

EOC All-In-One-CD7944N



Product Overview

The C-Data All-In-One product is designed to provide Internet service to subscriber's home through the existing coaxial access network. With XPON, EOC and HFC technology, the All-In-One product meets the CATV broadcasting, VOD and Internet service requirement of cable operators for FTTB/FTTC. It is built with XPON ONU, EOC master and Optical Receiver module in one housing.

The Optical Receiver module receives the optical signal from the Optical Transmitter of HFC network, and the signal is processed by the PD, Amplifier, EQ and AGC to a stable RF output. The output level will be up to 104dBuV (4*RF output). Ethernet data is delivered to ONU through the XPON network from the OLT.

The EOC Master module meets Home-plug AV standards, is designed based on Qualcomm AR7410 chip-set with high anti-jamming capability OFDM technology. It will modulate the Ethernet data into EOC RF signal in the 7.5-65MHz. The EOC signal and CATV signal (87~860MHz) can run on one coaxial cable without interference. The EOC Master can provide high speed data service at 600Mbps PHY Layer speed, the MAC Layer throughput is up to 320Mbps.



Function Features

Standards

- Complies with ITU-T G984.X and IEEE802.3ah standards
- Complies with HomePlug AV international standards and IEEE 1901 Standard

Product Configuration

- Configurations available with 1 GPON ONU module
- Configurations available with 2 HomePlug AV EOC Master modules
- Configurations available with 1 HFC Optical Receiver
- RF output configurations with 4 outputs
- Line Power (from 90 to 264 VAC) or Cable Line Power (60VAC) optional
- 35/47, 42/54, 65/87 type High/Low Filter optional to meet your network

CATV RF Features

- Supports higher RF output: 104dBu
- AGC (from -6 to 0dBm) function for stable RF output

Data Transportation in Coaxial Cable

- Supports data throughput of greater than 300 Mbps per EOC Master module
- Supports Max link loss greater than 85 dB (40Mbps throughput in lab)
- Recommend 40~50dB link loss for about 300 throughput

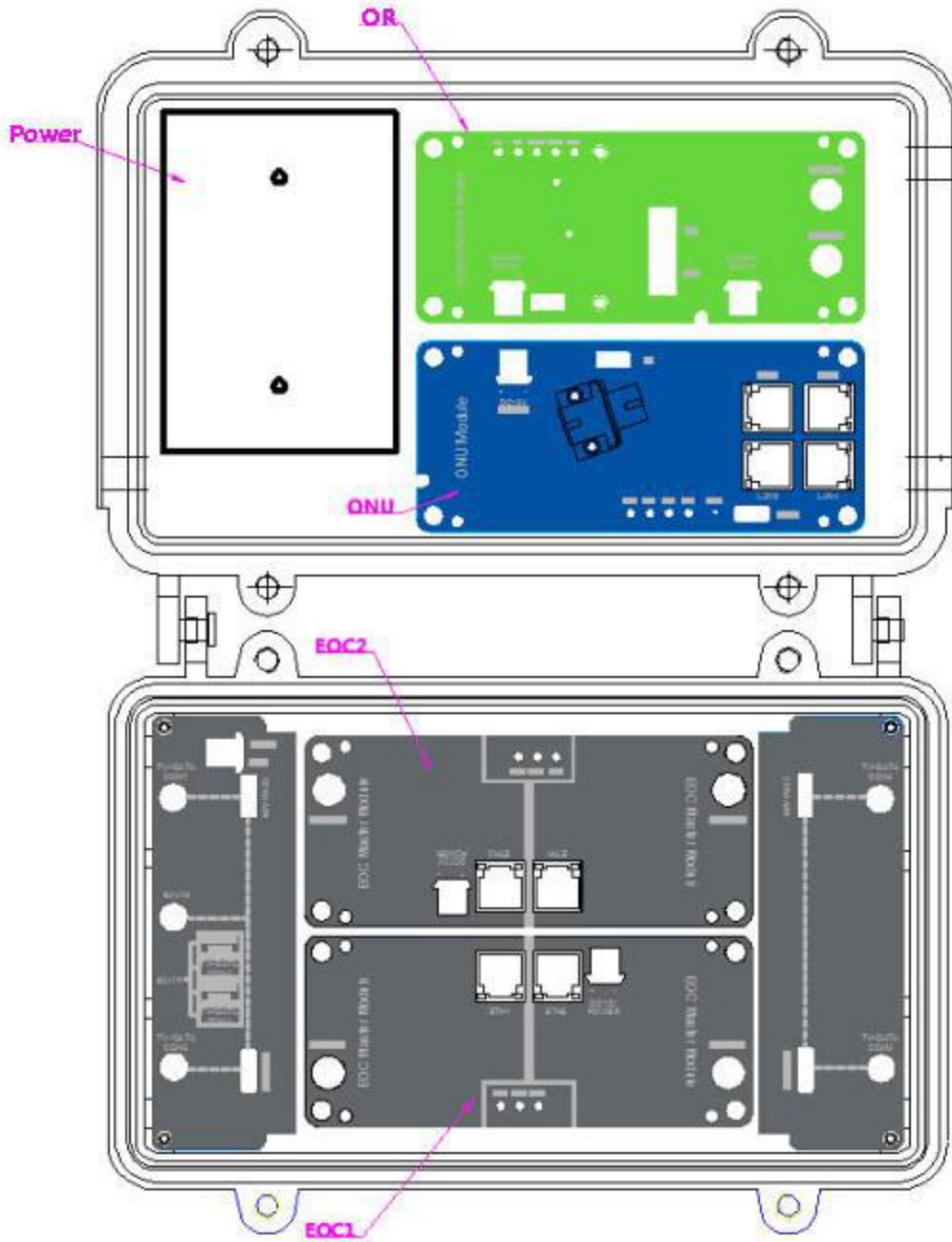
Network Management

- CLI, WEB management for ONU module
- WEB, SNMP management for EOC module
- Optical Receiver status monitor and control by PON system

Other Features

- 019C Housing, aluminum alloy die casting shaping
- Line Power 60AC feed in and out

Product Internal Structure Diagram



Specification

Item	Parameters	Specification
Main Functional Module Configuration	ONU	1 * XPON ONU
	EOC Master	2*EOC Master
	CATV	1* CATV Optical Receiver
External Interface	Fiber Port	5/8" type, 2 port, for Fiber Optic Pigtail input
	COM Port	F-Type female, 4 output port for mixed EOC and CATV signal
	Power Input Port	F-Type female, line power(40-90VAC) input version Power cord with China plug, Mains Powered (90-264VAC) version
Uplink	Broadcast CATV	1*CATV optical, SC/UPC
	Ethernet Data	1*EPON/GPON adaptive optical, SC/UPC
Specification of XPON ONU Parts		
EPON/GPON	Standard compliance	EPON: IEEE802.3ah GPON: ITU-T G.984.X
	Optical Interface	EPON: 1 * EPON 1000BASE-PX20+ GPON: 1 * GPON CLASS B+
	Transmission Rate	EPON: 1.25Gbps downstream/upstream GPON: 2.488Gbps/1.244Gbps downstream/upstream
	Transmission Distance	EPON: 20Km@1:64 GPON: 20Km@1:128
	Optical Fiber Type	Single Mode, Single Fiber
	Wavelength	Upstream 1310nm, Downstream 1490nm
	Optical Power Tx	EPON : 0dBm to +4dBm(1000BASE-PX20+) GPON : +0.5dBm to +5dBm(Class B+)
	Receiving Sensitivity	EPON: -27dBm(1000BASE-PX20+) GPON: -28 dBm(Class B+)
Indicator	Indicator Description	PWR: Power up or down PON: ONU registered LOS: Optical Link Status SYS: system work indicator
Network Management	Management Mode	Support IEEE802.3ah OAM (EPON) Support ITU-T G.984.X OMCI (GPON) Support WEB management Support Telnet Management
	Function	Status monitor, Configuration management, Alarm



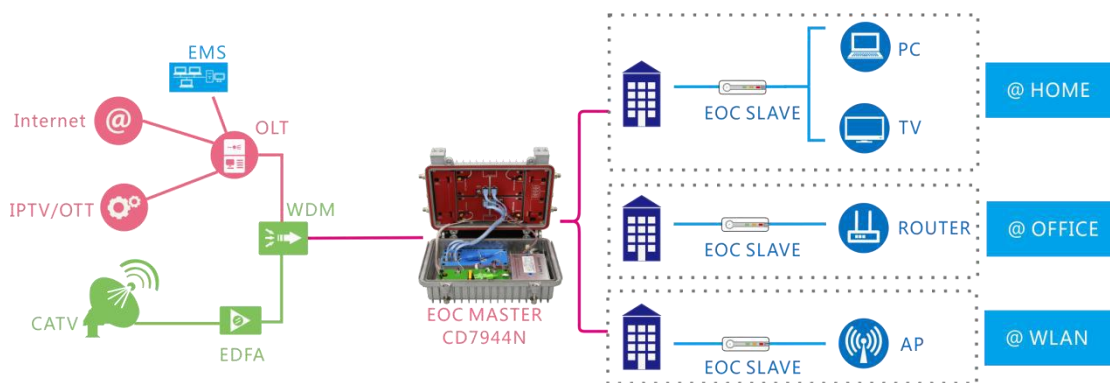
		management, Log management
Specification of OR		
Optical Specifications	Wavelength	1550±10 nm
	Optical Power Input Range	-10 ~ +2 dBm
	Recommend optical Power Input Range	-6 ~ 0dBm
	Optical Input Return Loss	>45 dB
RF Specifications	Bandwidth	45~860 MHz
	Flatness	≤±1.5 dB
	Nominal RF Output Level	104dBuV
	Impedance	75 Ohm
	Return Loss	≥14 dB
	CNR	≥51 dB
	CSO	≥60 dBc
	CTB	≥60 dBc
<i>Note: CNR, CSO, CTB parameter testing environment is in1550nm directly modulation transmitter, optical input -1dBm, OMI=3.2%, 59CH PAL-D signal load.</i>		
Optical and temperature AGC	Stability of RF Level under optical AGC	≤±1 dB
	AGC Scope	-6 ~ 0dBm
LED Indicator	Indicator Description	TV1: Status of Output 1 of optical receiver module TV2: Status of Output 2 of optical receiver module OPT-M: Optical power is nominal OPT-L: Optical power is abnormal PWR: Power Supply Status
Specification of EOC Master		
Interface	Inband Management Port	1 * 10/100/1000M auto-negotiation, RJ45
LED Indicator	LED Indicator	PWR: Power Supply Status CAB1: CABLE Link Status indicator1 CAB2: CABLE Link Status indicator2
Performance Parameters	RF Parameters	Frequency Band :7.5-65MHz RF Output Level: 115±5dBuv @4 RF output port Receive sensitivity: 45dBuv
	Transmission	PHY Layer: 600Mbps Throughput on MAC Layer: 320Mbps
	Modulation Mode	OFDM2690 carriers, 4096/1024/256/64/16/8 QAM, QPSK, BPSK, ROBO
	Working Mode	TDMA/CSMA
	Encryption Mode	AES-128
Standard	EOC Standard	IEEE P1901(Draft) , HomePlug AV
	Ethernet Standard	IEEE 802.3, IEEE 802.3x, IEEE 802.3u IEEE802.1P, IEEE802.1Q

Software	Network Management	WEB, CLI, SNMP
	Software Features	VLAN, QOS, Bandwidth Control, Broadcast storm limitation
Physical Features		
Physical Features	Power supply	Line Power(90-264VAC) Cable power(60VAC) optional
	Power Consumption	Consumption: <80 W
	Net weight	3.7kg
	Environment Attribute	Working Temperature: -20 ~ 65℃ Storage Temperature: -40 ~ 85℃ Working humidity: 10% ~ 90%non-condensing Storage humidity: 10% ~ 90% non-condensing

Typical Application

- CATV
- Internet Access
- VOD
- IPTV
- Camera monitor system

Application Illustration



CD7944N Application Illustration

Order Information

Product	Item	Description
EOC All-In-One (ONU+OR+2*EOC)	CD7944N	Built-in one XPON ONU Module, one OR module and 2 modules, each with two EOC headends; one EPON/GPON adaptive uplink optical port, one CATV optical input, four TV+data mixed output port, CATV RF output 104dBuv@each port, Outdoor waterproof designed. 90-264VAC power supply or 60VAC Cable line power supply feed in and out optional, 65/87 H/L filter is default, 35/47, 42/54 H/L filter is optional.