Features and Benefits

ANTRONIX®

Residential Amplifier with Active Forward & Return

FRA Series

Antronix's Forward and Return Residential Amplifier (FRA) Series provides both forward and return path amplification. The FRA was designed for applications such as cable modems and two-way set-top boxes. The FRA is the first forward and return amplifier to utilize the patented auto-seizing CamPort©. This SCTE compliant F-port provides maximum contact area and reliability for multimedia applications. With the capability to endure multiple high power surges, the FRA can operate in the harshest environments. The lightweight powder coated AL 360 housing provides superior corrosion resistance for quality performance and long life.

- **Ultra Low Distortion**
  Highly linear push-pull return path amplification.
- **Bi-Directional Amplification**
  Provides signal amplification in both the forward and return paths.
- **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.
- **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.
- **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.
- **Ideal for 2-way Digital and Multimedia Applications**
  Ideal for two-way systems deploying cable modems and set-top boxes.
- **6 kV Surge Withstand on all Ports**
  Unique, non arc gap surge protection design, to provide maximum protection while eliminating high impulse noise, which can be caused during an arc gap discharge.
- **Local or Remote Powering**
  Power the amplifier locally with supplied adaptor or remotely with an optional power inserter.
- **18 VDC UL Listed Wall Adapter**
  Self-resetting circuit protection provides safe protection against short-circuits to minimize maintenance costs.
- **5 Year Warranty**

440 Forsgate Drive, Cranbury, NJ 08512 • T: 609.860.0160 • F: 609.860.1687 • antronix.com

ANTRONIX®

Electrical Specifications
FRA Series

Model #		FRA1-1510		FRA8-0400	
Forward Specification	**Freq** (MHz)	**Max**	**Min**	**Max**	**Min**
Gain (dB nominal)	54-1002	—	14.5 ±1.0	—	4.5 ±1.0
Return Loss (dB)	54-1002	—	18	—	18
Flatness (dB)	54-1002	1.0	—	1.0	—
Noise Figure (dB)	54-1002	3.0	—	3.0	—
RFI Isolation (dB)	5-1002	—	120	—	120
AC/RF Input Isolation (dB)	5-1002	—	100	—	100
Group Delay (ns)	Ch. 2	—	25	—	25
	Ch. 3	—	10	—	10
	Other Channels	—	5	—	5
Forward Distortion					
Composite Triple Beat (dB)	54-1002	—	-75	—	-75
Composite Second Order (dB)	54-1002	—	-62	—	-62
Cross Modulation (dB)	54-1002	—	-75	—	-75
Hum Modulation (dB)	54-1002	—	-80	—	-80
Return Specification					
Gain (dB nominal)	5-42	—	10.0 ± 1.0	—	0.0 ± 1.0
Noise Figure (dB)	5-42	5.5	—	5.5	—
Return Loss (dB)	5-42	—	18	—	18
Group Delay (ns MHz)	5-8, 39-42	20.0	—	20.0	—
	8-39	5.0	—	5.0	—
Distortions					
1dB Compression Point[1] (dBmV)	5-42	74	—	74	—
Second Order[2] (-dBc)	5-42	—	75	—	75
Third Order[3] (-dBc)	5-42	—	60	—	60

1. After Amplification
2. Second Order distortion is measured at 12 MHz with three carriers (19, 25, & 31 MHz), each adjusted to +60 dBmV after amplification (+50 dBmV after amplification for the FRA8).
3. Third Order distortion is measured at 37 MHz with three carriers (19, 25, & 31 MHz), each adjusted to +60 dBmV after amplification (+50 dBmV after amplification for the FRA8).

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Specifications
FRA Series

General	
Amplifier Type	75 Ω
F-connector Type	ANSI/SCTE 01 (Formerly SCTE IPS-SP-400) Compliant Sealed Brass CamPort®
Surge withstand	6 kV Ring Wave (IEEE C62.41-1991 Cat. A3, Unused Ports terminated)
Power Adaptor	18 VDC Output, UL Listed, PTC Short-Circuit Protected, Self-resetting
Dimensions, Weight	4.9" x 4.0" x 1.0", 1.0 lb.(1-Output); 4.9" x 4.0" x 1.8", 1.0 lb. (8-Output)
Environmental	
Pressure Seal	15 psi
Operating Temperature	-40 °C to +60 °C
Corrosion Resistance	Meets ANSI/SCTE Specification
Warranty	5 Years

Ordering Information

FRAX-XXXX

Return Gain
10 (1 Output)
00 (8 Output)

Forward Gain
15 (1 Output)
04 (8 Output)

# of Outputs -1, 8

Residential Amp w/Active Forward & Return

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