

# CATV

## HT1500 Series External Modulation Optical Transmitter



### ■ Performance characteristics

- ◆ Using 32-bit high-performance ARM processor, together with a complete automatic monitoring system circuit, can accurately monitor the optical output power and various working conditions of the laser in real time to ensure a stable optical output power and ensure that the laser is in the best working environment.
- ◆ A good modulator servo system and a unique “wind pendulum” mode of operation of the modulator phase tracking system provide a more accurate and delicate control process and a wider temperature range for the entire machine.
- ◆ Using a microwave source programmed and controlled by the CPU, the frequency and amplitude of the signal can be dynamically adjusted to generate microwave signals of any frequency and amplitude with less harmonics. The SBS threshold range is 13-19dBm.
- ◆ External modulation technology has no ripple effect, very low dispersion distortion, and has good characteristics in the band. The working bandwidth is 47~1000MHz.
- ◆ RF digital signal predistortion system can precisely match the predistortion amount according to the signal strength and modulation amplitude to ensure the signal quality
- ◆ Narrow line width (1MHz), low noise, DFB continuous wave lasers, and LiNBo3 external modulators perform signal modulation to ensure improved optical power into the fiber and increase transmission distance when the system COS performance index is excellent.
- ◆ The RF gain is selectable in AGC/MGC mode and the OMI $\pm$ 7dB range is adjustable.
- ◆ 19-inch 1U high-standard rack with blue and white 144\*32-point LCD display on the front panel, which can accurately display all working parameters and fault information of the equipment.
- ◆ Hot-swappable dual power supply, CPU assignable power, 48V or 220V optional.

## ■ Applications

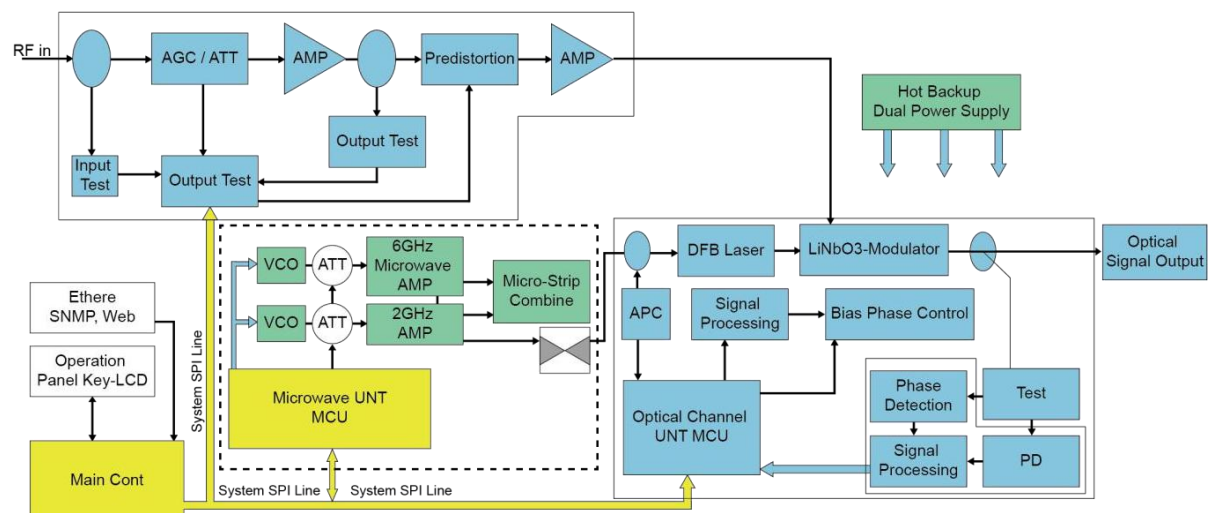
HT1500 series external modulation optical transmitter is one of the independent 1550nm laser transmission equipment productions of CATCAST, which has a complete independent intellectual property. It has high performance, high reliability and excellent performance and price ratio. It can be widely used in all kinds of medium and long distance digital and analog signal communication. The application scene includes large and medium-sized cable TV. Trunk and distribution network, CWDM/DWDM system, optical fiber sensing and security monitoring system. According to the requirements of application scenarios for device, this series of products contains 3 different configurations:

The HT1500-A series focuses on product cost and is an economical external modulation transmitter. The JDSU single fiber modulator is used to satisfy the users' needs of point to point transmission, and the SBS value can be controlled in 13-16dBm, (analog signal transmission <50km, digital signal <75km). It can be cascaded for long range amplification to meet the signal transmission needs between the two stage machine room and the distribution network. It is an ideal choice for the 1550nm trunk transmission network.

The HT1500-B series uses OCLARO dual fiber modulator, SBS value can be controlled in 13-19dBm, can be used for point to point long distance transmission, and can also be used to distribute network signal (with high SBS threshold, the device can still maintain good signal quality when the maximum 19dBm laser power is pushed to the fiber transmission network). It is a widely adopted optical transmitters.

The HT1500-C series uses wavelength adjustable laser module, JDSU dual fiber modulator, and SBS threshold 13-19dBm. It is suitable for signal front machine room and middle distance trunk link simulation, digital signal broadcasting and optical interpolation. It is the best choice for constructing large and medium HFC and complex analog and digital signal interaction network

## ■ Block diagram



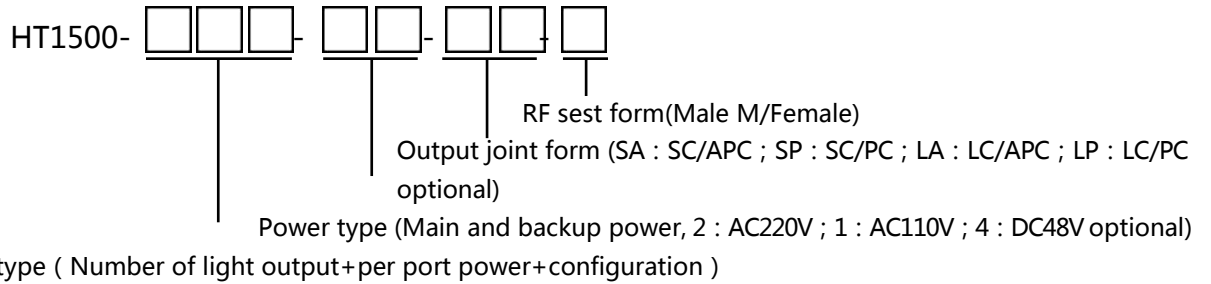
HT1500

## ■ Technical parameters

Technical parameters	HT1550-D	HT1550-A
Optical wavelength	1540-1563nm Fixed wavelength	
Recommended transmission distance	50km	100km
	75km	150km
Laser linewidth	≤2nm	
Edge mode rejection ratio	≥45 dB	
Output power	1*9dBm	2*5dbm,2*7dbm,2*9dBm
Output number	1	2
Optical connection form	FC/APC , SC/APC	
Radio frequency AGC control range	10dB	
Radio frequency range	47-862/1000MHz	
Flatness	≤0.75	
RF input signal level	78-90dBuV	
RF input impedance	75Ω	
RF input reflection loss	≥16dB	
CNR	≥53dB	
CTB	≥65dB	
CSO	≥65dB	
SBS inhibition	13~16dBm Continuous tunable	13~19dBm Continuous tunable
Network management interface	RJ45	
Supply voltage	AC220V(160-265V)&DC48V(30-72V)	
Working temperature	-5°C~+65°C	
Relative humidity	Maximum 95%, no condensation	
Product net size	483×455×44mm	
Product packaging size	625×625×160nm	
Product weight	8kg	
Weight of the whole box product	10kg(1pc)	

## ■ Model guide

HT1500-Number of ports\*Power per port + product solution-main power supply voltage + auxiliary power supply voltage-output connector form-RF head form.



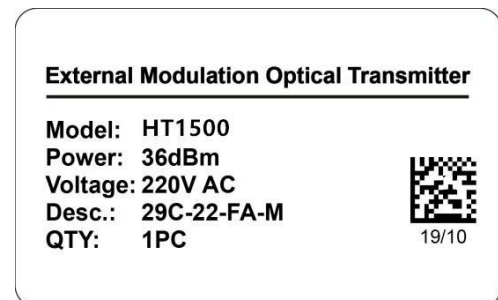
Example : HT1500-S29-22-FA-M

Explanation: This is an externally modulated optical transmitter. The product model is HT1500. The dual-fiber output is 2 ports, each port outputs 9dBm, and the C configuration scheme modulator is used. The main power supply is 220V, and the auxiliary power supply is 220V. The output connector is FC/APC; the RF head is a metric connector

## ■ Package & Label



Outside package(10pc)



Product label