STA6175 C Series 750W C-Band Antenna Mount HPA

FEATURES

Ultralinear
Lightweight
High Efficiency
Broadband

STA6175 C series 750W Antenna Mount HPA

The STA6175 C series HPA provides ultra linear, high efficiency performance in a compact, lightweight, rugged, weatherproof, antenna mount enclosure. The amplifier incorporates a comprehensive remote-control facility as standard, including RS485, RS232 and Ethernet options.

The HPA incorporates a high efficiency multi-collector TWT powered by an advanced power supply built on over 30 years of experience in the design and manufacture of satellite amplifiers.

The company's products have an enviable reputation for performance, robust quality and reliable service.

The STA6175 C is available with a wide range of options and accessories, backed by worldwide technical support.

Features

- Advanced cooling design enables operation at +60°C and in direct sunlight
- Weatherproof antenna mount construction allows exposed mounting
- Ethernet/SMP/Webpage GUI interfaces
- Broadband – high efficiency operation
- Optional Linearizer
- Optional Internal BUC (consult SpacePath for full details
- CE compliant
- Wide input voltage range - can operate from mains supplies worldwide
- Redundant control - contains control and drive circuits for 1:1 redundancy
- Stand-alone setting - automatically sequences to transmit mode
- Wide range of accessories including: Controllers, waveguide networks, cable assemblies

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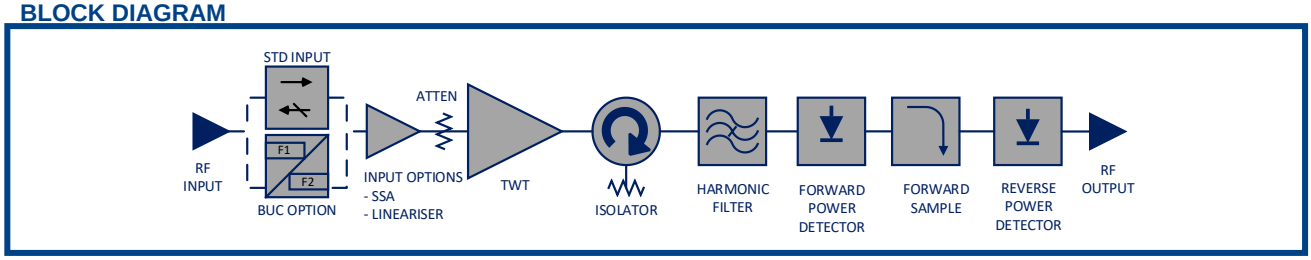
BLOCK DIAGRAM



RF Performance:

Frequency	
CC1	5.850 – 6.425 GHz
CC2	5.850 – 6.650 GHz
CC3	5.850 – 6.725 GHz
CC4	5.850 – 7.025 GHz
CC5	5.725 – 6.725 GHz
CC6	6.725 – 7.025 GHz

Output Power	(for load VSWR ≤ 1.5:1)
TWT Power	58.80 dBm (750 W)
Rated at HPA Flange (Prated)	58.13 dBm (650 W) min.

Gain	
Gain	≥ 70 dB
Variation, 80 MHz, ΔG_{80MHz}	≤ 0.8 dB peak-peak
Variation, 750 MHz, ΔG_{750MHz}	≤ 2.5 dB peak-peak* ≤ 4.0 dB peak-peak**
Slope, ΔG_{SLOPE}	± 0.04 dB/MHz
Gain Stability vs. Time @constant drive & temp	± 0.25 dB/24 hours
Gain Stability vs. Temperature @ constant drive & frequency	± 1.0 dB
Adjustment range, G_{ADJ}	30.0 dB typical
Adjustment step size	0.1 dB

Linearity	
AM/PM	≤ 2.5°/dB at Prated – 6 dB
Inter-modulations (IMD) 2 equal carriers	≤ -18 dBc @ Prated – 4 dB[1] ≤ -26 dBc @ Prated – 4 dB[2]
Spectral Re-growth (SR)	≤ -30 dBc @ Prated – 4 dB[2]
Noise Power Ratio (NPR)	≤ -19 dBc @ Prated – 4 dB[2]

Input VSWR (Return Loss)	≤ 1.3:1 (17.7 dB)[3] ≤ 1.6:1 (12.7 dB)[4]
Output VSWR (Return Loss)	≤ 1.3:1 (17.7 dB)
Load VSWR (no damage)	≤ 2.0:1 (9.5 dB)
Harmonic 2nd & 3rd	≤ -60 dBc

Noise Power	
Transmit Band (T_X)	≤ -70 dBW/4KHz
Receive Band (R_X)	≤ -150 dBW/4KHz (3.4 – 4.2 GHz)

Spurious @ P_o ≤ MLP	≤ -60 dBc
Residual AM	≤ -50 dBc, f < 10kHz ≤ -20(1.5+LOG(frequency kHz))dBc, f = 10KHz to 500kHz ≤ -85 dBc >500kHz
Phase Noise	10 dB below IESS requirement[3] 3 dB below IESS requirement[4] ≤ - 50 dBc, AC fundamental ≤ - 47 dBc, Sum of all spurs

Group Delay (any 80 MHz)	
Linear	0.01 nsec/MHz, max
Parabolic	0.002 nsec/MHz^2, max
Ripple	0.5 nsec/Peak-Peak, max

Prime Power:

AC Input Voltage	200-240 VAC ± 10%, single phase 50-60 Hz ± 5%
Full Load Current	12.5 A max @ 200 VAC
Power Consumption	2200 VA typical 2450 VA maximum
Power Factor	0.98 typical 0.96 minimum

Environmental:

Ambient Temperature	-40°C to +60°C
Relative Humidity	100% condensing
Altitude	12,000 ft. with standard adiabatic de-rating of 2°C/1000 ft., operating 50,000 ft., non-operating
Shock	15 g peak, 11mSec, 1/2 sine
Vibration	3.2 g rms, 10-500 Hz
Acoustic Noise	65 dBA @ ≥3 ft. from amplifier
Solar Gain	1120 2/m^2

Mechanical:

Dimensions	Request outline
Length	588 mm
Width	254 mm
Height	280 mm
Weight	25 kg typical

RF Input	Type N(f) 50 ohm
RF Output	CPRG-137
RF Sample	Type N(f) 50 ohm
AC Input	Amphenol C016 20C003 200 12
Ethernet	RJF71B (IP67 RJ45 Connector)
M&C Connector	PT07E18-32S (MS3114E-18-32S)

[1] No Linearizer
[2] With Linearizer
[3] No Internal BUC
[4] With Internal BUC

Specifications are subject to change without notice