

# Features and Benefits



## Inverse Fiber Amplifier (AIFA)

The Antronix Inverse Fiber Amplifier (AIFA) is an innovative cost-effective solution to extend the network and/or broaden its reach by converting the multitenant's drop RF signal to an optical signal. This high performance device operates at an industry leading 9 dBm of output power.

The inverse fiber amplifier is an outdoor, line mountable, rugged device that can provide extra reach and expand the existing HFC infrastructure to add and attract additional subscribers (rural customers) otherwise not serviced by the MSO. The Antronix AIFA is designed to leverage an MSO's existing Hybrid Fiber Coaxial (HFC) network to support DOCSIS data traffic and video channels. This implementation allows for improved reliability, lower maintenance costs and significantly increased performance, all while utilizing existing headend equipment. The headend and back-office systems already supporting the HFC plant are utilized in the new fiber plant extensions. The Inverse Fiber Amplifier is interoperable regardless of manufacturer but is most frequently paired with either a dedicated High Output MDU Antronix Premise MicroNode or a shared access Antronix Mini RFoG ONU, for new sets of subscribers.

- **Extend Network Reach**

The Antronix Inverse Fiber Amplifier is a high output and low distortion fiber bridge that can extend the network reach by over 10 km. via new build fiber extension, with little reengineering of the OSP.

- **Broaden Network Reach**

Add multiple subscribers by onboarding new home's passed to existing service group.

- **Performance**

50 - 1.2 GHz bandwidth high powered 1550 nm DFB transmitter and high sensitivity receiver

- **9 dBm Transmit Power**

- **Simple Installation**

The units can be installed indoors or outdoors; either pedestal or strand mounted.

- **Signal Conditioning**

Full complement of JXP pad, eq or cable sim available enabling signal level optimization for both forward and return, resulting in ability to maintain proper cpe boundaries.

- **DOCSIS Compliant Operation**

- **Low Power Consumption**

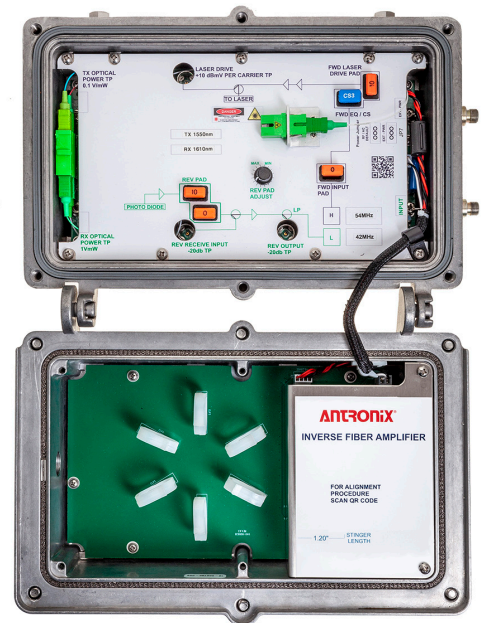
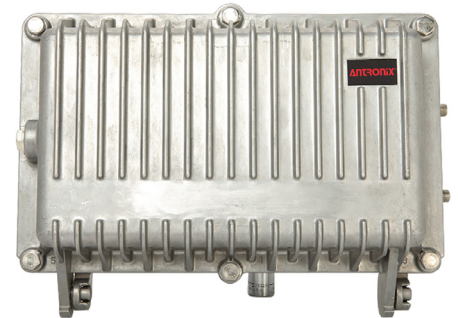
At only 13 watts the AIFA may be placed anywhere in OSP and can be powered with drop cable.

- **Powering**

Local (40-95 VAC)

- **Increase Revenue**

Add additional subscriber(s) and/or upgrade existing extensions with poor End Of Line performance.

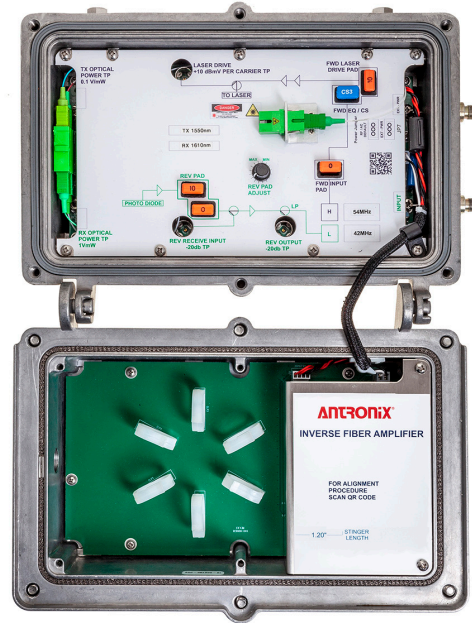


### Acquire New Subscribers

Campgrounds	Rural Broadband
MDU	Hotels / Casinos
Hospitals	College Campuses
Stadiums / Arenas	Airports / Terminals
Data Centers	Corporate Complex

Specifications subject to change without notice

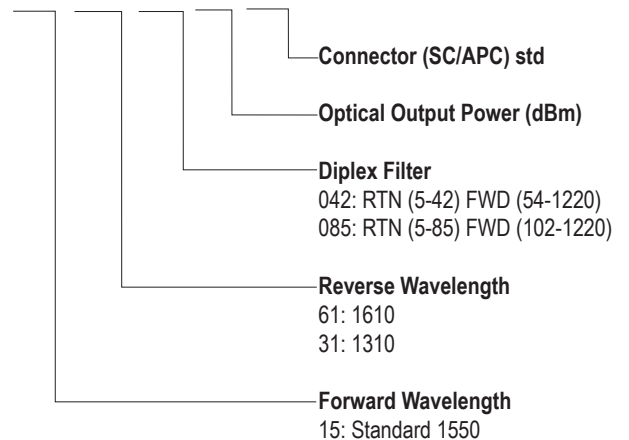
## Specifications Inverse Fiber Amplifier (AIFA)



### Available Configurations\*

Part #	Description
<b>AIFA-15-61-042-09-SA</b>	1550/1610 nm, 42/54 MHz rtn, 9 dBm
<b>AIFA-15-61-085-09-SA</b>	1550/1610 nm, 85/102 MHz rtn, 9 dBm
<b>AIFA-15-31-042-09-SA</b>	1550/1310 nm, 42/54 MHz rtn, 9 dBm
<b>AIFA-15-31-085-09-SA</b>	1550/1310 nm, 85/102 MHz rtn, 9 dBm

### AIFA-FW-RW-ccc-09-SA



\*Contact Antronix for other options

Optical Performance Forward TX	
Wavelength	1550 +/-10 nm (other wavelengths available)
Output Power	9 dBm
Fiber Type	Single Mode
Connector Type	SC/APC
RF Performance Forward TX	
Bandwidth	54~1235 MHz
Input Level	6~20 dBmV/ch Analog CH, Manual Gain
Transmitter OMI	3.2 % Modulation Index ** (See Channel Loading Below)
Flatness	+/- 1.0 dB (54~1220 MHz)
Input Return Loss	>16 Typical dB
Impedance	75 Ω
Optical and RF Performance Receiver	
Wavelength	1610 +/- 7nm (other wavelengths available)
Input Optical Power	+2 to -14 dBm
Fiber Type	Single Mode
Connector Type (Input)	SC/APC - Connector located inside the unit
Bandwidth	5-42/54, 5-85/102 MHz
Output Level	>+45 dBmV /ch (EQ's Available)
Flatness	+/- 1.0 dB
Output Return Loss	16 dB Typical
Impedance	75 Ω
Link Specification - (9 dB Link Loss feeding AFN-L)	
CNR	>52 dB
CTB	>66 dBC
CSO	[60 dBc (3 Km), 57 dBc (5 Km), 55 dBc (10 Km)]
Electrical/Physical	
Powering	40 - 95 VAC OSP
Power Consumption	< 13 W 0.14 A @ 95 VAC / 0.29 A @ 45 VAC
Operating Temperature	-40 to +140 °F
Dimensions	11.25 (L) x 8.4 (H) x 4.75 (D) (inches)
Weight	7.3 lbs.
Other	
Channel Loading	77 NTSC + 75 digital -- 3 % OMI. Digital -6 dB from analog channel **