

Features and Benefits

ANTRONIX®

MVRAM502B MoCA Enhanced VoIP Residential Amplifier-Midsplit (85/102MHz)

With MoCA (Multimedia over Coax Alliance) having widespread deployment for high speed in-home networking, this amplifier has enhanced performance in the MoCA band to optimize the data rates for video sharing, multi-room DVR service, video conferencing and other MoCA applications. The amplifier has four amplified output ports and a reliable passive VoIP port, which maintains RF integrity even when power is disrupted to the amplifier. The passive VoIP port provides a MoCA path to the amplified output ports to ensure full MoCA compatibility. This amplifier utilizes the Antronix patented CamPort®. This auto-seizing F-port ensures maximum contact area and reliability for multimedia applications. The amplifier can be mounted in an all-ports-down configuration which allows for ease of installation in a NID enclosure. The integrated MoCA point of entry filter prevents MoCA signals from interfering with an adjacent subscriber.



- **MoCA Enhanced**
Optimized RF performance in the MoCA band ensures maximum data rates for MoCA enabled devices. Integrated MoCA point of entry filter prevents MoCA signals from interfering with adjacent subscribers.
- **Passive VoIP Port for Critical Voice Service**
The passive VoIP port provides continuous service when power is disrupted to maintain critical voice service. The VoIP port also supports MoCA band communications to the amplified output ports.
- **Self-Terminating Internal Switch**
An internal self-terminating switch provides excellent bi-directional RF performance between the input port and VoIP port even when power is disrupted.
- **Unity Gain Forward and Return**
Active gain in the forward and return band provides unity gain in both directions for ease of installation.
- **CamPort® Auto-Seizing F-Port**
Patented auto-seizing brass F-port features a “Cam Activated Mechanism” to provide full contact pressure (> 2000 grams) on the center conductor for maximum reliability.
- **All-Ports-Down Configuration for NID Enclosures**
Amplifier can be mounted with all ports facing down configuration to provide clean wiring within a NID enclosure.
- **6 kV Surge Protection**
Unique 6 kV surge protection without the use of arc gaps which may cause high impulse noise during discharge.
- **Powder Coated Aluminum Housing**
Provides the most corrosion resistant protection against salt fog and rust.
- **Optional Power Inserter for Remote Powering**
The amplifier can be powered remotely with a dual isolation compartment power inserter for high AC to RF isolation to prevent ingress.
- **PTC Short-Circuit Protected UL Listed Adaptor**
Self-resetting circuit provides safe protection against short-circuits to minimize maintenance costs.

Electrical Specifications MoCA Enhanced VoIP Residential Amplifier-Midsplit (85/102MHz)

Forward Specifications	Frequency (MHz)	Specifications
Gain (Outputs 1–4) (dB nom)	102-1002	0±1.5
Return Loss¹ (dB min)	102-1002	18
Output Port to Port Isolation (dB min)	102-1002	23
VoIP to Output Port Isolation (dB min)	102-1002	25
Noise Figure⁴ (dB max)	102-1002	4
Group Delay (ns/3.58 MHz)	Ch. EIA 97	30
	Ch. EIA 98	15
	All other CH	5
Distortions²		
Composite Triple Beat (dBc)		-75
Composite Second Order (dBc)		-63
Cross Modulation (dBc)		-70
Hum Modulation (dBc)		-80
Return Specifications	Frequency (MHz)	Specifications
Gain (Outputs 1–4) (dB nom)	5-85	0±1.5
Return Loss¹ (dB min)	5-85	18
Output Port to Port Isolation (dB min)	5-85	25
VoIP to Output Port Isolation (dB min)	5-85	25
Noise Figure⁴ (dB max)	5-85	7
Group Delay (ns/1.0 MHz)	5-8	30
	8-83	10
	83-85	20
Distortions³		
Discrete Second Order (dBc)		-60
Discrete Third Order (dBc)		-60
Cross Modulation (dBc)		-65
MoCA Specifications	Frequency (MHz)	Specifications
Insertion Loss		
Output Port to Output Port (dB max)	1125-1675	30
Output Port to VoIP Port (dB max)	1125-1525	30
	1525-1675	35
Isolation		
Output Port to Input Port (dB min)	1125-1675	40
VoIP Port to Input Port (dB min)	1125-1675	35
VoIP Port Specifications	Frequency (MHz)	Specifications
Insertion Loss (dB nom)	5-1002	5.5
Return Loss¹ (dB min)	5-1002	18

Notes:

1. Input port and VoIP port return loss remains at 18 dB even upon power failure.
2. +10 dBmV flat input, analog channels from 54 MHz to 550 MHz. Digital channels from 550 MHz to 1002 MHz at 6 dB below the analog channels.
3. Two +55 dBmV carriers at 13 MHz and 19 MHz.
4. Noise figure of gain chip.

Specifications

MoCA Enhanced VoIP Residential Amplifier-Midsplit (85/102MHz)

General	
Nominal Impedance	75 Ω
F-Connector Type	ANSI/SCTE 01 Brass Compliant Sealed CamPort®
Power Adaptor	15 VDC/500 mA output, UL, PTC short-circuit protected
Dimensions/Weight	6.0" W x 3.8" H x 1.5" D/0.72 lb.
Environmental	
Pressure Seal	15 psi
Surge Withstand	6 kV/3 kA Combo Wave (IEEE C62.41-1991 Cat. B3) on all ports 6 kV/200 A Ring Wave (IEEE C62.41-1991 Cat. A3) on all ports
RFI Screening Effectiveness	-100 dB
Operating Temperature	-40 °C to +60 °C
Corrosion Resistance	Meets ANSI/SCTE specification

Ordering Guide

MVRAM502B/AC	4 amplified outputs + 1 VoIP port amplifier. Active return. AC power adaptor included.
MVRAM502B/ACP-EZ	4 amplified outputs + 1 VoIP port amplifier. Active return. AC power adaptor included, power inserter and mounting bracket included.
ARPI-2000B	Optional power inserter for remote powering
ARA-15N-50E6	AC power adaptor, 120 VAC/60 Hz Input, 15 VDC output, 500 mA, Efficiency Level VI
MB100P	NID enclosure mounting bracket