
1550 External Modulated Optical Transmitter

User's Manual

MODEL: ST1550E Series

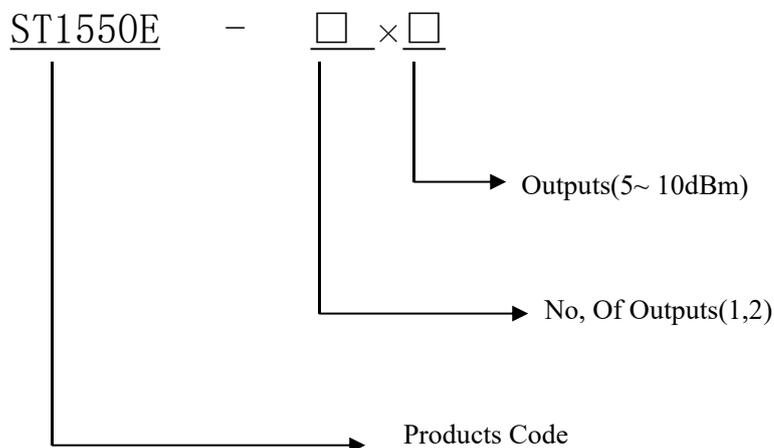
CAUTION: ST1550E Series Transmitters should be operated by qualified personnel only.

I. Features

1.1 Characteristics of the Transmitter

- ★ Both the external modulator and laser are imported from the United States or Japan.
- ★ Perfect pre-distortion circuit ensures the best CTB and CSO when the CNR is in high standard.
- ★ Perfect SBS suppress circuit and adjustable SBS in 13~19, suitable for different types of CATV net.
- ★ AGC control.
- ★ Internal double power which can be changed automatically.
- ★ Automatically shell temperature control.
- ★ Internal microprocessor software has the function of laser monitoring, parameter display, fault warning, net management and so on. Once the working parameter of the laser goes out of the fixed value of the software, the machine will warn.
- ★ The transmitter provides RJ45 and RS232 standard interface for the connecting the computer and monitoring.

1.2 Ordering Guide



II. Installation

2.1 Preparation before installation

- 2.1.1 Please examine the machine to see if there is distinct
- 2.1.2 Please examine if the accessories is complete and the quality cards is here.

2.2 Installation

2.2.1 Please keep a space about 4.5cm between machines for ventilation.

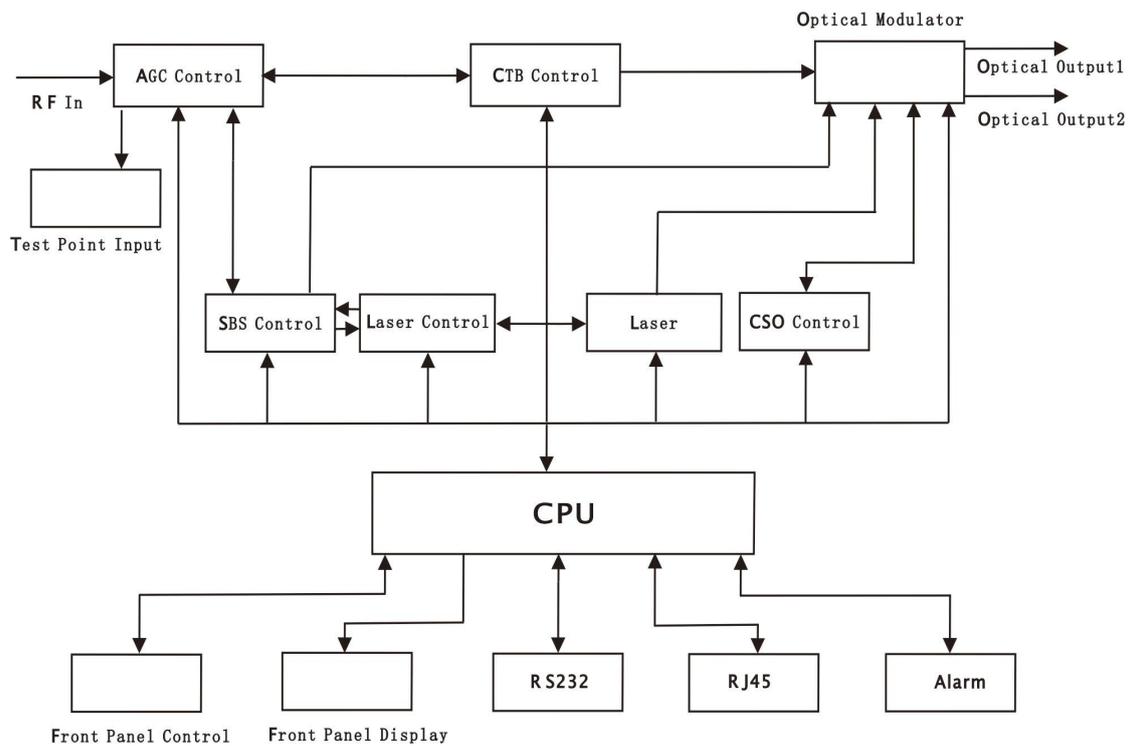
2.2.2 Please make sure: the socket works very well and earthed; The impedance $\leq 4\Omega$; 220V power with three cables, the middle one should be connected to the ground.

2.2.3 Please make sure the key is turned to OFF and before the power is connected.

2.2.4 Please keep the interface of the fiber clean before connecting the fiber. The connector could choose FC/APC or SC/APC.

III. Operation

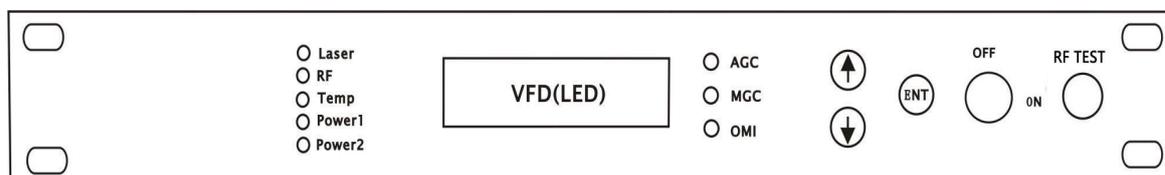
3.1



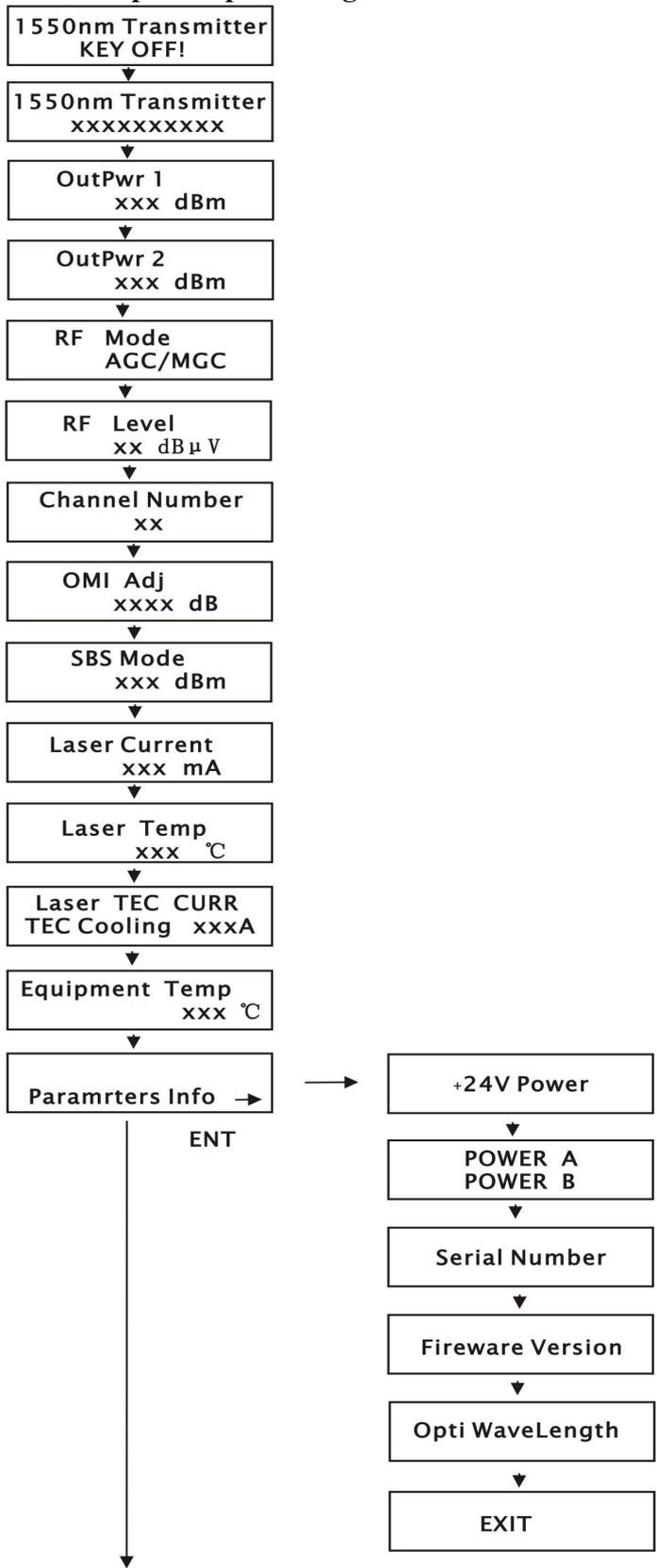
3.2 Main Technical Parameters

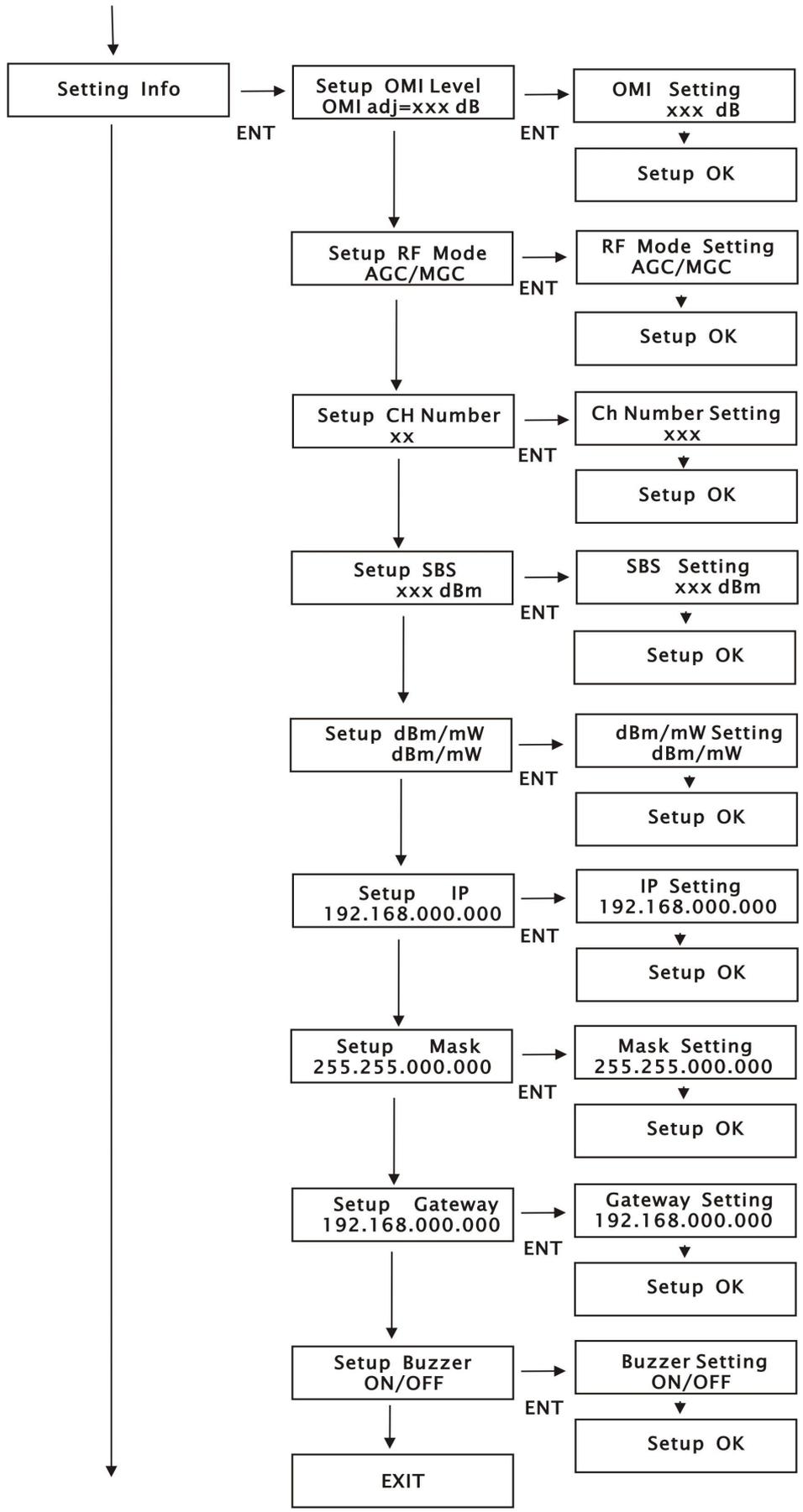
Parameter		Index	Remarks
Optical Parameters	Wavelength (nm)	1550±10	
	Output power (dBm)	1×5~2×10	
	Optical return loss (dB)	≥60	
	Connector type	SC/APC	Or FC/APC
RF parameters	bandwidth (MHz)	47~862/1000	
	Input level (dBmV)	23±5	AGC
	Flatness (dB)	≤±0.75	
	Return loss (dB)	≥16	
	Input impedance (Ω)	75	
Link Parameters	channels	PAL-D/60ch	
	CNR (dB)	≥53	
	CTB (dB)	≥65	
	CSO (dB)	≥65	
	SBS (dBm)	13~19	Step 0.1
General Parameters	Net interface	RJ45, R232	
	Power (V)	90~265	Or -48VDC
	Power loss (W)	≤50	
	Working Temp (°C)	0~50	Automatically shell temp control
	Storage Temp (°C)	-20~85	
	Working relative Temp	20%~85%	

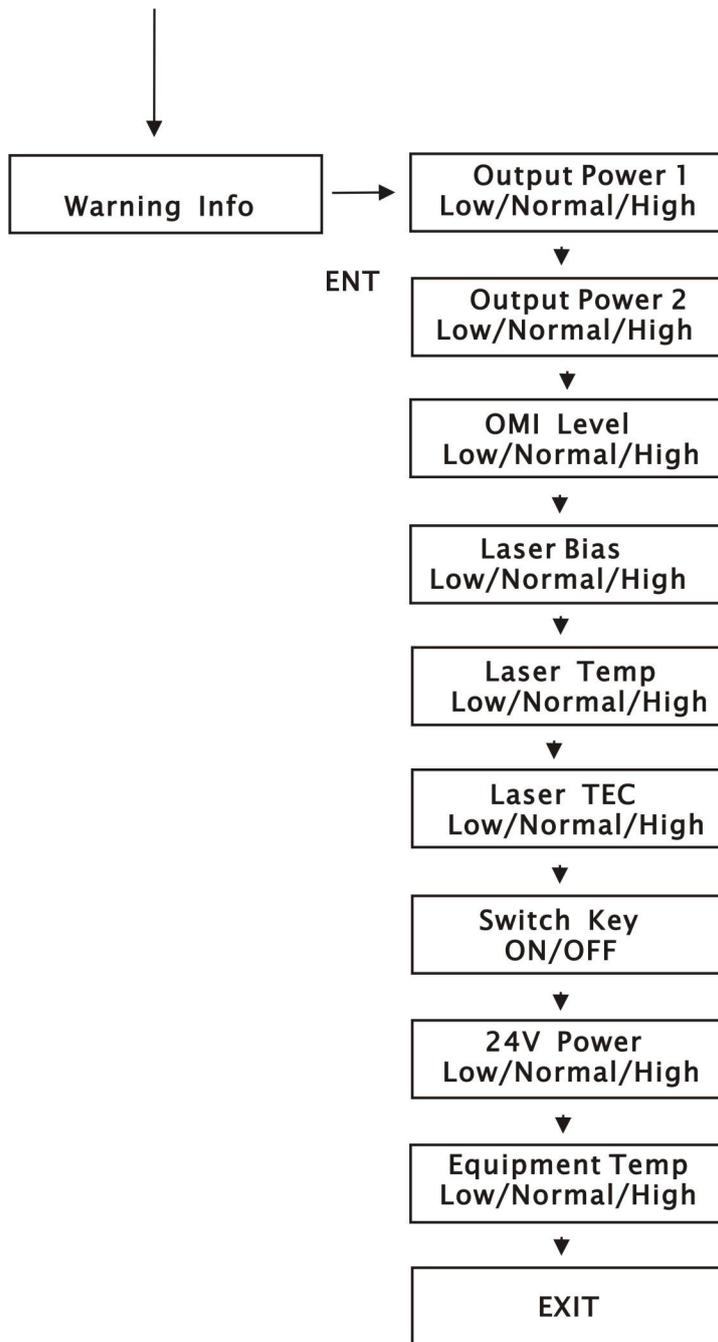
3.3 Front Panel Instruction



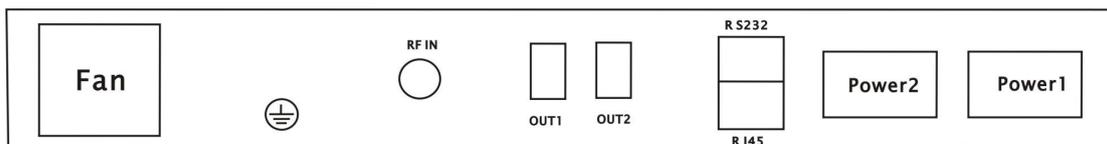
3.4 Front panel operation guide







3.5 Rear Panel



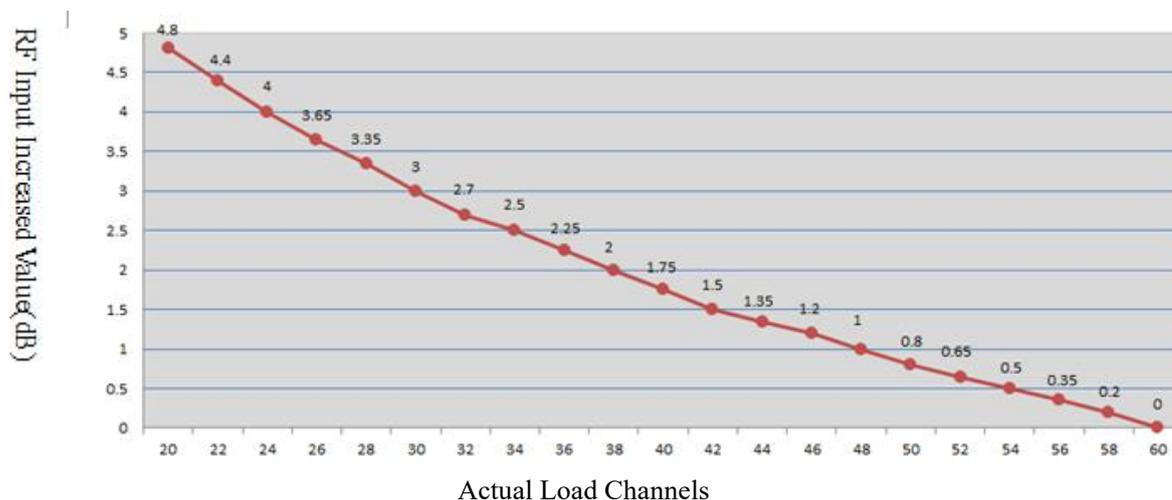
3.6 OMI adjust

3.6.1 The request on RF input level

The standard RF input 80 (+5/-5) dBuV when there is standard 59 channels, the advised RF steps between channels should controlled within 0.5dB.

The above advised RF input is based on 59 channels, in the actual case, the load number of channels may change, accordingly, the RF input of each channel will change, pls see the following picture. When our transmitter keep the change of RF input within 5dB, the optical modulation index will keep fixed.

RF Input Increased Value/Actual Load Channels



3.6.2 AGC condition

3.6.2.1 The default condition is AGC (the best condition).

3.6.2.2 AGC range 75dB μ V~85dB μ V

3.6.2.3 The user could adjust the OMI according to the networks

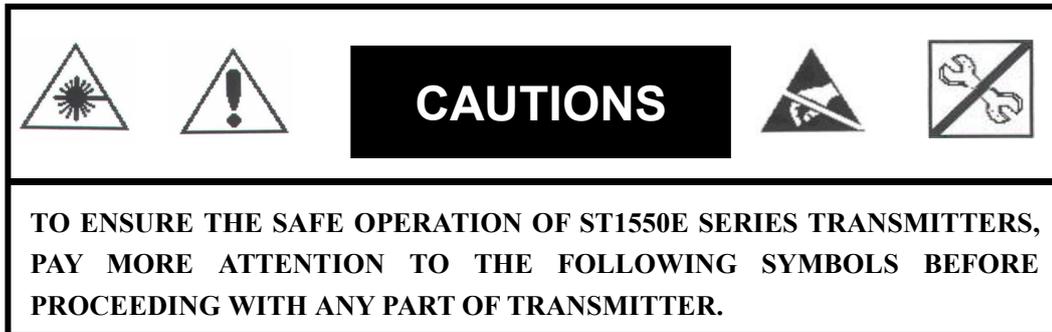
3.6.2.4 After increasing the value of OMI, then CNR will be higher, but CTB and CSO will be lower. If reduce the value of OMI, the CNR will be lower, CTB and CSO higher

3.7 SBS adjust steps

The default value of the SBS is 16.5dBm, the user can adjust it according to the request of the net.

- (1) Press SELECT, choose SBS Menu.
- (2) Press UP or DOWN, choose the stem menu: SBS=13~19dBm.
- (3) Press SELECT to choose SBS.
- (4) Press UP or Down to choose the SBS needed.
- (5) Press SELECT to confirm the selection.

IV. Safety Precautions



ST1550E SERIES EDFA ARE CLASS III LASER PRODUCTS. AVOID DIRECT EXPOSURE TO BEAM. IT IS A SEVERE HAZARD.



MANY FRAGILE AND HIGH PRECISION COMPONENTS ARE PLACED INSIDE HOUSING OF TRANSMITTER. USE PROPER TECHNIQUES WHENEVER YOU HANDLE THE UNIT.



STATIC-SENSITIVE COMPONENTS ARE INTRODUCED TO THE TRANSMITTER. PAY MORE ATTENTION DURING YOUR OPERATION. ENSURE THE UNIT IS WELL EARTHED AND INPUT UTILITY POWER IS STABLE BEFORE PROCEEDING WITH INSTALLATION AND OPERATION.



UNAUTHORIZED ALTERATION MAY CAUSE UNREPAIRABLE TROUBLES.

Precautions:

1. Before installation or operation of unit, please carefully go through this manual.
2. ST1550E Series Transmitters should be serviced only by qualified personnel.
3. Before proceeding with installation and/or operation of transmitter, please assure that transmitter is well earthed.
4. ST1550E Series transmitters are Class III laser products. Use of controls, adjustments, and procedures other than those specified herein may result in hazardous laser radiation exposure.

V. Warranty Term

ST1550E Series optical transmitters are covered by **TWO YEARS LIMITED WARRANTY**, which starts from the initial date of your purchase. We provide its customer whole-life technical supports. If warranty is expired, repair service only charges parts (if required). In the event that a unit must be returned for service, before returning the unit, please be advised that:

1. Warranty mark pasted on the housing of unit must be in good conditions.
2. A clear and readable material describes model number, serial number and troubles should be offered.
3. Please pack the unit in its original container. If the original container is no longer available, please pack the unit in at least 3 inches of shock absorbing material.
4. Returned unit(s) must be prepaid and insured. COD and freight collect can not be acceptable.

NOTE: we **do not** assume responsibility for damage caused by improper packing of returned unit(s).

The following situation is not covered by warranty:

1. The unit fails to perform because of operators' faults.
2. Warranty mark is modified, damaged and/or removed.
3. Damage caused by Force Majeure.
4. The unit has been unauthorized alteration and/or repaired.
5. Other troubles caused by operators' faults.

Conversion of Optical Power

mW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
dBm	0.0	3.0	4.8	6.0	7.0	7.8	8.5	9.0	9.5	10.0	10.4	10.8	11.1	11.5	11.8	12.0
mW	17	18	19	20	21	22	25	32	40	50	63	80	100	125	160	200
dBm	12.3	12.5	12.8	13.0	13.2	13.4	14	15	16	17	18	19	20	21	22	23