AON121 FTTH Mini Node

POLYTRON powered by ASCENT Communication Technology

FTTX
Mini Node
Deep Fibre
Solution

AON121 Series

- Video Overlay for FTTH/PON network (GPON/ XGS PON)
- 1218 MHz RF Spectrum
- RF Output up to 83 dBµV
- Compact Housing
- Suitable for Home or MDU
- Optional PON Pass-Through Port
- Low Noise Circuit
- Low Power Consumption
- Single Fiber WDM option
- LED Status Indicators

AON121 Series FTTH mini node supports Video Overlay application over FTTH optical fiber access network. It operates on 1218MHz RF bandwidth, with high output power up to 83 dBµV (AGC). AON121 has low power consumption and optional built-in WDM to support PON signal pass-through. It is part of ACT Deep Fiber and FTTH solution, which helps operators provide superior video services in a FTTH PON network architecture.

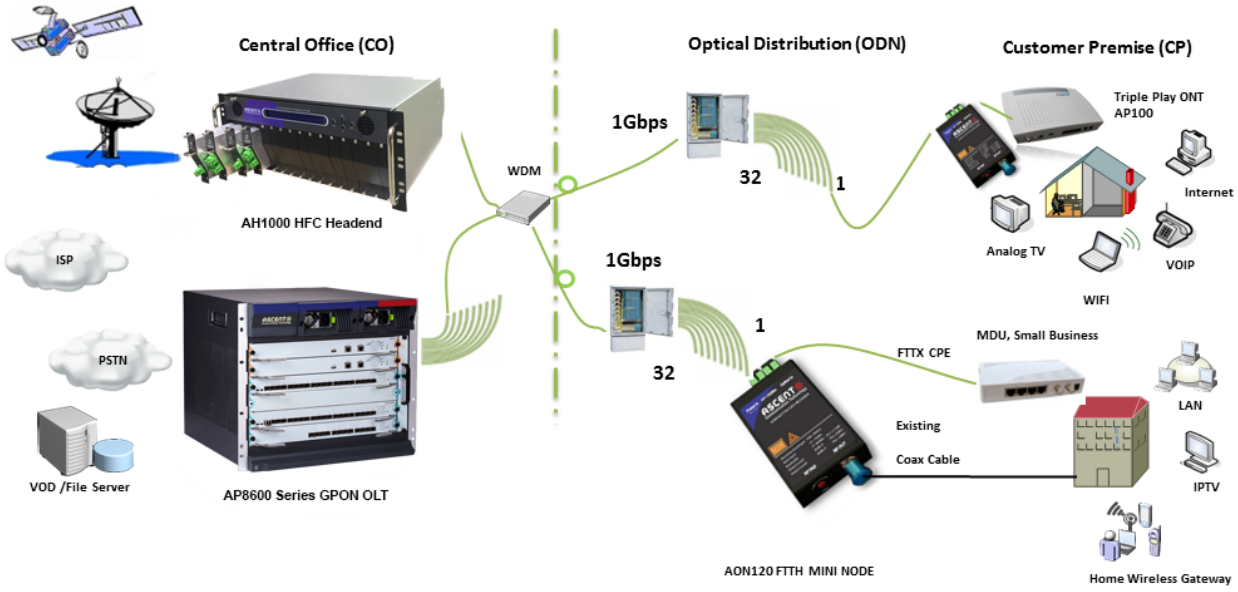
The AON121 Mini Node adopts high sensitivity optical receiver and specially designed low noise matching circuit. The mini node provides high output and is installed at the subscriber premises, suitable for advanced FTTx, high density MDU, SMB, or hospitality market applications. The AON121 mini node is designed with built in WDM optical passive, which will pass the GPON 1310/1490nm and XGS PON 1270/1577nm data wavelength to the ONU/ONT CPE device.

With the extremely compact housing, modular design, AON121 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

- 1002or 1218 MHz RF Spectrum for superior video services
- Small form factor and low power consumption
- Low noise circuit (3.5 % modulate, -10 dBm receive, CNR ≥ 42dB)
- High output power up to 83 dBµV for MDU application
- Excellent linearity at wider optical receiving range +2 dBm to -12 dBm
- Flatness less than ±0.75 dB in the range of 47 MHz to 1002 MHz
- Metal shell, supply safeguards to opto-electrical sensing device
- Optional built-in WDM provides PON pass-through capability in a FTTH optical passive network
- Powered directly using the power adaptor
- The compact enclosure fits easily in CPE, ONU housing or network termination boxes

Application Diagram



Specifications

AON121 FTTH Deep Fibre Mini Node

Downstream Specifications (Receiver)	
CATV Wavelength Range	1540 nm to 1560 nm
PON Pass Channel Wavelength	1260 nm to 1330 nm
(GPON and XGS PON)	1470 nm to 1510 nm
	1575 nm to 1650 nm
Optical Input Power	-20 dBm to +2 dBm (AGC: -13 dBm to -2 dBm)
	-18 dBm to +2 dBm (1550 nm LED Green)
	>+2 dBm (1550 nm LED Orange)
	<-18 dBm (1550 nm LED Red)
Optical Return Loss	45 dB (typ.)
WDM Insertion Loss	0.6 dB (GPON)
Channel Isolation (GPON)	≥35 dB
Responsivity	≥0.9 A/W @ 1550 nm
Channel Isolation (CATV)	≥18 dB
RF Bandwidth:	47 MHz to 1002 MHz, 1218 MHz
Output Level	83 dBµV @ -13 dBm to -2 dBm (AGC)
Output Level Adjustment	0 dB to 20 dB
RF Flatness	±0.75 dB (47 MHz to 1002 MHz)
RF Return Loss	≥14 dB
RF Input Impedance	75 Ω
RF Connector	F-Female
Link Performance	
CNR	42.0 dB (-10 dBm input, 96 NTSC, +3.5% OMI)
CTB	-57 dBc
CSO	-57 dBc
MER	38 dB (-10 dBm input, 96 NTSC)
General Specifications	
Optical Connector	SC/APC, SC/UPC, LC/PC
Operating Temp	-20 °C to +50 °C
Storage Temp	-40 °C to +85 °C
Power Supply	+12 V_{DC}
Operating Relative Humidity	5 % to 95 % RH (non-condensing)
Power Consumption	<2 W
Dimensions (W × D × H)	48 mm × 88 mm × 22 mm
Weight	0.4 kg
Ship Weight	5 kg (Packed in carton boxes of ten units)

Ordering Information

AON121 Series FTTH Mini Node Ordering Information

AON121-	X-	X-	XX-	XX-	XX-	X

	RF Bandwidth
A	1002 MHz
E	1218 MHz

	Output Power
AG	83dBuV

	Power Adaptor
00	None (RF Powering)
01	Australia
02	China
03	Continental Europe
04	North America

	WDM
0	No WDM Filter (1550/1310/1490 all pass)
F	WDM Filter (1550 pass) w/o PON Port
W	WDM (1550 pass) w PON Port (1310/1490)
X	XGS WDM (1550 pass) w PON Port (1310/1490, 1270/1577

	Optical Connector
AS	SC/APC
LA	LC/APC
US	SC/UPC

	Customization
0	Default Standard Model
T	DVB-T Application

Contact Information

POLYTRON®

WEB: www.polytron.de

GERMANY
Langwiesenweg 64-71
75323 Bad Wildbad, GERMANY
Phone: +49 (0) 7081 / 17 02 0

ASCENT Communication Technology

Ascent Communication Technology Ltd

CHINA
Unit 1907, 600 Luban Road
200023, Shanghai CHINA
Phone: +86-21-60232616

WEB: www.ascentcomtec.com **EMAIL:** sales@ascentcomtec.com

Ver. ACT_AON121_Mini_Node_Datasheet_V1n_Nov_2020