



AmpliTech

"Amplify Your Potential"

SATELLITE COMMUNICATIONS LOW NOISE WAVEGUIDE AMPLIFIERS

DESCRIPTION



AmpliTech's line of SATCOM amplifiers are high quality, high performing units designed specifically for the most difficult satellite communication applications. These units are available for INTELSAT type configurations as well as other wideband configurations. Our cooling option will provide even further noise level reductions for the more sophisticated applications. The LNA comes in a compact package which allows easy installation on all types of antenna hubs.

All our amplifiers can be easily optimized to provide quick, customized solutions for any specific applications. Amplifiers are available with field-replaceable connectors, or waveguide interface. These Low Noise Amplifiers are specially designed for satellite earth station, telecommunications applications, and transportable applications.

AmpliTech is very competitive and will provide you with the best prices and customer service. Our goal is to offer the best quality amplifier available and we show this by offering a standard 3 year warranty on all our amplifiers.

FEATURES

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| <ul style="list-style-type: none">• Lowest Noise Temperatures• Very Stable, High Gains• State-of-the-Art Technology• Compact size• Reverse polarity protection• Operating temperature range of -40 °C to +70 °C• MIL-STD 883 and Space Level screening | <ul style="list-style-type: none">• Wide Dynamic Range• Available for Ka band frequencies• High Reliability• Multiple Connector Interfaces• Cryogenically Cooled Options for Ultra Low Noise |
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OPTIONS

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| <ul style="list-style-type: none">• Higher output power, (up to +20 dBm)• Cryogenically cooled options• Extended operating temperature range | <ul style="list-style-type: none">• Universal input AC power supply• Transmit Reject Filter | <ul style="list-style-type: none">• Input/Output Test Coupler• Higher gains optional |
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LOW NOISE WAVEGUIDE AMPLIFIER SPECIFICATIONS

<p>Frequency (wider bands optional):</p> <p>L Band 1.5-1.6 GHz</p> <p>S Band 2.2-2.3 GHz</p> <p>C Band 3.6-4.2 GHz</p> <p>X Band 7.25-7.75 GHz</p> <p>Ku Band 10.95-11.70 GHz</p> <p>Ka Band 20.2-21.2 GHz</p> <p>Specification temperature +25° C</p> <p>Noise temperature (max)</p> <p>L Band 30° K</p> <p>S Band 33° K</p> <p>C Band 35° K</p> <p>X Band 55° K</p> <p>Ku Band 80° K</p> <p>Ka Band 125° K</p> <p>Connectors (Input / Output)</p> <p>L Band SMA/SMA</p> <p>S Band SMA/SMA</p> <p>C Band CPR-229G/SMA</p> <p>X Band CPR-112G/SMA</p> <p>Ku Band WR-75/SMA</p> <p>Ka Band WR-42/SMA</p> <p>Gain slope 0.2 dB/10 MHz maximum</p> <p>Gain stability ±0.25 dB/24 hours @constant temp</p> <p>Power output (1dB compression) +10 dBm minimum (higher power optional)</p> <p>3rd Order output IP +20 dBm minimum (higher outputs optional)</p>	<p>Group delay (±18 MHz)</p> <p>Linear 0.01 ns/MHz maximum</p> <p>Parabolic 0.001 ns/MHz² maximum</p> <p>Ripple 0.1 ns peak-to-peak maximum</p> <p>Spurious outputs</p> <p>Signal Independent -80 dBm</p> <p>Signal Related -50 dBc</p> <p>Input impedance 50 ohms</p> <p>Output impedance 50 ohms</p> <p>Non-damage input power -25 dBm maximum</p> <p>Voltage/Current +15VDC/500 mA max (Internal regulator included. 90-250VAC supply optional)</p> <p>Operating temperatures -30° to 60°C (other ranges optional)</p> <p>Non-Operating temperatures -50° to 70°C</p> <p>Operating Humidity Up to 100% condensing</p> <p>Atmospheric pressure 10,000 feet AMSL Max</p> <p>Shock and Vibration Normal handling by commercial carriers</p> <p>Weight LNA: 1lb Nominal</p>
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SATCOM LNA's

MODEL NUMBER	FREQ. RANGE (GHz)	GAIN GAIN (dB, Min.)	GAIN* FLATNESS (dB, Max.)	NOISE TEMP (°K, Max.)	RETURN LOSS - IN (dB Min.)	RETURN LOSS-OUT (dB Min.)	P1dB (dBm, Min.)	NOM. DC POWER (+15 V, mA)	AmpliTech OUTLINE DRAWING
APTW4-01500160-30K10-D6	1.5-1.6	50	± 0.5	30	18	18	10	200	D6
APTW5-02190240-33K10-D6	2.19-2.40	60	± 0.5	33	18	18	10	250	D6
APTW4-02200230-33K10-D8	2.2-2.3	50	± 0.5	33	18	18	10	225	D6
APTW5-03400420-30K10-229	3.4-4.2	50	± 1.0	30	15	15	10	200	229+D6
APTW6-03400420-33K10-229	3.4-4.2	60	± 1.5	33	15	15	10	225	229+D6
APTW1-03600420-50K10-229	3.6-4.2	10	± 1.5	50	15	15	10	75	229+D4
APTW3-03600420-30K10-229	3.6-4.2	35	± 0.5	30	15	15	10	200	229+D4
APTW3-03600420-50K10-229	3.6-4.2	35	± 0.5	50	15	15	10	125	229+D4
APTW5-03600420-35K10-229	3.6-4.2	50	± 0.75	35	15	15	10	300	229+D6
APTW4-0440550-39K10-187	4.4-5.5	40	± 1.00	39	15	15	10	175	187+D4
APTW5-0440550-50K10-187	4.4-5.5	60	± 1.00	50	15	15	10	225	187+D6
APTW4-0590710-50K10-137	5.9-7.1	39	±1.00	50	15	15	10	150	137+D4
APTW5-07250775-44K10-112	7.25-7.75	50	± 1.0	44	15	15	10	250	112+D6
APTW6-07100840-50K10-112	7.1-8.4	60	± 1.0	50	14	14	10	275	112+D6
APTW4-08000840-50K10-112	8.0-8.4	40	± 0.5	50	14	14	10	175	112+D4
APTW4-10701270-100K10-75	10.7-12.7	40	± 1.5	100	14	14	10	100	75+D4
APTW2-10701270-100K08-75	10.7-12.70	14	± 1.5	100	14	14	8	75	75+D4
APTW4-10701275-80K10-75	10.7-12.75	40	± 1.5	80	14	14	10	150	75+D4
APTW4-10701275-100K10-75	10.7-12.75	40	± 1.5	100	14	14	10	150	75+D4
APTW6-10701275-115K10-75	10.7-12.75	60	± 2.0	115	14	14	10	250	75+D6
APTW5-10951170-80K10-75	10.95-11.7	50	± 1.0	80	14	14	10	375	75+D6
APTW42-12251275-80K10-75	12.25-12.75	60	± 1.0	80	15	15	10	425	75+D4+D2
APTW4-12701530-150K10-62	12.70-15.30	40	± 1.5	150	15	15	10	275	62+D6
APTW4-14001600-100K10-62	14.0-16.0	37	± 1.0	100	15	15	10	175	62+D4
APTW3-17701970-150K10-51	17.7-19.7	30	± 1.0	150	15	15	10	125	51+D2
APTW22-17802130-135K10-42	17.8-21.3	45	± 1.0	135	10	10	10	350	42+D22
APTW22-20202120-135K10-42	20.2-21.2	50	± 1.0	135	10	10	10	350	42+D22

NOTE: Custom designs available. Better Return Loss is also available. Consult factory for specific requirements.



1373 Lincoln Ave. • Holbrook, NY 11741
 Tel: (631)521-7831 - Fax: (631)521-7871
 E-mail: sales@amplitechinc.com
 Web: www.amplitechinc.com