

ARA4-7B1/AC

Advanced Residential Amplifier Bypass Port



Overview

The Antronix Advanced Residential Amplifier with an integrated bypass port is designed to provide reliable communications even when power is disrupted. The bypass port is capable of sensing any disruption in the power supply and switches the designated bypass port to a low loss state to ensure continuous service to critical applications, such as VoIP. 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 bypass residential amplifier to utilize the Antronix patented CamPort[®]. 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

ARA4-7B1/AC	4 output, 7 dB gain amplifier with one integrated bypass port
ARPI-2000	Power inserter for remote powering
ARAC-12N	AC Power adaptor, 120 VAC/60 Hz Input, 12 VDC output

Features & Benefits

- **Integrated Bypass Port**
Designed for voice applications, the amplifier automatically switches the bypass port to a low loss state when power is disrupted to maintain critical voice service.
- **CamPort[®] 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[®]**
Sealed brass CamPort 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 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 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**

■ ■ ■ Electrical Specifications

Forward Specifications	Frequency (MHz)	Spec.	Unit
Gain	52 – 1000	7 ± 1.0	dB
Return Loss	52 – 1000	20	dB
Port to Port Isolation	52 – 1000	25	dB
Noise Figure	52 – 1000	3.0	dB
AC/RF Isolation	52 – 1000	-65	dB
RFI Isolation	5 – 1000	-120	dB
Group Delay	Ch. 2	20.0	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
Distortions¹			
Composite Triple Beat		75	- dBc
Composite Second Order		62	- dBc
Cross Modulation		75	- dBc
Hum Modulation		80	- dBc

Return Specifications	Frequency (MHz)	Spec.	Unit
Insertion Loss	5 – 42	8.0	dB
Return Loss	5 – 42	20	dB
Group Delay	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

Bypass Port - power off mode	Frequency (MHz)	Spec.	Unit
Insertion Loss	5 - 50	0.5	dB
	50 - 1000	2.0	dB
Return Loss	5 – 1000	20	dB

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

Amplifier Type	Gallium Arsenide Technology
Nominal Impedance	75 Ω
F-Connector Type	ANSI/SCTE 01 (formerly SCTE IPS-SP-400) Compliant Brass Sealed CamPort [®]
Surge Withstand	6 kV Combo Wave (IEEE C62.41-1991 Cat. B3)
Power Adaptor	12 VDC/200 mA output, UL, PTC short-circuit protected, self-resetting
Dimensions/Weight	4.9" x 4.0" x 1.0" / 1.0 lb.

■ ■ ■ Environmental Specifications

Pressure Seal	15 psi
Operating Temperature	-40 °C to +60 °C
Corrosion Resistance	Meets ANSI/SCTE specifications

Specifications Subject to change without notice