1.2 GHz 2-Way RF Amplifier

ARF120D Series

- Fiber deep architecture
- 1.2 GHz bandwidth
- GaAs technology
- 1 or 2 output
- 108 dBµV output
- Compact design
- Digital ATT/EQ adjustment
- Low noise figure
- Local USB port monitoring and configuration (optional)
- Easy installation

ARF120D Series 1.2 GHz 1 or 2 output GaAs amplifier is part of ACT Advanced Fiber Deep HFC solution, which has been designed to deliver interactive CATV, high capacity DOCSIS and other advanced services. The cost effective last mile amplifier platform helps operators expand bandwidth of their existing HFC network while minimizing capital investment. The ARF120D compact housing has compact housing with embedded RF module and is suitable for MDU, FTTB or FTTC applications with output up to 108 dBµV.

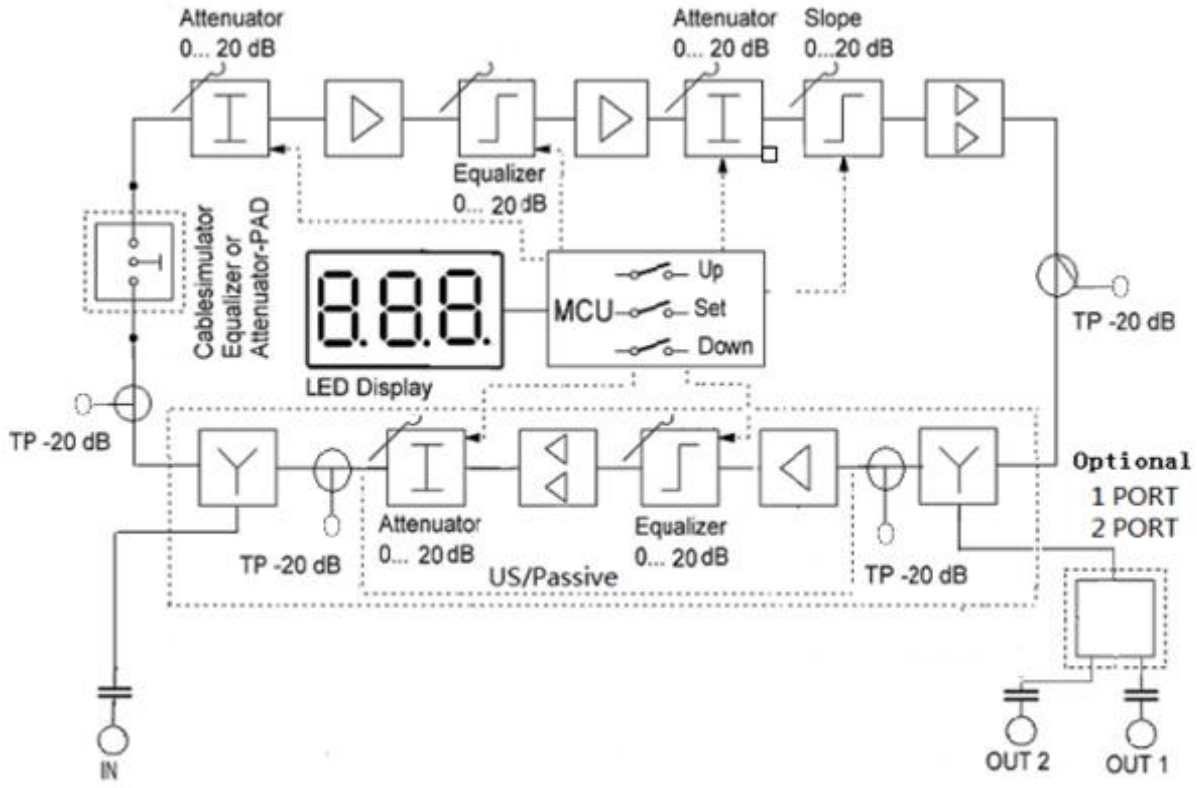
The ARF120D 1.2 GHz GaAs amplifier has field upgradeable diplexers and filters with electronically adjustable PADs and EQs along with plug-in diplex filter for band split upgrade to DOCSIS 3.1.

ARF120D amplifier suits the last mile fiber deep access networks. It has low power consumption and supports local or remote power options. Combined with ACT's converged headend AH1000 optical system and AON node series, ARF120D is an ideal product to provide MSOs with an economical, flexible HFC access solution.

Key Features

- Supports 1.2 GHz bandwidth
- Up to 204 MHz with return bandwidth
- Minimum needed of installing and maintaining accessories such as pads and EQs
- Local monitoring, control and set up via APP or 3-bit digital tube display and adjust keypad
- On-site changing frequency split
- Reverse path gain adjust switching and passive
- Compact design
- GaAs technology
- Improved ESD and surge protection
- Low noise figure
- One or two output can be determined by the splitter position

Block Diagram



Specifications

Forward Path Specifications

Item	Description
Pass Band	85/105/258 MHz to 1218 MHz
Gain[1]	42 dB
Frequency Response	±0.75 dB
Reference Output Level	108 dBµV
Input Attenuator Control Range	0 dB to 20 dB, 1 dB step
Input Equalizer Control Range	0 dB to 20 dB, 1 dB step
Input Cable Simulator	0 dB to 10 dB, 1 dB step, adjust via JXP PAD
Interstage Attenuator Control Range	0 dB to 20 dB, 1 dB step
Interstage Equalizer Control Range	0 dB to 20 dB, 1 dB step
Return Loss	16 dB
RF Input Test Point	-20 dB ± 0.75 dB
RF Output Test Point	-20 dB ± 0.75 dB
Noise Figure[1]	7 dB
Umax, 112 QAM Chs[2]	108 dBµV
Output Level, CENELEC 42 Chs[3]	112 dBµV
CTB[3]: 60 dBc3	
CSO[3]: 60 dBc3	

Notes:

1. Forward Gain and Noise Figure measured with 10 dB input EQ and 0 dB input pad.
2. Maxima level, flat, CLC/TS 50083-3-3, N=24.
3. Distortion performance reference output level is 112 dBµV (1 port, Slope, 10dB @ 1200 MHz). Digital refers to 550 MHz to 1.2 GHz loading with QAM carriers at -6 dB relative to analog CW carrier levels.

Return Path Specifications

Item	Description
Pass Band	5 MHz to 65/85/204 MHz
Gain	25 dB
Output Attenuator Control Range	0 dB to 20 dB, 1 dB step
Output Equalizer Control Range	0 dB to 20 dB, 1 dB step
Frequency Response	±0.75 dB
Return Loss	16 dB
RF Test Point	-20 dB ± 0.1 dB
Noise Figure	6 dB
Output Level	110 dBµV

General Specifications

Item	Description
Power Consumption	18 W
Supply Voltage	26 V_{AC} to 65 V_{AC} or 110 V_{AC} to 264 V_{AC}
RF Connectors	F-female, Imperial (Several Adapters Available)
Test Point	F-female, Imperial (Internal)
Dimensions (W×H×D)	236 mm × 145 mm × 90 mm
Weight	1.8 kg
Water/Dust Ingress Protection Rating	IP65
Operating Temperature	-40 °C to +55 °C
Storage Temperature	-40 °C to + 80 °C
Relative Humidity Range	5 % to 95 %

Note: Unless otherwise noted, all specifications reflect typical performance and are referenced to 20 °C.

Ordering Information

ARF120D 1.2GHz Series 1 or 2 Output, RF Amplifier Ordering Information

ARF12XD-	X-	X-	X-	XXX-	X		

	Fwd Gain
H	42 dB (default)

	Rtn Gain
H	25 dB (default)

	Power Supply
1	35 to 90 VAC Line
2	90 to 270 VAC Main

	MDU Amplifier Types
121D	1 RF Out
122D	2 RF Out

	Bandwidth
2	1218 MHz

	Band Split
085	65 MHz to 85 MHz Uplink
105	85 MHz to 105 MHz Uplink
258	204 MHz to 258 MHz Uplink

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