



ROT1526
2.6GHz Optical
Transmitter

Quick Reference
Guide

Revision A

ACT ROT1526 Optical Transmitter Operation

User Guide

ACT Document Number: ACT ROT1526 Guide

User Guide Revision A

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This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

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Revision History

Revision	Date	Reason for Change
A	3/31/2016	Initial Release

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1 Overview

ACT ROT1526 series Direct Modulated 1550nm 2.6GHz forward transmitter offers a flexible and scalable optical transmission for high quality video and data in short and medium distance CATV and Satellite distribution networks. It is a cost effective, good performance optical transmitter which is designed with a low noise DFB laser with MGC control. The wide RF spectrum supports both CATV spectrum and Satellite IF spectrum up to 2.6GHz.

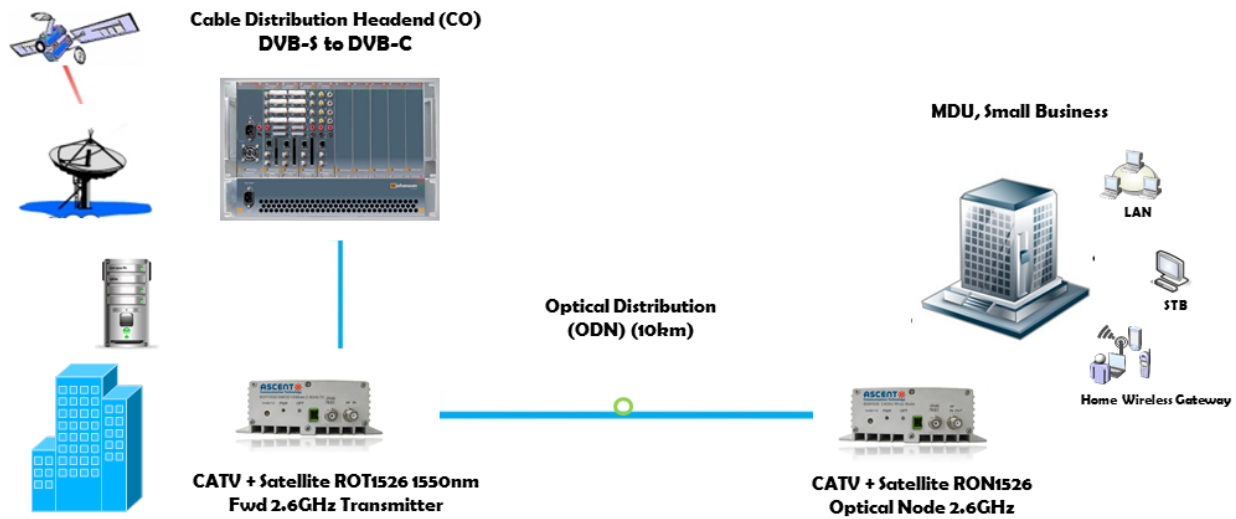
ROT1526 1550nm transmitters are capable of delivering analog and digital video transmission up to 10km with intuitive LCD display to make operator's daily operation easier. Rolling out ROT1526 DMOD TX makes it possible for cable/Satellite operators to protect their existing network investment and continue the deployment of DOCSIS-compliant cable modems for Internet and VoIP delivery, together with Video on Demand systems.

The optical output power level can be ordered at 3dBm, 6dBm, 7dBm with optional local IP monitoring port for remote management. Combined with ACT ROT1526 optical RX, ROT1526 DMOD transmitter provides the most cost effective CATV, Satellite signal, IPTV and VOD solution for short, medium HFC and FTTX network.

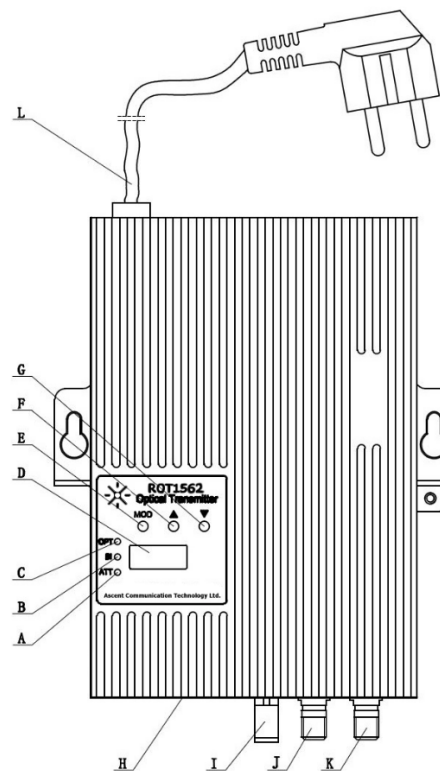
2 Key Features

- Suitable for short, medium distance FTTB applications
- High performance and Cost Effective transmitter solution for short and medium distance MDUs
- 2.6GHz RF Spectrum (47~862MHz CATV, 950~2605MHz SAT-IF)
- Optimized models for analog and digital signal up to 10km
- Small form factor and low power consumption
- Optical manual gain control (MGC)
- Low noise DFB Laser
- Optional local RJ45 IP monitoring port to allow remote management
- Support SNMP and HTTP monitoring, management and control
- The compact and sturdy enclosure fits easily in wiring closets or network termination boxes.

3 Block Diagram



4 Product Diagram



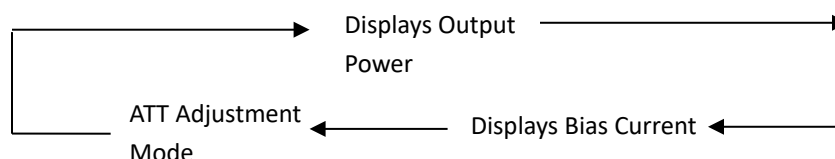
A: ATT Adjustment Mode Indicator: This red light indicates the transmitter is in RF attenuation mode.

B: Bias Current Mode Indicator: This red light indicates that the transmitter is in laser bias current mode.

C: Optical Power Mode Indicator: This red light indicates that the transmitter is in optical power output mode.

D: Display: Used to display all parameters for the device.

E: Settings button. Every press, the data display will change modes and the corresponding indicator light will light up.



F, G: Up and down adjustment keys: when entering ATT adjustment mode, you can adjust the ATT up or down, using these keys.

H: LAN communication interface (RJ45 interface): IEEE802.3 10Base-T interface for local network management.

I: Optical signal output. When the device is working properly, the port has an invisible laser beam. The port should not be looked at with a naked eye, so as not to cause accidental injury.

J: RF monitoring port.

K: RF input port.

L: Power cord: Supplies power to the device.

Plug in the power, the machine will automatically run a self-test. The digital display will flash. After completion of the self-test the system enters into a working state. Press the settings button to enter the various modes.

5 Specifications

RF Specification

RF Bandwidth	47 MHz to 862 MHz and 950 MHz to 2605 MHz
RF Flatness	±1 dB @ 47 MHz to 862 MHz; ±2.5 dB @ 950 MHz to 2605 MHz
RF Input Level	20 dBmV
RF Input Return Loss	≥ 14 dB @ 47 MHz to 862 MHz; ≥ 10 dB @ 950 MHz to 2605 MHz
RF Input Impedance	75 Ω
RF Test Point	-20 dB
TV Channel Plan	60 PAL channels, 80 NTSC channels

Link Performance

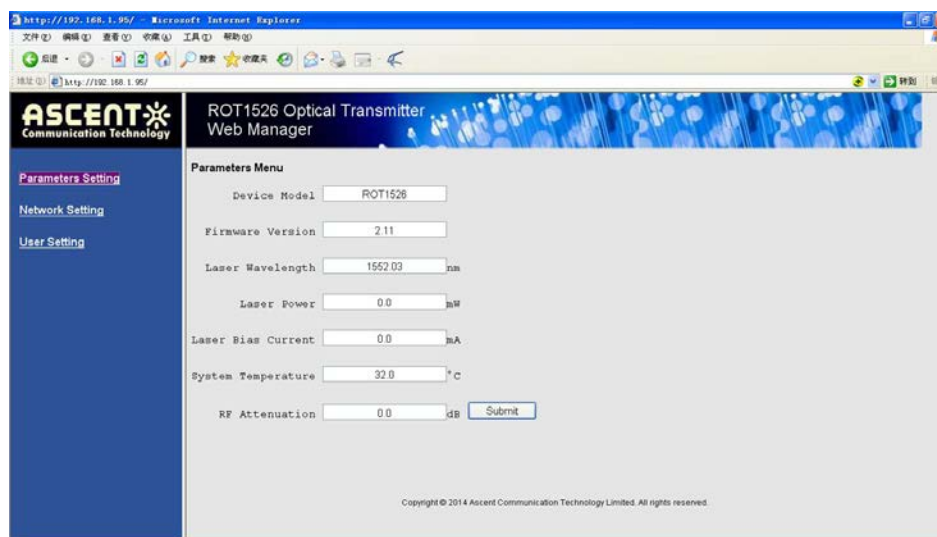
CNR	50 dB
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CTB	-60 dBc
CSO	-60 dBc
Optical Specifications	
Wavelength	1550 ± 5 nm
Optical Output Power	3 dBm, 6 dBm, 7 dBm
Optical Connector	SC/APC or FC/APC
General Specifications	
Management Interface	RJ45 Web & SNMP
Operating Temperature	0 °C to 50 °C
Storage Temperature	-40 °C to 85 °C
Power Supply	100 V AC to 265 V AC
Power Consumption	≤ 5 W
Operating Relative Humidity	5 % to 95 %
Dimensions (W x D x H)	210 mm × 159 mm × 50 mm
Weight	0.93 kg
Ship Weight	1.5 kg

6 ROT1526 Optical Transmitter WEB Browser Operation

Connect the optical transmitter to a PC using an RJ45 cable to configure the IP address of the transmitter. ROT1526's default IP address: 192.168.1.120, subnet mask: 255.255.255.0, gateway: 192.168.1.1.

Open an internet browser, and input 192.168.1.120 into the address bar. Log in to view and configure parameters for the optical transmitter. The default username and password are both **1234**.



The image displays two screenshots of the ROT1526 Optical Transmitter Web Manager interface, accessed via a Microsoft Internet Explorer browser window.

Top Screenshot: Password Change

The interface shows the "ROT1526 Optical Transmitter Web Manager" header. On the left, a sidebar contains "Parameters Setting", "Network Setting", and "User Setting". The main content area is titled "Password Change" and includes three input fields: "Old Password", "New Password", and "Confirm New Password". An "Accept" button is located below the fields. The footer states "Copyright © 2014 Ascent Communication Technology Limited. All rights reserved."

Bottom Screenshot: Network Configuration

The interface shows the "ROT1526 Optical Transmitter Web Manager" header. On the left, a sidebar contains "Parameters Setting", "Network Setting", and "User Setting". The main content area is titled "Network Configuration" and includes three input fields: "System IP Address", "Net Mask Address", and "Gateway Address". Each field is represented by a four-part input box (e.g., 192, 168, 1, 95 for System IP Address). An "Accept" button is located below the fields. The footer states "Copyright © 2014 Ascent Communication Technology Limited. All rights reserved."

7 Warnings

1. The laser is the core part of ROT1526. It is ESD sensitive and electrostatic from even the RF input can damage it. Follow operation rules strictly and carefully during installation and maintenance of the unit. The operator's proper grounding is required.
2. All electric power components and optical transmitter should be given a good grounding connection.
3. The electric power of ROT1526 should be 100 V AC to 240 V AC with a regulated AC power supply.
3. The RF signal should not be connected until the optical transmitter arrives at its normal working point. The amplitude of the RF signal should follow the instructions in the test report of the optical transmitter. An abnormal RF signal power will overload the laser and damage it.
4. ROT1526 should be stored in ESD protected conditions (such as within an ESD protection container) and cannot be stored with corrosive cargo. The storage temperature should be kept within -20 °C to +55 °C.
5. Forced cooling should be added when multiple ROT1526 units are mounted on the same rack.
6. Do not open or repair any part of ROT1526. Doing so will void the warranty.
7. Do not look directly at the optical output. Doing so may incur bodily injury.
8. ROT1526 requires good ventilation to work properly.
9. The optical output should be covered with a dustproof cover if the transmitter won't be used for an extended period of time.

When failure occurs, ROT1526 should be sent to the manufacturer in a timely manner. Do not open or attempt to repair any part of the transmitter by yourself, doing so will void the warranty.



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