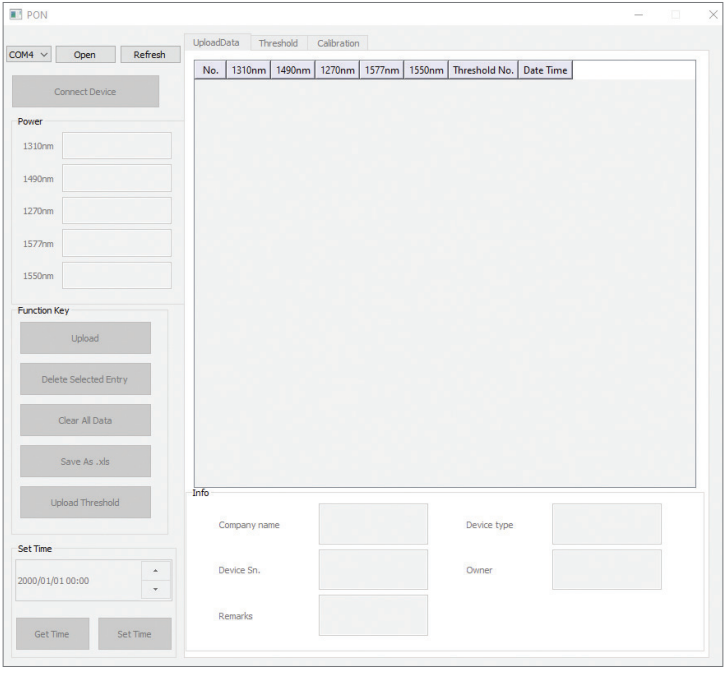
1. Before connecting the fiber cables to be tested, ensure they are cleaned well using fiber cleaning fluid for optimal test results.
2. Choose the appropriate adapter heads (FC or SC), connect them to the PON Meter, and connect the corresponding fiber optic cables into them.
3. Power ON the PON Meter via the Power button and it will display the output power for each wavelength being used.
4. While in this test interface, press 

to save the data.

Computer Software Instructions

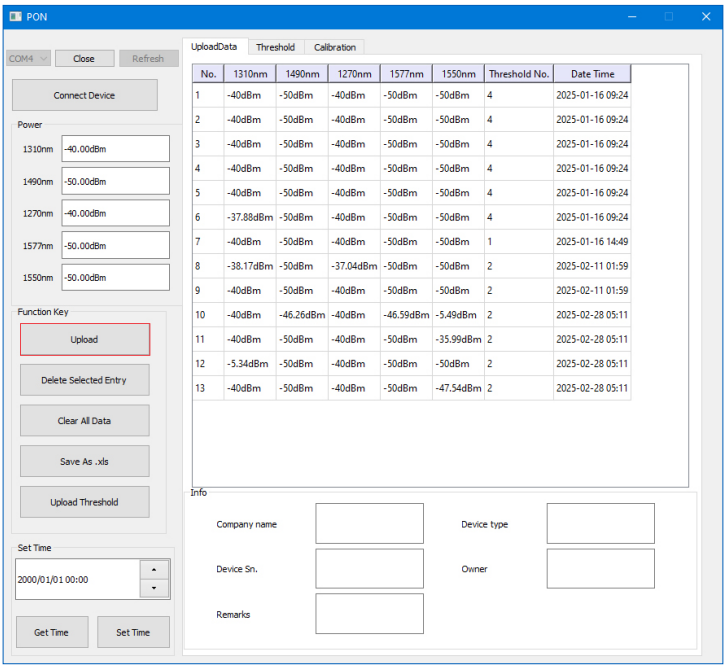
Download and install the PON software from the Jonard Tools website.

1. After installation, simply open the “PON Software.exe” file to start the software.
2. Power on the XGS-1577 PON Power Meter and connect it to the PC via USB-C cable.
3. On the left-hand side, select the appropriate COM that the PON Meter is connected to and click the “Connect” button. Typically, this will be COM3 or COM4.



Uploading Data

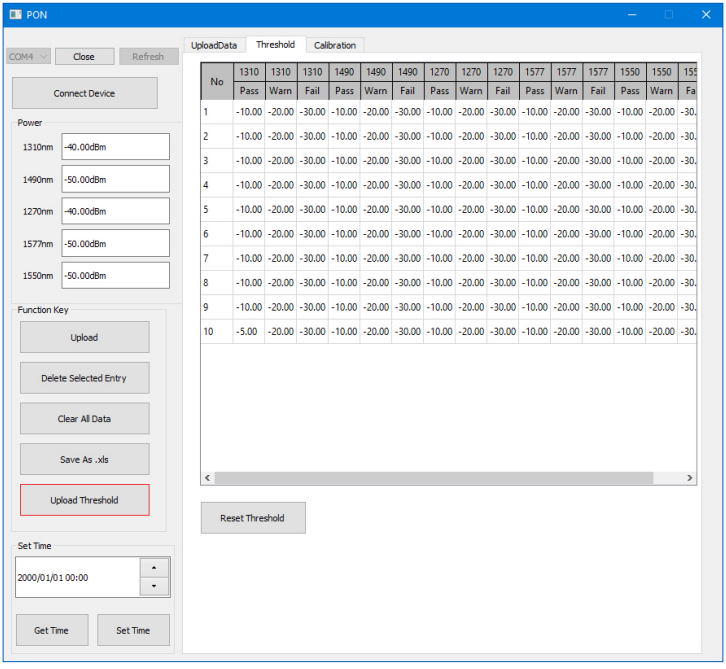
1. To upload data using the PON software, first click once on the “Upload” button in the left-hand toolbar.
2. The data should appear in text form under the “UploadData” tab, like so:



3. To save this test data in .xls format, simply click on the “Save as .xls” button in the left-hand toolbar.
4. You can also clear all data (delete from device) or delete the selected data by clicking their respective buttons.

Uploading Thresholds

1. To set or upload thresholds, first click on the “Upload Threshold” button and the following chart will appear:

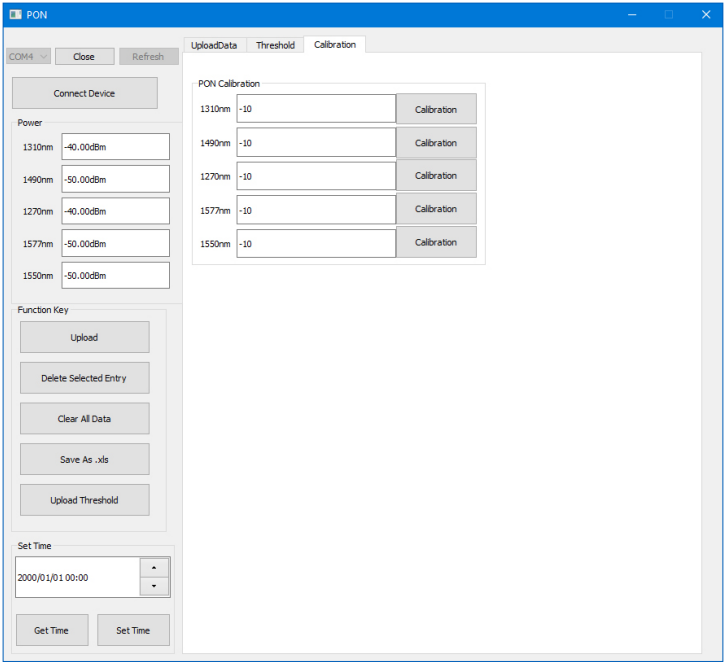


No	1310	1310	1310	1490	1490	1490	1270	1270	1270	1577	1577	1577	1550	1550	155
	Pass	Warn	Fail	Pass	Warn	Fail	Pass	Warn	Fail	Pass	Warn	Fail	Pass	Warn	Fa
1	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
2	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
3	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
4	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
5	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
6	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
7	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
8	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
9	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.
10	-5.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.00	-10.00	-20.00	-30.

Calibration

You can Calibrate individual wavelengths by selecting the “Calibration” tab on top. To do so:

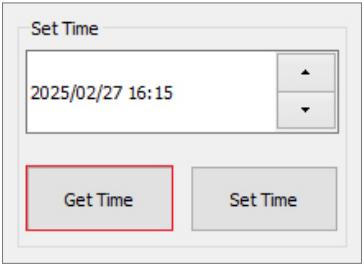
1. Connect the XGS-1577 to a light source and select the corresponding wavelength.
2. Fill in the standard power value in the blank space on the right and click “Calibration” to complete the calibration for that wavelength.



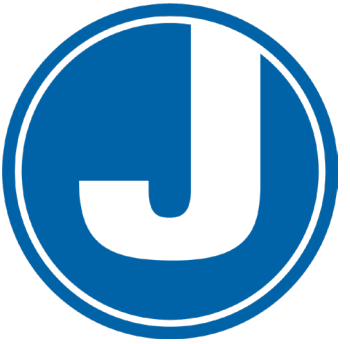
3. After calibrating, disconnect the device and remove it from the PC.

Set Time

You can set the time to the time on your computer by clicking the “Get Time” and then “Set Time” buttons.



NOTES:



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