



Vision 1550nm External Modulation Optical Transmitter · GS8510 Series

USER MANUAL



CONTENT

1.0 PRODUCT SUMMARIZE	1
2.0 INSTALLATION	1
2.1 Unpacking.....	1
2.2 Transmitter Mounting and Power Connection	1
2.3 RF connection	2
2.4 Optic connection	2
3.0 TRANSMITTER CONTROLS, INDICATORS, AND ALARMS	4
3.1 The operation of the panel.....	4
4.0 GUARANTEE AND REPAIR ITEMS	7

1.0 PRODUCT SUMMARIZE

We are the well-known manufacture in analog externally modulated optical transmitter in the world. GS8510, a kind of low cost 1550nm Externally Modulated Optical transmitter, is specially designed for networking application of second-grade service area. It is named as GS8510 second-grade service area 1550nm Externally Modulated Optical Transmitter. GS8510 series Externally Modulated CATV transmitter adopts low noise, narrow bandwidth, and continuous wave laser DFB laser as its light source and adopts low cost single-output LiNbO3 external modulator that is specially designed by JDS-U to modulate signal , which reduce the cost of the transmitter largely. Based on a series of characterized optimization and technical innovation, it can reach excellent system index with flatness $\leq 0.75\text{dB}$ in-band 47~862MHz, 13dBm SBS, point to point >50Km, (0dBm receiving) CSO $\leq -65\text{dB}$, CTB $\leq -65\text{dB}$, CNR $\geq 52\text{dB}$. The whole unit is equipped with perfect RS232 communication interface, SNMP network management, 1+1 back-up power supply, and casing temperature auto-control. All the optical port can be installed in the front panel (The back panel is also available if needed).

2.0 INSTALLATION

2.1 Unpacking

Inspect the shipping boxes for any obvious damages.

Unpack the unit from all packaging boxes.

Inspect the appearance of the unit for any shipping damages.

Document and inform the shipping company and your local representative, if any damage was found.

Save the shipping boxes and their inserts for future reshipment in case the products need any upgrade or repair.

NOTE: When reship the products and send them back to the manufacturer, the manufacturers will disclaim all the responsibility for the damage caused by nonuse the original packaging.

2.2 Transmitter Mounting and Power Connection

1. Put the unit into a 19-inch wide rack or cabinet. Make sure to leave a 1.75-inch (about 4.5cm) space above and below the unit.

2. According to the design request, GS8510H series 1550nm optic transmitter can work between $0^{\circ}\text{C}\sim 50^{\circ}\text{C}$ ($32^{\circ}\text{F}\sim 122^{\circ}\text{F}$) temperature range. We recommend 25°C (77°F) environment temperature.

Humidity not bigger than 95%(under non-coagulation condition). If necessary,

the equipment should keep the suitable temperature & humidity in the restrained scope. We recommend to operating in the environment without dust.

3. The equipment can be powered by AC or steady voltage DC. In both of AC & DC, AC is the chief power supply.

Request of power supply:

AC input	94-245VAC, 50-60Hz
DC input	36-60VDC, floating
Power consumption	Maximum 50W

4. The DC power supply of the equipment must be the SELV supply stipulated as CAN/CSA C22.2 No.950-95 standard.

5. The machine should have good grounding with grounding resistance $<4\Omega$. According to the international standard, 220V plug in adopts tri-wire rule and the middle wire is the grounding wire.

Before connecting circuit, please use big spec (#20AWG and more) electric wire to connect the grounding screw on the bottom and the grounding frame. When use DC input power supply, the equipment chassis must be grounding.

2.3 RF connection

Connect the RF cable & the connector on TX rear panel. RF connector is F type plug. (F-Female/F-male Optional). The resistance is 75Ω .

2.4 Optic connection

1. Considering for protection & safety, all the fiber optic connector need protective cover during transportation.
2. In order to ensure the insertion loss & return loss, the end-interface of fiber optic connector should be cleaned. Please don't dirty the connector. Even the hair-like dust will affect the transmission quality. When take off the fiber optic connector, please put on the protective cover.
3. Clean all fiber patch cords before connecting to the transmitter.

Cleaning Guidelines:

Fiber Patch cord connectors

- Remove the dust cap of the fiber connectors and wipe the fiber connector tip with a dry lint-free cloth. Check if there are scratches or debris on the connector surface by using a microscope (ie.100x or 200x).
- If no scratch or debris is found, the connector is ready for connection. If scratches or debris is found, repeat the fiber patch cord connector cleaning guidelines.

Fiber Bulkhead connectors

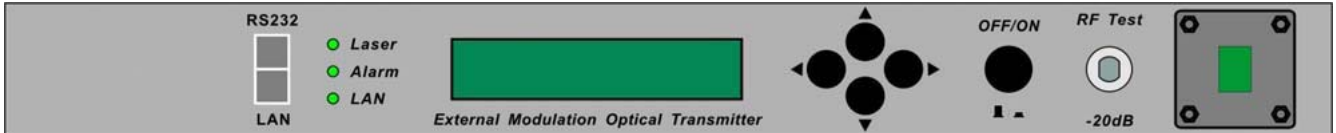
- Compressed air may be used to clean fiber bulkhead connectors. Use compressed air according to the following specifications at least:
 - Non-residue, inert gas for precision dust removal
 - Ultra-filtered to < 0.2 microns
 - Recommended for optical systems
 - Using compressed air as listed above, remove the bulkhead dust cover and hold the can of compressed air about 6 inches away from the connector. After spraying a few short bursts into the bulkhead, the connector is clean and ready for connection.
- If compressed air is not available, the transmitter fiber bulkhead connector may be cleaned by 2.5 mm alcohol sponge, or the connector plate may be removed to clean the internal fiber patch cords.

CAUTION: The use caution when handling fibers.
Do not exceed fiber manufacturer's pulling tension or bend radius specifications when removing fiber bulkhead connector plate.

- To remove the transmitter optical connector plate, remove the screw on the far left of the optical plate and remove the screw on the far right of the optical plate. Do not remove the screws on the optical bulkhead connector.
 - Slowly remove the optical connector plate from the rear panel and disconnect each fiber connector from the bulkhead mounted on the plate.
 - Clean each fiber connector according to the fiber cleaning guidelines.
4. - Make sure the laser key switches on the front panel of the transmitter are in the OFF position.
 5. - Connect the fiber patch cord from the output of the transmitter to the optical power meter.
 6. - Turn the transmitter laser key switch to the ON position.
 7. - Use the optical power meter to verify that the transmitter optical power follows the specification.
 8. - Turn the transmitter laser key switch to the OFF position.

3.0 TRANSMITTER CONTROLS, INDICATORS, AND ALARMS

This section of the manual will give an overview of the available menus in the GS8510 series transmitter. All instructions in Section 3.0 refer to the representation of the front panel shown in the diagram below. The user can scroll through the menus by using the push buttons that are on the front panel and are located in the right of the LCD screen.



3.1 The operation of the panel

3.1.1 Open menu

- A. Plug in 110V city power supply
- B. Turn on power switch in the rear panel
Front panel display " KEY OFF"

Laser	Status lamp	Red
Alarm	Status lamp	Green
LAN	With network management status, indication lamp shows green	
- C. Press laser start-up key switch
Front panel shows "KEY ON...", laser status lamp turns green from red, and machine enters self-checking. After checking, it enters working status, and display " Descriptor".

3.1.2 Start-up main menu

Press ▲\▼ button and the following menu will be displayed in sequence.

Menu #1 - Descriptor

Read-only menu, tells the type of this equipment

Menu #2 - Model

Read-only menu, tells the model of this equipment

Menu #3 - MOD S/N

Read-only menu, tells MOD serial-number

Menu #4 - OUTPUT

Read-only menu, tells the optical power out of port 1

Menu #5 - LD S/N

Read-only menu, tells laser serial-number

Menu #6 - Laser Current

Read-only menu, tells laser current

Menu #7 - Laser TEMP

Read-only menu, tells the laser temperature

Menu #8 - TEC Current

Read-only menu, tells the TEC current

Menu #9 - RF Mode

Current RF mode, display AGC/MGC

If it appears RF Mode = AGC, it was in the state of AGC

If it appears RF Mode = MGC, it was in the state of MGC

Menu #10 - OMI Adjust

OMI adjustable, the range is between -7.3dBm~+7.3dBm, step 0.3/0.2 dBm

Menu #11 - RF Level

Read-only menu, displays RF level and shows LOW/NORMAL/HIGH

Menu #12 - SBS

SBS restrain, 135/16/18dBm optional

Menu #13 - SBS State

Read-only menu, tells the situation of SBS

Menu #14 - CSO State

Read-only menu, tells the situation of CSO

Menu #15 - Date

Read-only menu, tells the date

Menu #16 - Version

Read-only menu, tells the version

Menu #17 - System TEMP

Read-only menu, tells the system temperature

Menu #18 - +5V Monitor

Read-only list, displays the voltage +5V

Menu #19 - -5V Monitor

Read-only list, displays the voltage -5V

Menu #20 - +24V Monitor

Read-only list, displays the voltage +24V

Menu #21 - IP

Adjustable list, displays the IP address of SNMP

Menu #22 - Sub

Adjustable list, displays the address of net mask

Menu #23 - GW

Adjustable list, displays the gateway address of SNMP

Menu #24 - TR1

Adjustable list, displays the TRAP1 address of SNMP

Menu #25 - TR2

Adjustable list, displays the TRAP2 address of SNMP

3.1.3 Menu assistant manual

1. Press up/down key to amend the IP address menu that should be amended, press ,, to choose the amend place, push ▲\▼ currently value +\ -1, press to enter into save and exit.

For example, amend IP setup menu, IP: 192.168.000.015; if change 5 to 6, use key to choose the place of 5, then press ▲ key to change 5 to 6, then press to save amended IP:192.168.000.016

2. The manual for the control way of RF modulation

The default control way is AGC. That is, when you use ▼ or ▲ to switch the menu to the modulation control way, it shows: RF Mode = AGC.

At this time, when you press , it shows: RF Mode = ; when you press

▼ or ▲, it shows: RF Mode = MGC, press to save, then the switch from the AGC to MGC is done.

If you want to re-switch the modulation control way to the AGC, just press when the menu shows RF Mode = MGC, it will show RF Mode = , then click ▼ or ▲, Press the to save, it shows: RF Mode = AGC.

4.0 GUARANTEE AND REPAIR ITEMS

1. Each unit is packaged with <Products Qualification Certificate> and with the series number of the certificate, one-year's guarantee can be provided.
2. The micro-processor software of the device has the function of monitoring laser status, digital display, trouble alarm, network management etc. The pump laser will not be damaged only by man-induced factor. If the Red lamp sparking (Alarm), please send the product back to manufacturer for repairing. The user should not open the top cover for repair, otherwise, even within guarantee period, maintain and material fee will be charged.
3. Lifelong maintain and upgrade can be provided even though the guarantee period is expired.
4. If component is damaged by man-induced factor, material fee will be charged.

Contact Vision's Partner:

xbest.pl Sp. z o.o. Sp. Komandytowa
ul. Sw. Jozefa 141D, 44-200 Rybnik, Poland
tel. (+48) 32-7006900
fax. (+48) 32-7205451
email: office@xbest.pl