



**ACT ARF120C
1.2 GHz MDU
Amplifier**

**Quick Reference
Guide**

Revision B

ACT ARF120C 1.2 GHz MDU Amplifier

Quick Reference Guide

ACT Document Number: ACT ARF120C LE QRG

Quick Reference Guide Revision B

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This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

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Revision History

Revision	Date	Reason for Change
A	07/16/2023	Initial release
B	06/10/2025	Update Format

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1 Overview

1.1 Summary

ARF120C Series 1.2G single RF outputs MDU 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 MDU amplifier platform helps operators expand bandwidth of their existing HFC network while minimizing capital investment. The ARF120C compact housing has compact housing with embedded RF module and is suitable for MDU, FTTB or FTTC applications with outputs up to 110dBμV.

The ARF120C 1.2 GHz MDU amplifier has AGC control with JXP style plug-in PADs and EQs.

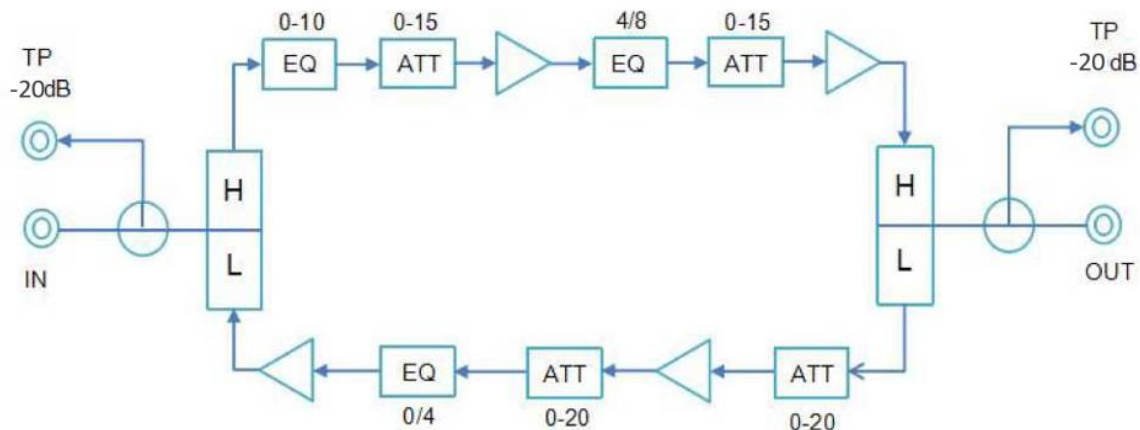
ARF120C amplifier suits the last mile fiber deep access networks. It has low power consumption. Combined with ACT's converged headend AH1000 optical system and AON node series, ARF120C is an ideal product to provide MSOs with an economical, flexible HFC access solution.

ARF120C building amplifier is suitable for HFC bidirectional network, which mainly used to amplify CATV image and digital signals. It is a remote terminal in the CATV transmission system with reasonable circuit, scientific structure and excellent performance index.

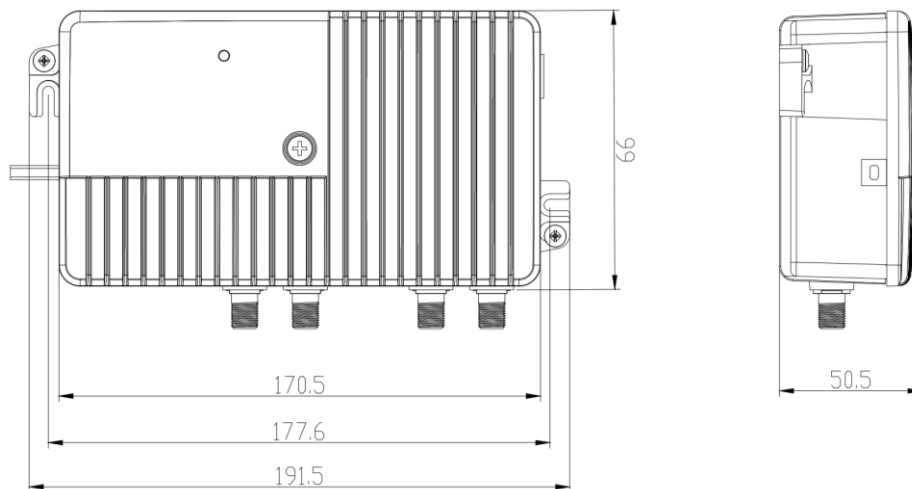
2 Features

- Frequency range: 5 to 1218MHz, 65/85, 85/110 Optional
- RF AGC control, High output level 107dBμV
- Full GaAs MMIC amplifiers
- Plug-in equalizer and attenuator. External RF test port
- Low power consumption $\leq 18W$
- Aluminum die-cast housing, the thickness of the whole machine is only 55mm

2.1 Block Diagram



2.2 Dimension



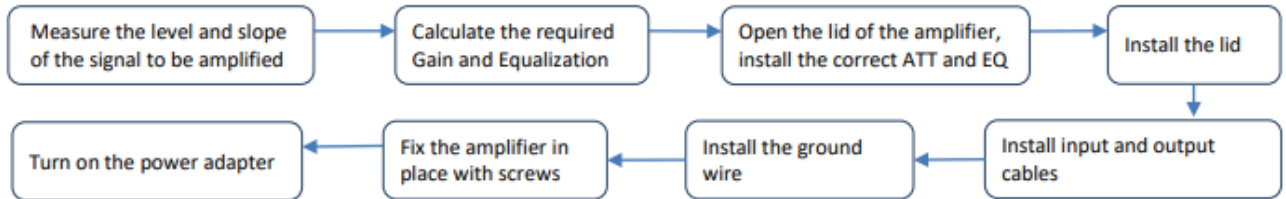
2.3 Composition Description



3 Specifications

Item	Unit	Technical Parameters	
Downstream			
Frequency Range	MHz	85/110 to 1218	
Minimum Gain	dB	32	
Flatness in Band	dB	±1	
Return Loss	dBμV	>16	@110MHz, -1.5 dB/octave, Min>11
Noise Figure	dB	<7	
Input ATT	dB	0-15	
Input EQ	dB	0-10	
Interstage ATT	dB	0-15	
Interstage EQ	dB	4/8	
CNR	dB	≥52	Euro standard 41CH analog signal,
CTB	dB	≥60	input: 75dBuV
CSO	dB	≥60	Output: 107dBuV@1218MHz
MER	dB	≥40	Interstage EQ: 8dB
BER		1.00E-09	110 to 862 MHz in full configuration, QAM256 digital signal
			Input: 75dBuV, Output:104BuV@1218MHz
			Interstage ATT: 3Db, interstage EQ: 8dB
Upstream			
Frequency Range	MHz	5 to 65/85	
Gain	dB	>23	
Flatness in Band	dB	±1	
Return Loss	dB	>15	
Noise Figure	dB	<6	
Input ATT	dB	0-20	
Interstage ATT		0-20	
Interstage EQ		0/4	
MER		>38	Euro standard 41CH analog signal, EQ: 8 dB
BER		1.00E-09	Output level 110 dBuV@1218MHz
NPR Dynamic Range	dB	>30	@36dB CNIR
Others			
Waterproof Level		IP41	
Supply Voltage	V	90-240	
Test Port	dB	-20±2	
F connector		Inch, female	
EMC		EN50083-2-2006 table10-classA	
Impedance	Q	75	
Power Consumption	W	<18	
Surge	KV	4 (RF port)	
ESD	KV	2 (RF port)	
Operating Temperature	°C	-20 to +50	
Dimension	mm	200(L) x 115(W) x 55(H)	

4 Operating Steps





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