

STA5575P Ka Series 750W Ultralinear Ka-Band Antenna Mount HPA

Ultralinear Lightweight **High Efficiency Broadband**



STA5575P Ka series 750W Antenna Mount HPA

The STA5575P Ka series HPA provides ultra 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. The amplifiers can be simply deployed anywhere in the world, are userfriendly and incorporate 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.

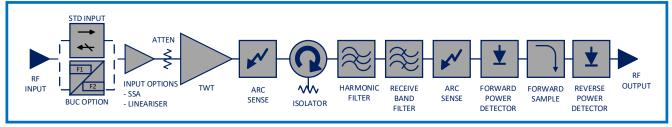
The STA5575P Ka is available with a wide range of options and accessories, backed by worldwide technical support.

Features

- Provides up to 370W of CW Power at the flange
- Advanced cooling design enables operation at +60°C and in direct sunlight
- Weatherproof antenna mount construction allows exposed mounting
- Ethernet/SNMP/Webpage GUI interfaces
- Broadband high efficiency operation

- 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 1,2 KA1 27.5 - 30.0 GHz KA2 30.0 - 31.0 GHz KA3 27.0 - 30.0 GHz

Output Power²

TWT Power, Peak/CW 750 W/450 W (58.76/56.5 dBm)

625 W/370 W (57.95/55.7 dBm) HPA Flange Power,

Peak/CW

Linearity

Intermodulation - with respect -26 dBc max. at total output power to each of 2 equal carriers 20 of 50.95dBm/124W

(-28 dBc at 53.95dBm/248W with MHz apart

optional linearizer)

-19 dB at 53.95dBm/248W flange NPR (with linearizer option)

output power.

-25 dB at 51.95dBm/156.6W dBm

flange output power.

AM/PM No Lineariser up 2.5°/dB max Conversion to 7dB OPBO

> With linearizer up 2.0°/dB max

to 4 dB OPBO

Gain

Gain Rated Output 70 dB min. Gain Small Signal (SSG) 70 dB min.

SSG Over 500 MHz 1.2 dB pk-pk max. Variation 2.5 dB pk-pk max. Over 1 GHz SSG Gain Slope \pm 0.04 dB/MHz

Gain Stability at const. drive &

± 0.25 dB/24 hours temp. after 30 min warmup

Gain Stability over temp. + 1.0 dB

RF Level Adjust Range 0 to 30 dB typ. (via PIN diode

attenuator) 0.1 dB steps

VSWR (Return Loss)

Input 1.3:1 (17.7 dB) max. Output 1.3:1 (17.7 dB) max Load (Full perf.) 1.5:1 (14.0) max. Load V (No damage) ≤ 2.0:1 (9.5 dB) Max.

Noise Power

Transmit Band ≤ -70 dBW/4kHz Receive Band (≤ 21.2 GHz) ≤ -150 dBW/4kHz

Phase Noise

Continuous 10 dB below IESS requirement

AC Fundamental -47 dBc max. Sum of all spurs -50 dBc Harmonic 2nd & 3rd ≤ -60 dBc Spurious ≤ -60 dBc

Group Delay (any 80 MHz)

Linear 0.01 nsec/MHz, max Parabolic 0.005 nsec/MHz2, max 0.5 nsec/Peak-Peak, max Ripple

Residual AM

f < 10 kHz -50 dBc max.

f = 10KHz to 500 kHz -20(1.5 + logf) dBc max

-85 dBc max. f >500 kHz

Prime Power:

AC Supply Voltage 100-240 VAC \pm 10%, single phase

> 47 - 63 Hz Frequency

Р1 Power 1400VA max; 1200VA typ. Consumption P2 1500VA max; 1300VA typ.

Power Factor 0.98 typical

0.96 minimum

Environmental:

Ambient Operating -40°C to +60°C (out of direct sunlight) Temp.

-40°C to +55°C (direct sunlight)

-54°C to +71°C Storage

Relative Humidity 100% condensing

12,000 ft. with standard adiabatic de-Altitude Operating

rating of 2°C/1000ft

50,000 ft. Non-Op

Shock 15 g peak, 11mSec, 1/2 sine

Vibration 3.2 g rms, 10-500 Hz

Acoustic Noise 65 dBA @ ≥3 ft. from amplifier Forced air with integral blower Cooling

Mechanical:

Dimensions WxHxD3 254x254x520 mm (10x10x20 in.)

Weight 21 kg (46.2 lbs) typ. RF Input WR-28 (Optional WR-34) RF Output WR-28 (Optional WR-34)

RF Sample 2.9mm SMA Female

Amphenol C016 20C003 200 12 AC Input Ethernet RJF71B (IP67 RJ45 Connector) M&C Connector PT07E18-32S (MS3114E-18-32S)

Notes:

1. Other frequency bands are available including BUC options covering 1GHz, consult Spacepath Communications for details

2. Peak/output power and frequency range must be selected at time of

purchase, as these options are TWT dependent and cannot be changed in the field.

3. Contact Spacepath Communications for outline drawing.

Specification subject to change without notice