

### Broadband Structured Wire RF Amplifiers 5 -1000Mhz DOCSIS® Compliant

#### Specifications - General

##### Mechanical - Housing

- Tin-plated zinc die-cast housing, high quality plating has passed 1200 hours salt spray testing. Housing exceeds requirements of ASTM B117-90 Salt Fog testing standards.
- Solder sealed tin plated housing back plate provides beyond -110dB RFI shielding as measured utilizing SCTE IPS TP 403A1 Rev I test procedures.
- Bonding (Grounding) block complies with SCTE IPS SP208R08.
- Housing has extra large mounting holes compliant to ACTE IPS SP 205R.17i.

##### Mechanical – Connector F Ports

- Ports are on 1.0" centers compliant to SCTE IPS SP 206R.17I
- Ports are machine threaded and are comply with ANSI/SCTE 02 1997 F port specifications.
- Port end cap surface has flat metallic interface of .038" min complying with Cox Cable requirements, issued June 2004.
- Weather sealed F ports provide up to 15 P.S.I. complying with Time Warner Cable specifications issued August 1998. Note; Requires "F" type powering port.
- Patent pending, gold plated, beryllium copper center conductor seizing inserts are durable, resist oxidation and maintaining a distortion free signal for digital data transmission.
- The seizing insert retains seized center conductor up to pullout tension up to 200 grams on .032"diameter conductors. Provides total pin contact to center conductor of .060". Device complies with Cox Cable specifications.

##### Electrical

- Exceeds surge performance requirements of IEEE C62.41-1991 Cat A3 0.5us 100kHz ring wave 6kV on all F ports. Surpassing ANSI/SCTE 81 2003 section 1.2.2 testing requirements and Cox Cable standards.
- Glass PCB with micro strip design. SMT components used extensively
- Blocking capacitors on all splitter F ports block DC and low -frequency AC known as sheath currents. These blocking capacitors prevent any current from flowing through any of the devices ferrite windings.
- Special magnetism resistant ferrite core prevents saturation and maintains a low intermodulation distortion of 85dB for digital quality return path and HDTV signal. Utilizing Draft SCTE testing standard IPS TP 227 Rev 2.
- Second Harmonic -60dB measured with utilizing dual +55dBmV return carrier. Utilizing SCTE draft test procedure IPS TP 227 Rev 7.
- Temperature hardened components maintains low temperature stability within the range of -40°C and 85°C.

#### Specifications – Specific

- Overall band pass 5- 1000Mhz
- Gain (Loss) per configuration:

<b>Band Pass</b>	<b>1x1 1Ghz Amplifier</b>	<b>1x8 1Ghz Amplifier</b>	<b>1x16 1Ghz Amplifier</b>
52-1000Mhz	15dB	4dB	0dB
5-42Mhz	(0.5dB)	(11.0dB)	(14.5dB)
CM Input*	N/A	N/A	(6.5dB)

\*CM; Cable Modem port

Specifications – Specific (con't)

Parameter	1x1 1Ghz Amplifier	1x8 1Ghz Amplifier	1x16 1Ghz Amplifier
<b>Flatness</b>			
52-1000Mhz	±0.75dB	±1.0dB	±1.5dB
5-42Mhz	±1.5dB	±1.5dB	±2.0dB
<b>Return Loss – Input</b>			
52-1000Mhz	22.0dB	22.0dB	22.0dB
5-42Mhz	21.0dB	21.0dB	21.0dB
<b>Return Loss – CM Input</b> ( only on 1x16 amplifier)			
52-1000Mhz	20.0dB		
<b>Return Loss – Output</b>			
52-1000Mhz	22.0dB	20.0dB	20.0dB
5-42Mhz	21.0dB	21.0dB	21.0dB
<b>Port Isolation – Output</b>			
52-1000Mhz	25.0dB	25.0dB	20.0dB
5-42Mhz	27.0dB	25.0dB	25.0dB
<b>Port Isolation – CM port to output</b> ( only on 1x16 amplifier)			
52-1000Mhz	20dB		
<b>Power to RF Input Isolation</b>			
5-1000Mhz	100dB (min)	100dB (min)	100dB (min)
<b>RFI Isolation</b> (Radio Frequency Interference)			
5-1000Mhz	-110dBc	-110dBc	-110dBc
<b>Noise Figure</b>			
52-1000Mhz	2.5dB	3.0dB	3.0dB
<b>Group Delay</b> 54-1000Mhz (span 3.58Mhz)			
54-60Mhz	15ns	15ns	15ns*
61-1000Mhz	7ns	7ns	7ns*
<b>Group Delay</b> 5-42Mhz (span 1.0Mhz)			
5-42Mhz	17ns	17ns	17ns*
10-40Mhz	7ns	7ns	7ns*
<b>Surge Protection</b>			
All Ports, 6kV C62.41-1991 ring wave for A3 devices			
<b>Distortions</b> (Input level at +10dBmV flat 77 channels & 200Mhz noise for QAM test from 550 to 790Mhz)			
CSO	-65dBc	-65dBc	-65-dBc
CTB	-74dBc	-74dBc	-74dBc
Xmod	-75dBc	-75dBc	-75dBc
<b>Powering</b>			
15VDC 270-300mA, Short Circuit protected UL/CSA listed			
<b>Operational Temperature</b>			
-40° C to +60° C			

\* CM - Cable Modem Port