User Manual

Optical CWDM Power Meter
OCPM-18

TheFibers Inc.
A-1109 Keumkang Penterium IT Tower, 282
Hagui-ro, Dongan-gu, Anyang-City, Korea
Tel: +82-31-381-6108
Fax: +82-31-381-6109
Email: sales@thefibers.com
Http://www.thefibers.com

TheFibers
CREATIVE FIBERS

1. Introduction

OCPM-18 is developed to measure exact power and frequency adoptable to the various network conditions. This instrument is portable and made to be appropriate to the outside environment.

1.1 Main Functions
- Works as a typical power meter
- It is compact in size and lightweight for excellent portability
- OCPM-18 is easy-to-use testing instruments for optical fiber network
- Provide linkage with various wavelength network
- Can use the existing charger
- Adopter color LCD
- Saves/ Stores measured data

1.2 Standard Accessories

Accessories	Quantity
Power Meter Body (included Battery)	1 EA
Body Rubber Case	1 EA
USB Data Cable	1 EA
Typical 5-pin Charger	1 EA
Software CD	1 EA
User Manual	1 EA

TheFibers *
CREATIVE FIBERS

1.3 Optical Standards

- Wavelength

| Parameter	Unit	Specification
Range	nm	1270-1610
Number of Channels		18
Measuring Wavelengths	nm	1270/1290/1310/1330/1350/1370/1390/1410/1430 1450/1470/1490/1510/1530/1550/1570/1590/1610
Wavelength Resolution	nm	20

- Optical Power

Parameter	Unit	Specification
Range of display	dBm	+10 ~ -40
Accuracy	dB	±0.5dB @ -20dBm
Resolvability	dB	0.01
Measuring unit		dB / dBm

- Optical Connector
  Optical connector interchangeable adapter.
  FC, ST, SC, LC

1.4 Specifications
- Input voltage : 1250mAh 3.7v
- Electricity consumption : MAX 0.2A
- Power Supply : Rechargeable Lithium-Polymer Battery
- Weight : 250g
- Width : 77.9mm
- Height : 154.9mm
- Thickness : 35mm
- Display size : 2.8 inch
- Operating Temperature : 0℃ ~ +50℃
- Guaranteed time of operating
          : 600 minutes when fully charged
- Relative Humidity
          : 10%~90% RH from 0 ~ 40℃

TheFibers
CREATIVE FIBERS
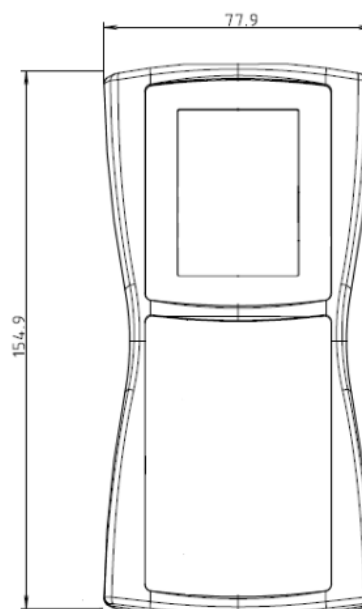
1.5 About the charger

A rechargeable battery is installed inside the measuring instrument, and this charger module has the Ministry of Information and Communication standard 5 pin charger phot. When the charger module is connected to the measuring instrument, the circular picture on the connecting part points to the bottom of the instrument.

[Typical 5-pin Charger]

-Charging conditions :

LED Color	Action of LED	Conditions for battery charge
Red	ON	The charger module is in charging mode.
Green	ON	Charge complete.

※ Caution
  - Do not allow battery to short circuit.
  - Keep the battery away from fire.
  - Never dismantle, change structure of distort the battery.
  - Do not dip the battery in water or other liquid.
  - Do not store the battery in places warmer than 60 degrees Celsius.
  - Do not drop or give a shock to the battery.

1.6 Warranty

OCPM-18 you bought is passed our all inspection and then is shipped to the customers. TheFibers give you a warranty for one year from the buying date. During the warranty period, the returned product by freight prepaid from the customer, TheFibers will provide repair and replacement for any defective product without additional charge which is needed to repair or replacement.

However please careful that the following are expressly NOT COVERED under warranty:

▪ Any loss, damage by using un-approved Battery and AC Adaptor
▪ In case the serial or warranty sticker is removed
▪ Failure to use products under abnormal operating conditions
▪ Any loss, damage by user fault
▪ Any damage by disassembly without permission

TheFibers
CREATIVE FIBERS

2. Getting Started

2.1 Explanation of user interface and operating keys

Key		Function
Backlight		Power ON/OFF
PM		Power Display
CWDM		Scanned dB value of the wavelength is represented as a data.
SCAN		Wavelength is scanned and dB value is represented.
dB/dBm		Each time you press the key, dB and dBm are repeated.
▲		Up arrow
Graph		Scanned dB value of the wavelength is represented as a graph.
Recall		Store
ENTER		Enter
Save		Data Save
ESC		Cancel
▼		Down arrow
MENU		Set up and Data delete

TheFibers
CREATIVE FIBERS

2.2 Screen Information

1) Power ON / OFF

- Is used to turn the instrument power on and off. If you press the [Backlight icon] (Backlight) button for more than 2 seconds, the logo shown below appears and it moves to 'Power Meter', which is the basic channel.
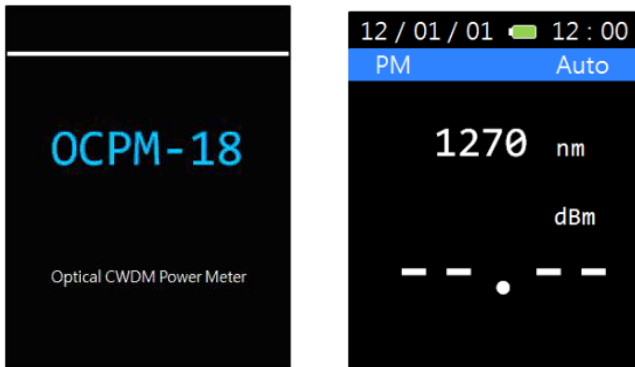
- Press the [Backlight icon] (Backlight) button for more than 2 seconds to turn the power off.

2) Power Meter

- Power Measurement is divided into 'Auto' and 'Manual'. If you select 'Auto', the largest value are shown after the measurement.

- Use the arrow keys to different values can be found.
- 'Manual' is the wavelength of the desired user is used to determine the value of dBm.

- In the above screen , click (PM) button, will write the wavelength to be measured.
And click (Enter) button.

12 / 01 / 01 🔋 12 : 00	12 / 01 / 01 🔋 12 : 00	12 / 01 / 01 🔋 12 : 00
PM Auto	PM Auto	PM Manual
Wavelength	Wavelength	1290 nm
nm	1290 nm	
OK : ENTER	OK : ENTER	dBm
- 6.49	- 6.49	-11.07

- If you want to re-select 'Auto', click (PM) button.

3) CWDM

- Depress the (CWDM) button, then the display will show as the figure below.

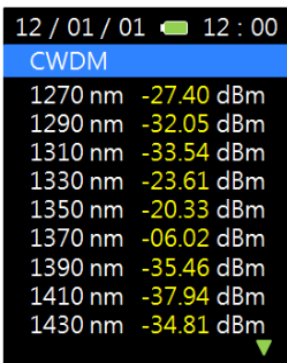| 12 / 01 / 01 🔋 12 : 00	12 / 01 / 01 🔋 12 : 00
CWDM	CWDM
1270 nm	1290 nm
dBm	dBm
-36.49	-31.74
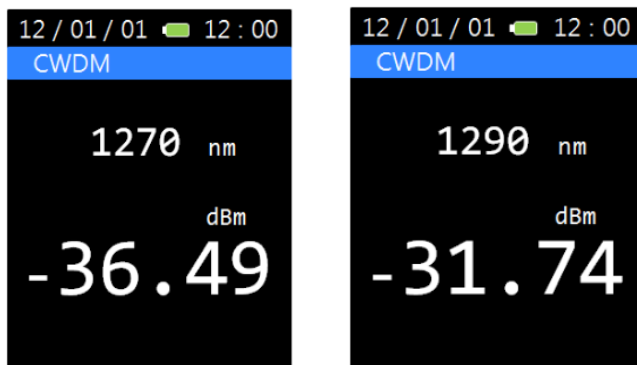
- If a screen shows asking for a channel selection, input the channel you want and press the (Up arrow)
and (Down arrow) key.

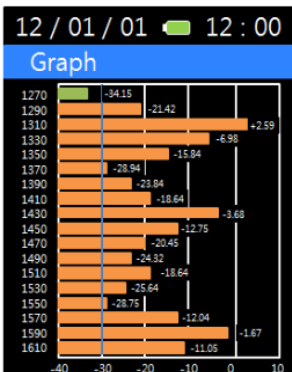- Pressing the (dB/dBm) key alternately shows the 'dBm' and 'dB'.
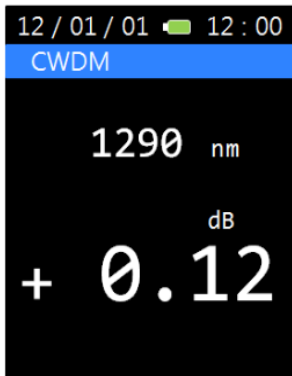
4) SCAN
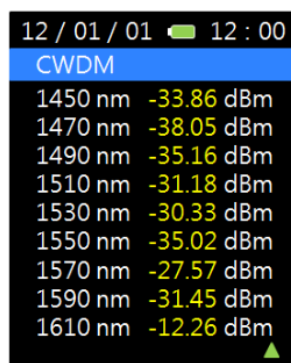
- If you press the (SCAN) button, The selected wavelengths are scanned.

5) Graph

- If you press the (Graph) button after scanning, a graph screen like the one on the right show.

- If you press the [Graph 6 mno] (Graph) button again it returns to text mode.

| 12 / 01 / 01 🔋 12 : 00 |
| SCAN Text |
| 1270 nm -27.40 dBm |
| 1290 nm -32.05 dBm |
| 1310 nm -33.54 dBm |
| 1330 nm -23.61 dBm |
| 1350 nm -20.33 dBm |
| 1370 nm -06.02 dBm |
| 1390 nm -35.46 dBm |
| 1410 nm -37.94 dBm |
| 1430 nm -34.81 dBm ▼ |

| 12 / 01 / 01 🔋 12 : 00 |
| SCAN Text |
| 1450 nm -33.86 dBm |
| 1470 nm -38.05 dBm |
| 1490 nm -35.16 dBm |
| 1510 nm -31.18 dBm |
| 1530 nm -30.33 dBm |
| 1550 nm -35.02 dBm |
| 1570 nm -27.57 dBm |
| 1590 nm -31.45 dBm |
| 1610 nm -12.26 dBm ▲ |

6) Recall

- Press the [Recall 7 prs] (Recall) button to access the menu that calls the measured result of optical power for each channel in the form of text.

| 12 / 01 / 01 🔋 12 : 00 |
| Data Store |
| 120601 17 : 01 : 00 |
| 120501 21 : 59 : 34 |
| 120401 08 : 06 : 15 |
| 120301 06 : 16 : 05 |
| 120201 12 : 01 : 24 |
| 120104 20 : 00 : 41 |
| 120103 16 : 00 : 55 |
| 120102 08 : 01 : 15 |
| 120101 00 : 00 : 00 ▼ |

- Press the [ENTER -] (Enter) button to select the data you want, the data saved are displayed.

| 12 / 01 / 01 🔋 12 : 00 |
| 120601 17 : 01 : 00 |
| 1270 nm -27.40 dBm |
| 1290 nm -32.05 dBm |
| 1310 nm -33.54 dBm |
| 1330 nm -23.61 dBm |
| 1350 nm -20.33 dBm |
| 1370 nm -06.02 dBm |
| 1390 nm -35.46 dBm |
| 1410 nm -37.94 dBm |
| 1430 nm -34.81 dBm ▼ |

| 12 / 01 / 01 🔋 12 : 00 |
| 120601 17 : 01 : 00 |
| 1450 nm -33.86 dBm |
| 1470 nm -38.05 dBm |
| 1490 nm -35.16 dBm |
| 1510 nm -31.18 dBm |
| 1530 nm -30.33 dBm |
| 1550 nm -35.02 dBm |
| 1570 nm -27.57 dBm |
| 1590 nm -31.45 dBm |
| 1610 nm -12.26 dBm ▲ |

TheFibers*
CREATIVE FIBERS

7) Save

- This saves the currently displayed value, and All text and graph modes are savable using the [SAVE] (save) button.
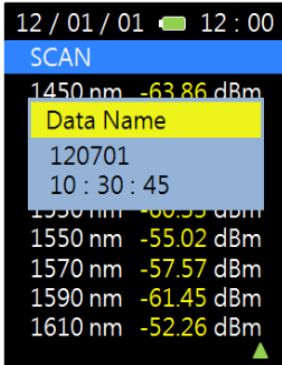
- When you press the [SAVE] (save) button the following message shows and asks the name of the Data to be saved, and the data based on the current data and time is saved if you press the [ENTER] (Enter) button.
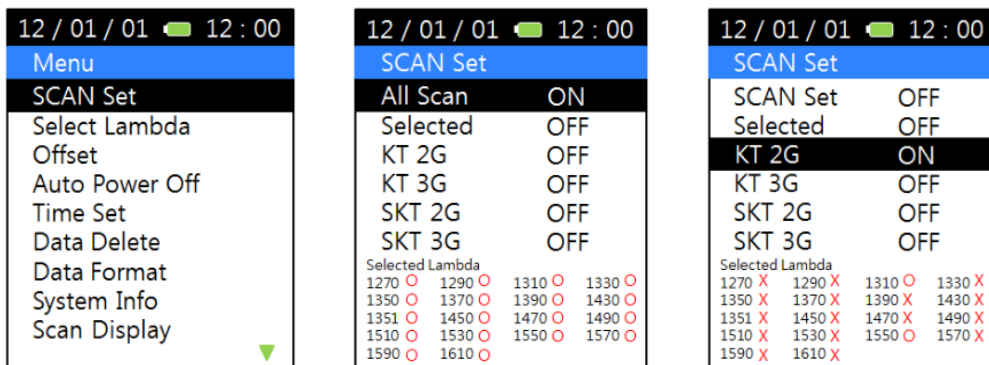
2.3 Menu

If you press the [MENU] (Menu) button, it changes to a screen where you can configure the operating environment of OCPM-18.
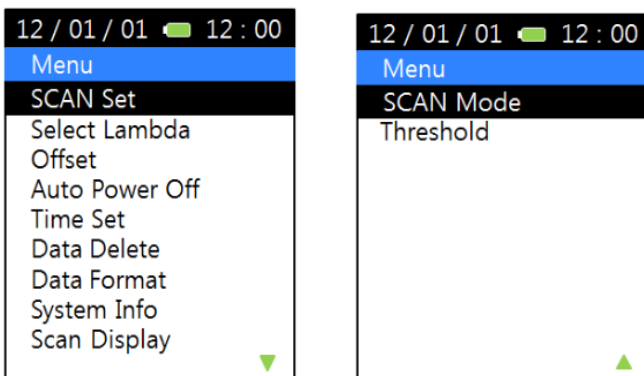

- The menu consists of 'SCAN SET', 'Select Lambda', 'Off Set', 'Auto Power Off', 'Time Set', 'Data Delete', 'Data Format', 'System Info', 'Scan Display', 'SCAN Mode' and 'Threshold'.

1) Scan Set

- If you press the [ENTER] (Enter) button after selecting 'Scan Lambda Set', a set up screen for 'Scan Lambda Set' shows up. As the channel values that users mainly use are provided in the above screen, it is easy to set up the channel value that the user wants.

2) Select Lambda
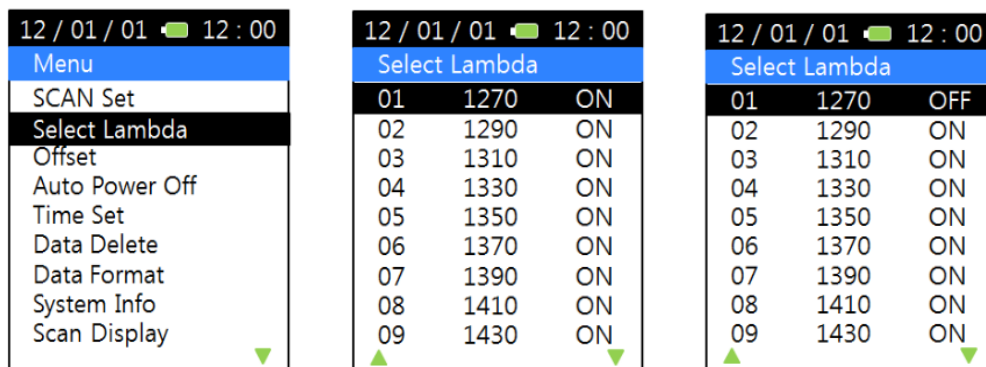
- If you press the [ENTER] (Enter) button after selecting 'Select Lambda', you can select the channel that you want. If you then press the ENTER button, it changes from OFF to ON.
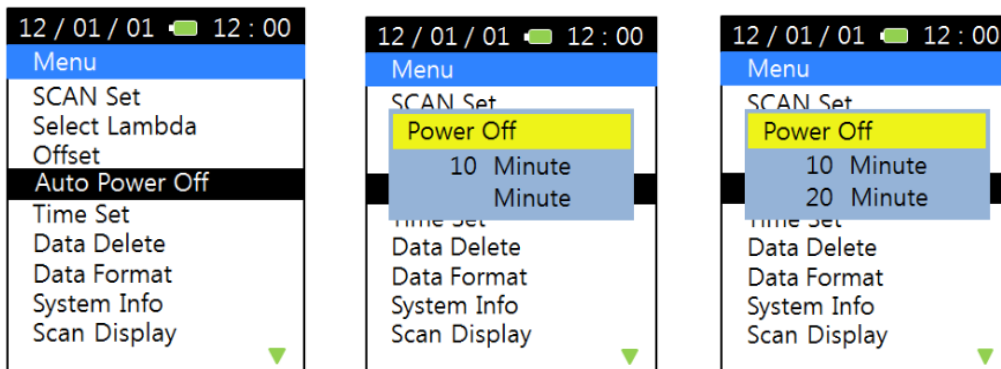
3) Off Set
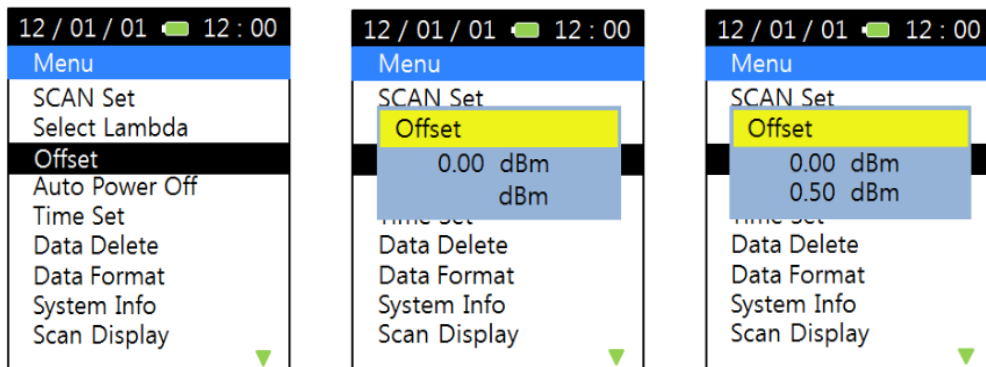
- If you press the [ENTER] (Enter) button after selecting 'Off Set', you can set up dBm value and the optical power value on the screen.

- You can set the 'Off Set' by pressing the ESC key and ENTER.

4) Auto Power Off

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Select Lambda
Offset
Auto Power Off
Time Set
Data Delete
Data Format
System Info
Scan Display ▼

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Power Off
10 Minute
Minute
Data Delete
Data Format
System Info
Scan Display ▼

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Power Off
10 Minute
20 Minute
Data Delete
Data Format
System Info
Scan Display ▼

- The power automatically goes off if the user does not input any key in the determined time.

- If you press the [ENTER] (Enter) button after selecting 'Auto Power OFF', you can set the Auto power off time in minutes.

- You can set the time by pressing the [ESC] (ESC) key and [ENTER] (Enter) button.

5) Time Set

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Select Lambda
Offset
Auto Power Off
Time Set
Data Delete
Data Format
System Info
Scan Display ▼

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Time Set
-   -
:   :
Data Format
System Info
Scan Display ▼

12 / 01 / 01 🔋 12 : 00
Menu
SCAN Set
Time Set
2013 - 01 - 01
01 : 00 : 00
Data Format
System Info
Scan Display ▼
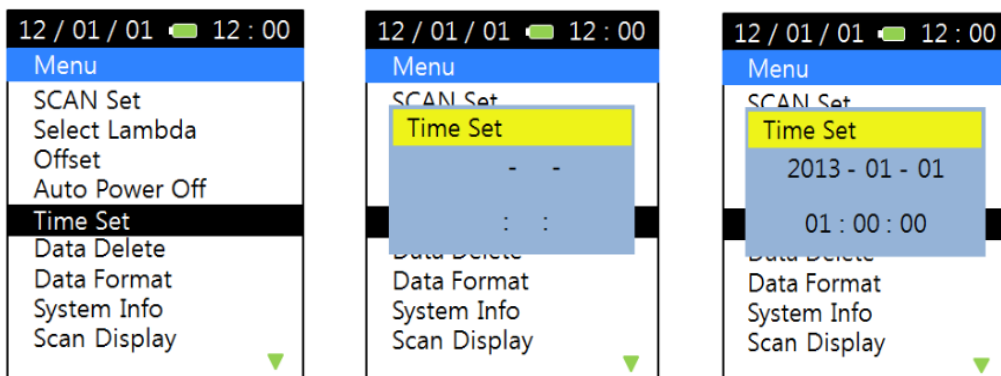
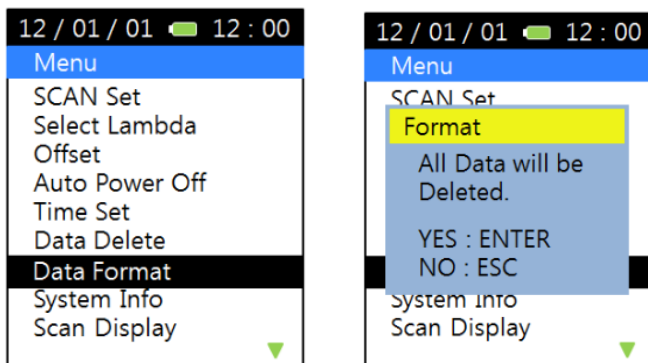- If you press the [ENTER] (Enter) button after selecting 'Time Set', you can set the today date and current time.

- You can set the time by pressing the [ESC] (ESC) key and [ENTER] (Enter) button.

TheFibers *
CREATIVE FIBERS

6) Data Delete
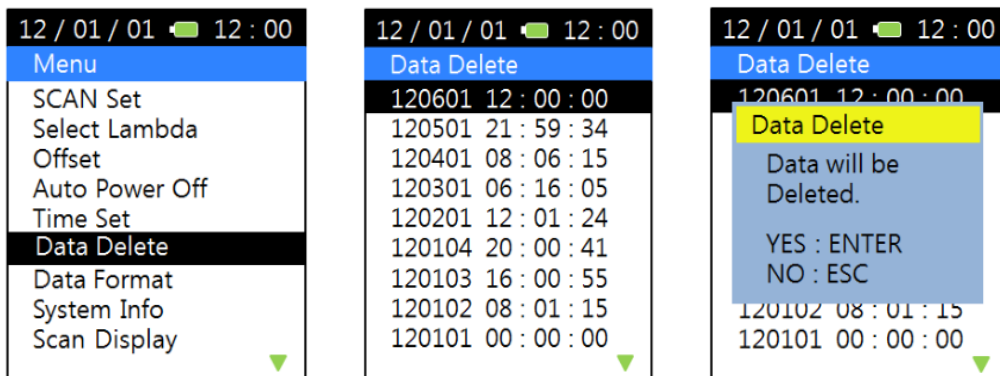
- If you press the [ENTER] (Enter) button after selecting 'Delete Data', you can delete the data.
- If you press the [ENTER] (Enter) key after choosing the data you want to delete, message appears on the screen.
- If you press the [ENTER] (Enter) button, it is deleted from the memory.

7) Format

- You can delete all saved files by formatting the transportable memory.
- If you press the [ENTER] (Enter) key after 'Format', message appears on the screen.
- If you press the [ENTER] (Enter) button, all files are deleted from the memory.
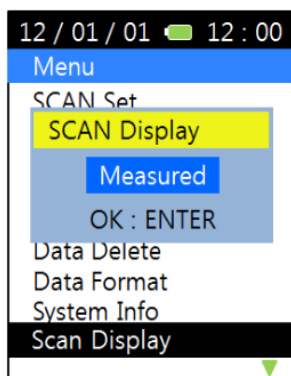
TheFibers *
CREATIVE FIBERS

8) System Info

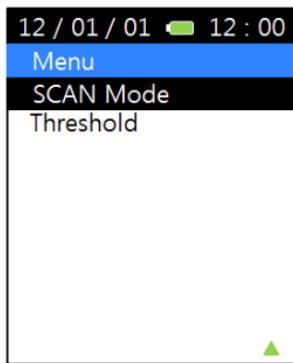Generates information about the equipment.
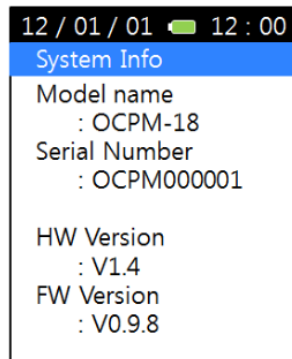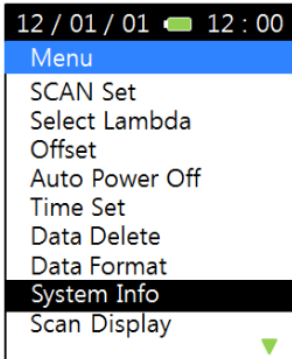

9) Scan Display
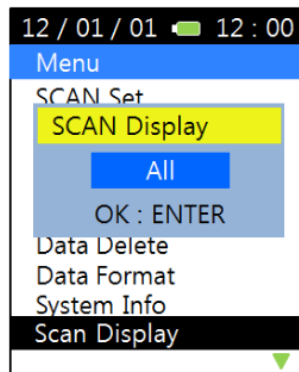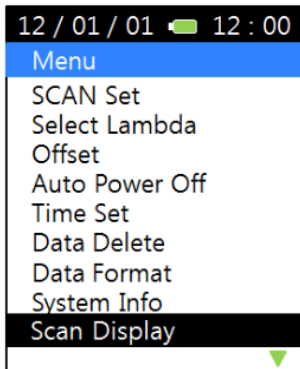
- 'Scan Display' consists of 'All' and 'Measured'. This can be selected using , the arrow keys .

- If you choose the 'All', from 1270nm to 1610nm values of 18 wavelengths are output.

- If you choose the 'Measured', the value of the wavelength to be measured are output.
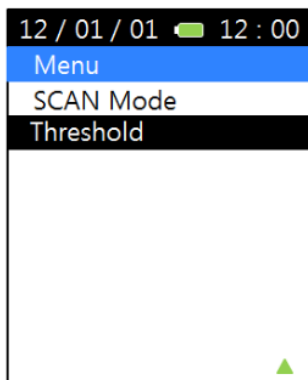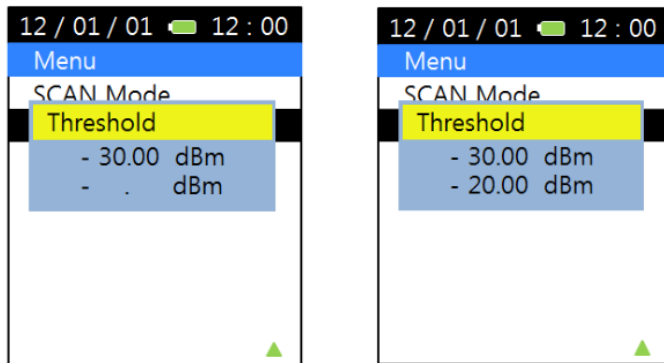
10) Scan Mode

- The 'Scan Mode' consists of the 'Auto' and 'Manual'. This can be selected using [↑ 5 jkl] , [↓ 8 tuv] the arrow keys.

- If you choose the 'Auto', when selecting 'CWDM', shows the real time changing values.

- If you choose the 'Measured', when 'SCAN' and selecting 'CWDM', shows the values.
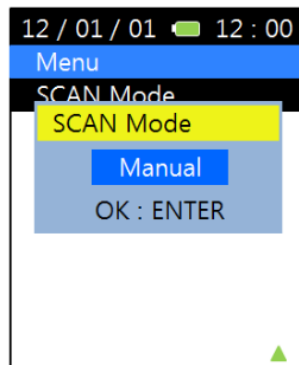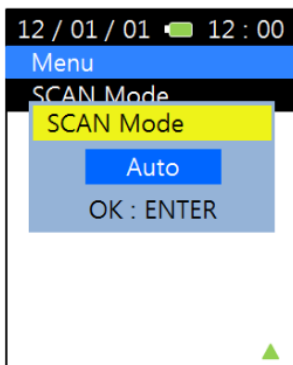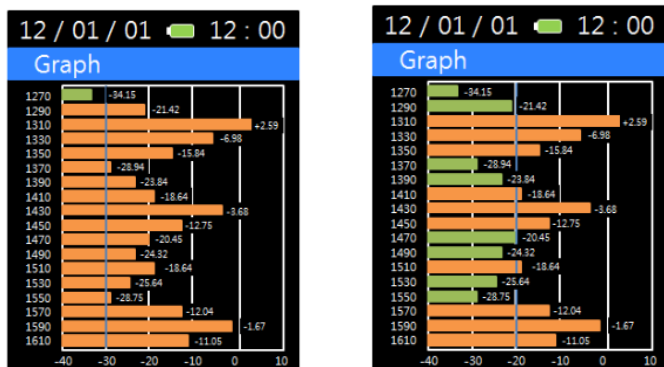

11) Threshold

- You can change the baseline.

- '− 30.00dBm' is the default setting.

- If you press the [ENTER] (Enter) button after selecting 'Threshold', you can set the baseline.

- Baseline changes can be found at the graph screen.