

Mini Node Deep Fiber FTTH Solution

AON120D Series



- **Video Overlay for FTTH/PON network (1218MHz)**
- **1550 nm CATV wavelength**
- **1310/1490 nm PON wavelength compatible**
- **1270/1577 XGSPON wavelength compatible**
- **-15 dBm to +2 dBm optical receiving range**
- **76 dB μ V RF output power with AGC range**
- **LED indicators**
- **Low power consumption**
- **Compact form factor**

AON120D Series FTTH mini node supports Video Overlay application over FTTH optical fiber access network. It operates on 42 MHz to 1218 MHz RF bandwidth, with high output power up to 76 dB μ V (AGC). AON120D has low power consumption and optional built-in WDM to support PON signal pass-through. It is part of ACT's Deep Fiber and FTTH solution, which helps operators provide superior video services in a FTTH PON network architecture.

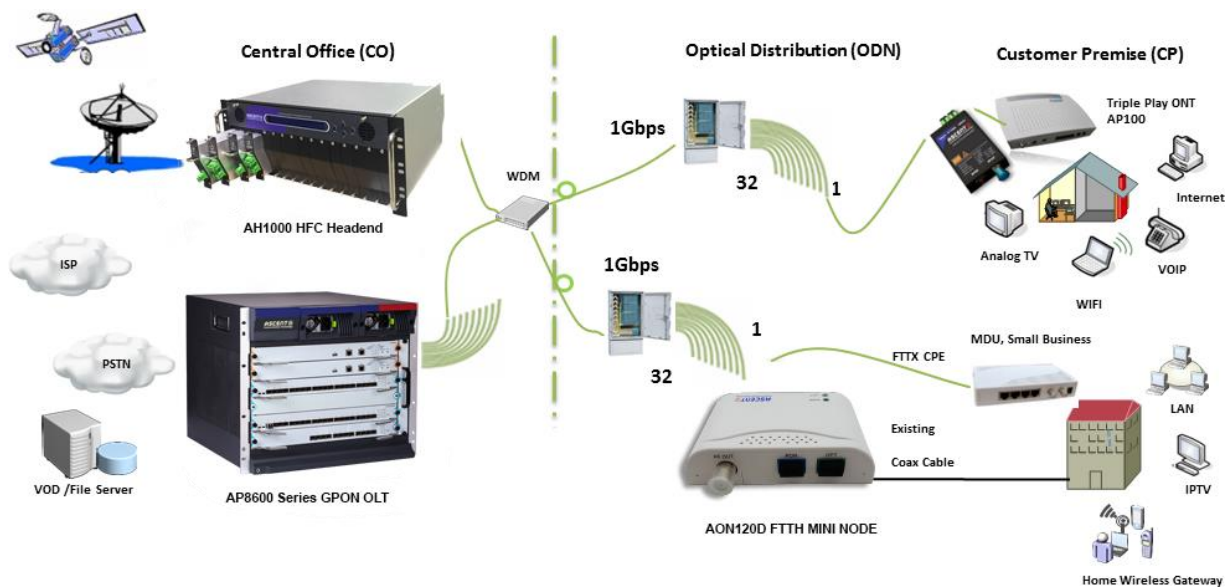
The AON120D Mini Node adopts high sensitivity optical receiver and specially designed low noise matching circuit. The mini node provides high output and is installed at the subscriber premises, suitable for advanced FTTx, high density MDU, SMB, or hospitality market applications. The AON120 mini node is designed with built in WDM optical passive, which will pass the 1310/1490nm PON and 1270/1577nm XGSPON data wavelength to the ONU/ONT CPE device.

With the compact housing, modular design, AON120D mini node provides the flexible configuration for MSOs to deliver advanced video services to their customer. This fiber deep product series improve overall network performance, and offer sufficient bandwidth for new application demand.

Key Features

- 1218 MHz RF Spectrum for superior video services
- Small form factor and low power consumption
- 1550 nm CATV wavelength
- 1310/1490 nm PON wavelength
- 1270/1577 XGSPON wavelength
- Wide optical receiving range: -15 dBm to +2 dBm
- Optical AGC to keep constant output level in different optical input power
- RF output level: 76 dB μ V @ -12 dBm optical input power
- LED indicator for optical power and power supply
- Powered directly using the power adaptor
- Compact enclosure fits easily in CPE, ONU housing or network termination boxes
- Special heat dissipation design

Application Diagram



Specifications

Optical Parameters

Operational Wavelength	1260 nm to 1620 nm	
CATV Wavelength	1540 nm to 1560 nm	
	1310 nm (optional, no WDM)	
Reflection Wavelength (Optional)	1270 nm to 1530 nm and 1570 nm to 1620 nm	Available for GPON 1310/1490 and XGSPON 1270/1577
Insertion Loss (COM to Reflection Port)	≤1.0 dB	
Channel Isolation @ 1550 nm	≥30 dB	
Channel Isolation @Reflection Band	≥15 dB	
Optical Input Power	-15 dBm to +2 dBm	
AGC Range	-12 dBm to +2 dBm	
Optical Return Loss	≥50 dB	
Optical Fiber Connector	SC/APC or others SC/PC or others	COM port Reflection port

RF Parameters

Operational Bandwidth	47 MHz to 1002/1218 MHz	
Flatness	≤±1.0 dB	47 MHz to 1002 MHz
Output Level	76 dBμV ± 1 dBμV	AGC range
Return Loss	≥16 dB	47 MHz to 1002 MHz
Output Impedance	75 Ω	
C/N	≥43	-9dBm optical input power,
C/CSO	≥55	optical input level transmitter
C/CTB	≥55	82 dBμV @ 60 PAL, OMI 3.5 %
MER	≥34 dB	Pin = -12 dBm
BER	<1.0E-9	Pin: 0 dBm to -15 dBm
Output Port Number	1	
RF Tie-in RF	F-Female	

General Characteristics

Power Adapter	+12 V _{DC}
Power Consumption	≤2 W
Operating Temperature	-10 °C to +50 °C
Storage Temperature	-40 °C to +85 °C
Operating Relative Humidity	5 % to 95 %
Dimensions (L×W×H)	73 mm × 60 mm × 23 mm

