

## Advanced Residential Amplifier ARA Series



### Overview

The Antronix Advanced Residential Amplifier (ARA) was designed with the latest technology for reliable subscriber premise amplification. By using Gallium Arsenide technology, the ARA provides improved distortion and noise performance required for today's bi-directional digital applications. This is the first residential amplifier to utilize the patented CamPort<sup>®</sup> to provide an auto-seizing F-port for maximum contact area and reliability for multimedia applications. Ideal for both indoor and outdoor applications, the ARA was engineered to withstand the harshest environmental threats with the capability of enduring repeated high power surges. The lightweight powder coated AL 360 housing provides superior corrosion resistance for year after year of quality performance.

### Ordering Guide

ARA1-15/AC	1 output amplifier, 120VAC/60Hz
ARA2-11/AC	2 output amplifier, 120VAC/60Hz
ARA4-8/AC	4 output amplifier, 120VAC/60Hz
ARA8-4/AC	8 output amplifier, 120VAC/60Hz
ARPI-2000	Power Inserter for Remote Powering
ARAC-12N	Power Adaptor, 120VAC/60Hz input, 12VDC output

### Features / Benefits

- CamPort<sup>®</sup> Auto-Seizing F-Port**  
 Patented auto-seizing F-port features a "Cam Activated Mechanism" to provide full contact pressure (>2,000 grams) on the center connector for maximum reliability.
- 3 dB Noise Figure**  
 Provides clean amplification of weak signals to overcome the poor noise figure in TV tuners and converters.
- 6 kV Combination Wave Surge Protection**  
 Unique surge protection on all RF ports without the use of arc gaps which may cause high impulse noise during discharge.
- Gallium Arsenide Technology for Low Distortion**  
 Provides improved distortion and noise performance.
- Low Intermodulation Ferrites**  
 Proprietary ferrite blend inhibits re-magnetization of the core due to voltage spikes from impulse noise or lightning. This prevents high-level return carriers from affecting forward path video signals.
- 15 psi Sealed SCTE Compliant CamPort<sup>®</sup>**  
 Sealed brass CamPort<sup>®</sup> prevents water migration.
- 5-42 / 52-1000 MHz Duplex Filter**  
 True 5-42 MHz return band and full 1 GHz downstream spectrum for more useable bandwidth.
- Weather Sealed Housing with RFI Gasket**  
 Guarantees repeatable 120dB RFI shielding.
- Powder Paint Coated AL 360 Housing**  
 Provides the most corrosion resistant protection against salt fog and rust.
- Powered Locally or Remotely**  
 Power the amplifier locally with supplied adaptor or remotely with an optional power inserter.
- PTC Short-Circuit Protected UL Listed Adaptor**  
 Self-resetting circuit protection provides safe protection against short-circuits to minimize maintenance costs.
- Dual Compartment Power Inserter**  
 Provides high AC to RF isolation to minimize ingress.
- Exceeds all SCTE Standards**
- 5 Year Warranty**  
 Applies to amplifier only.

## Electrical Specifications

Forward Specification	Freq. (MHz)	ARA1-15	ARA2-11	ARA4-8	ARA8-4
		1 output	2 output	4 output	8 output
Gain (dB nominal)	52 – 1000	14.5	10.5	7.5	3.8
Return Loss (dB)	52 – 1000	> 20	> 20	> 20	> 20
Slope (dB)	52 – 1000	< 0.5	< 0.5	< 0.5	< 1.0
Port-to-Port Isolation (dB)	52 – 1000	–	> 25	> 25	> 25
Noise Figure (dB)	52 – 1000	< 3.0	< 3.0	< 3.0	< 3.0
Flatness (dB)	52 – 1000	± 0.5	± 0.5	± 0.5	± 1.0
AC/RF Isolation (dB)	52 – 1000	> 65	> 65	> 65	> 65
Group Delay (nS/3.58 MHz)	Ch. 2	< 16.0	< 16.0	< 16.0	< 16.0
	Ch. 3	< 8.0	< 8.0	< 8.0	< 8.0
	Ch. 4	< 5.0	< 5.0	< 5.0	< 5.0
	Ch. 5 & up	< 3.0	< 3.0	< 3.0	< 3.0
Distortions <sup>1</sup>	Composite Triple Beat (dBc)	-75	-75	-75	-75
	Composite Second Order (dBc)	-62	-62	-62	-62
	Cross Modulation (dBc)	-75	-75	-75	-75
	Hum Modulation (dBc)	-80	-80	-80	-75

Return Specification	Freq. (MHz)	ARA1-15	ARA2-11	ARA4-8	ARA8-4
		1 output	2 output	4 output	8 output
Insertion Loss (dB)	5 – 42	< 1.2	< 4.8	< 8.0	< 10.8
Flatness (dB)	5 – 42	± 0.5	± 0.5	± 0.5	± 0.5
Return Loss (dB)	5 – 42	> 20	> 20	> 20	> 20
Port-to-Port Isolation (dB)	5 – 42	–	> 25	> 25	> 25
Group Delay (nS/1.5 MHz)	5.0 – 6.5	< 20	< 20	< 20	< 20
	6.5 – 8.0	< 15	< 15	< 15	< 15
	8.0 – 34	< 5	< 5	< 5	< 5
	34 – 42	< 20	< 20	< 20	< 20

General Specifications	All Models
Amplifier Type	Gallium Arsenide Technology
Nominal Impedance	75 Ω
RFI	> 120 dB
F-Connector Type	ANSI/SCTE 01 (formerly IPS-SP-400) Compliant Brass Sealed CamPort <sup>®</sup>
Pressure Seal	15 psi
Surge Withstand	6kV Combination Wave: IEEE C62.41-1991 Cat. B3 on all RF ports
Operating Temperature	-40°C to +60°C
Warranty	5 years
Power Adaptor	12 VDC / 200 mA output UL Listed, PTC Short-Circuit Protected, Self-Resetting Adaptor
Housing Dimensions	4.9" W x 4.0" H x 1.0" D
Weight	1 lb.

<sup>1</sup> +10 dBmV flat input, 79 analog channels from 55 MHz to 550 MHz. Digital channels from 550 MHz to 750 MHz at 6 dB down.

Specifications subject to change without notice