

## ARA1-15EQ/AC

### Advanced Equalized Residential Amplifier



#### Overview

The Antronix Equalized Advanced Residential Amplifier (ARA-EQ) was designed with the latest technology for reliable subscriber premise amplification. The ARA1-15-EQ generates forward gain while providing 7 dB of cable equalization for cable drops in excess of 150 feet. 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 Antronix patented CamPort<sup>®</sup>. This auto-seizing F-port ensures 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 to endure repeated high power surges. The lightweight powder coated AL360 housing provides superior corrosion resistance for quality performance year after year.

#### Ordering Guide

ARA1-15EQ/AC	1 output, 120 VAC/60 Hz, 7 dB EQ Amplifier
ARPI-2000	Power inserter for remote powering
ARAC-12N	AC Power adaptor, 120 VAC/60 Hz Input, 12 VDC output

#### Features & Benefits

- **7 dB Cable Equalization (52-1000 MHz)**  
Provides cable equalization to compensate for long cable drops
- **CamPort<sup>®</sup> Auto-Seizing F-Port**
- Patented auto-seizing F-port features a "Cam Activated Mechanism" to provide full contact pressure (> 2000 grams) on the center conductor 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 prevents water migration
- **5-42/52-1000 MHz Diplex 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 120 dB RFI shielding
- **Powder Coated AL 360 Aluminum 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 Approved 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**

## ■ ■ ■ Electrical Specifications

		ARA1-15EQ/AC		
Forward Specifications	Frequency (MHz)	Max.	Min.	Unit
<b>Gain</b>	52	-	7	dB
	1000	-	14	dB
<b>Return Loss</b>	52 – 1000	-	20	dB
<b>Noise Figure</b>	52 – 1000	3.0	-	dB
<b>Flatness</b>	52 – 1000	±0.5	-	dB
<b>AC/RF Isolation</b>	52 – 1000	-65	-	dB
<b>RFI Isolation</b>	5 – 1000	-120	-	dB
<b>Group Delay</b>	Ch. 2	16.0	-	ns/3.58 MHz
	Ch. 3	8.0	-	ns/3.58 MHz
	Ch. 4	5.0	-	ns/3.58 MHz
	Ch. 5 & up	3.0	-	ns/3.58 MHz
<b>Distortions<sup>1</sup></b>				
Composite Triple Beat		-	75	- dBc
Composite Second Order		-	62	- dBc
Cross Modulation		-	75	- dBc
Hum Modulation		-	80	- dBc

Return Specifications	Frequency (MHz)	Max.	Min.	Unit
<b>Insertion Loss</b>	5 – 42	1.5	-	dB
<b>Flatness</b>	5 – 42	±0.5	-	dB
<b>Return Loss</b>	5 – 42	-	20	dB
<b>Group Delay</b>	5.0 – 6.5	20.0	-	ns/1.5 MHz
	6.5 – 8.0	15.0	-	ns/1.5 MHz
	8.0 – 34	5.0	-	ns/1.5 MHz
	34 - 42	20.0	-	ns/1.5 MHz

1. +10 dBmV flat input, 79 analog channels from 55 MHz to 550 MHz. Digital channels from 550 MHz to 750 MHz at 6 dB below the analog channels.

## ■ ■ ■ General Specifications

<b>Amplifier Type</b>	Gallium Arsenide Technology
<b>Nominal Impedance</b>	75 Ω
<b>F-Connector Type</b>	ANSI/SCTE 01 (formerly SCTE IPS-SP-400) Compliant Brass Sealed CamPort <sup>®</sup>
<b>F-Connector Torque Spec</b>	30 in. lbs. (max)
<b>Surge Withstand</b>	6 kV Combo Wave (IEEE C62.41-1991 Cat. B3) on all RF ports 6 kV Ring Wave (IEEE C62.41-1991 Cat. A3) on all ports and power adaptor
<b>Power Adaptor</b>	12 VDC/200 mA output, UL Listed, PTC short-circuit protected, self-resetting
<b>Dimensions/Weight</b>	4.9" x 4.0" x 1.0" / 1.0 lb.

## ■ ■ ■ Environmental Specifications

<b>Pressure Seal</b>	15 psi
<b>Operating Temperature</b>	-40 °C to +60 °C
<b>Corrosion Resistance</b>	Meets ANSI/SCTE specifications
<b>Warranty</b>	5 years

Specifications Subject to change without notice