

# Features and Benefits

**ANTRONIX®**

## MVRA501B MoCA Enhanced VoIP Residential Amplifier

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. 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 the output ports 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 a passive 4.5 dB loss, even when power is disrupted to maintain critical voice service.
- **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 6kV surge protection without the use of arc gaps which may cause high impulse noise during discharge.
- **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

Forward Specifications	Frequency (MHz)	Specifications
<b>Gain (Outputs 1–4)</b> (dB nom)	54-1002	+0
<b>Return Loss</b> (dB min)	54-1002	18
<b>Port to Port Isolation</b> (dB min)	54-1002	23
<b>Noise Figure</b> (dB max)	54-1002	7
<b>Group Delay</b> (ns/3.58 MHz)	Ch. 2	30
	Ch. 3	10
	Ch. 4 & up	5
<b>Distortions<sup>1</sup></b>		
Composite Triple Beat (dBc)		-75
Composite Second Order (dBc)		-63
Cross Modulation (dBc)		-77
Hum Modulation (dBc)		-80
Return Specifications	Frequency (MHz)	Specifications
<b>Gain (Outputs 1–4)</b> (dB nom)	5-42	+0
<b>Return Loss</b> (dB min)	5-42	18
<b>Port to Port Isolation</b> (dB min)	5-42	25
<b>Noise Figure</b> (dB max)	5-42	14
<b>Group Delay</b> (ns/1.5 MHz)	5.0-6.5	20
	6.5-40	10
	40-42	30
<b>Distortions<sup>2</sup></b>		
Discrete Second Order (dBc)		-55
Discrete Third Order (dBc)		-55
Cross Modulation (dBc)		-65
MoCA Specifications	Frequency (MHz)	Specifications
<b>Insertion Loss</b>		
Output Port to Output Port (dB max)	1125-1525	35
<b>Isolation</b>		
Output Port to Input Port (dB min)	1125-1525	36
Input Port to Output Port (dB min)	1125-1525	26
VoIP Port Specifications	Frequency (MHz)	Specifications
<b>Insertion Loss</b> (dB nom)	5-1002	4.5
<b>Return Loss</b> (dB min)	5-1218	18

#### Notes:

1. +12 dBmV flat input, 79 analog channels from 55 MHz to 550 MHz. Digital channels from 550 MHz to 1000 MHz at 6 dB below the analog channels.
2. Two +55 dBmV carriers at 13 MHz and 19 MHz.

## Specifications

### MoCA Enhanced VoIP Residential Amplifier

#### General

Nominal Impedance	75 $\Omega$
F-Connector Type	ANSI/SCTE 01 Brass Compliant Sealed CamPort®
Power Adaptor	12 VDC/500 mA output, UL, PTC short-circuit protected
Dimensions/Weight	4.9" W x 3.0" H x 1.5" D/0.70 lb.

#### Environmental

Pressure Seal	15 psi
Surge Withstand	6 kV/3 kA Combo Wave (IEEE C62.41-1991 Cat. B3) on RF input port 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

<b>MVRA501B/AC</b>	4 amplified outputs + 1 VoIP port amplifier. Active return. AC power adaptor included.
<b>ARPI-2000</b>	Optional power inserter for remote powering
<b>ARAC-12N-5</b>	AC Power adaptor, 120 VAC/60 Hz Input, 12 VDC output, 500 mA