

FEATURES

**Linear - NPR Multi-Carrier
Compact & Lightweight
Industries Highest Efficiency
Broadband – 4 GHz Bandwidth
High Reliability LEO/MEO HPA**



STA45385P Ka series 385W Antenna Mount HPA

The STA45385P Ka series HPA provides linear, high efficiency performance in a compact, lightweight, rugged, weatherproof, antenna mount enclosure. The advanced packaging and cooling techniques enable the unit to operate in extreme environmental conditions from direct rain to direct sunlight, while operating electronics at cooler temperatures. The amplifiers can be deployed anywhere in the world, are user-friendly and incorporate a comprehensive remote control facility as standard, including RS485, RS232 and Ethernet options.

The HPA incorporates a high efficiency, high reliability TWT powered by an advanced full AC-to-DC power supply with an integrated high reliability monitor and control system. State of the art materials and techniques are used in cooling resulting in high reliability in the harshest of environments.

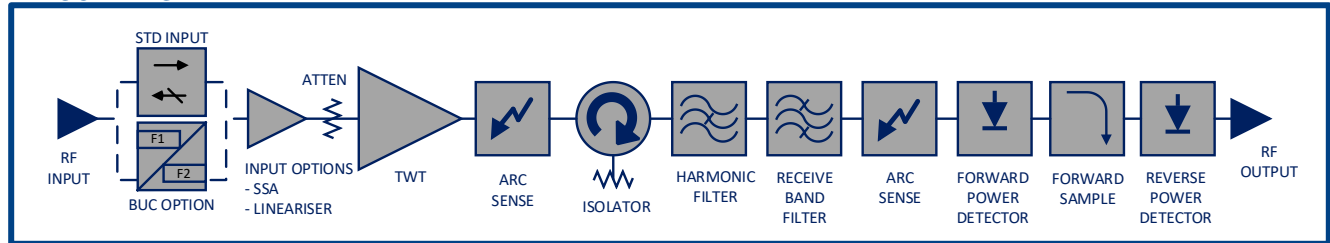
The company's products have an enviable reputation for performance, robust quality and reliable service.

The STA45385P Ka 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
- Multi-Band BUC Options Available
- 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

BLOCK DIAGRAM



RF Performance:

Frequency	
Full Bandwidth	27.0 – 31.0 GHz
Sub-Bands ¹	
KA1	27.5 – 30.0 GHz
KA2	30.0 – 31.0 GHz
KA3	27.0 – 30.0 GHz
Output Power	(for load VSWR ≤ 1.5:1)
TWT Power, PEAK	55.8 dBm (385 W)
Rated (flange)	51.2 dBm (135 W) typical
Linear, P _{LIN}	51.2 dBm (135 W)

Gain

Gain	≥ 70 dB
Variation, 250 MHz, ΔG _{250MHz}	≤ 1.0 dB peak-peak
Variation, 1000 MHz, ΔG _{1000MHz}	≤ 2.5 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 @ P _O ≤ P _{LIN}	≤ 1.5°/dB
NPR	≤ -19 dBc @ P _{LIN} (135W)

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

Noise Power

Transmit Band (T _x)	≤ -70 dBW/4KHz
Receive Band (R _x)	≤ -150 dBW/4KHz (≤ 21.2 GHz)

Spurious @ P _O ≤ MLP	≤ -60 dBc
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Residual AM	≤ -50 dBc, f < 10KHz ≤ -20(1.5+LOG(frequency KHz))dBc, f = 10KHz to 500KHz ≤ -85 dBc > 500KHz
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Phase Noise	10 dB below IESS requirement ≤ - 50 dBc, AC fundamental ≤ - 47 dBc, Sum of all spurs
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Group Delay (any 80 MHz)

Linear	0.01 nsec/MHz, max
Parabolic	0.005 nsec/MHz ² , max
Ripple	0.5 nsec/Peak-Peak, max

Prime Power:

AC Input Voltage	100-240 VAC ± 10%, single phase 50-60 Hz ± 5%
Full Load Current	8.0 A max @ 100 VAC
Power Consumption	750 VA typical 800 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	44 cm
Width	22 cm
Height	22 cm
Weight	16 kg typical
RF Input	WR-28 (Optional WR-34)
RF Output	WR-28 (Optional WR-34)
RF Sample	2.9mm SMA Female
AC Input	Amphenol C016 20C003 200 12
Ethernet	RJF71B (IP67 RJ45 Connector)
M&C Connector	PT07E18-32S (MS3114E-18-32S)

Notes:

- Other frequency bands are available including multi-band BUC options, consult SpacePath Communications for details

Specification subject to change without notice