

FEATURES

**Ultralinear
Lightweight
High Efficiency
Broadband**



STA6275 X series 750W Antenna Mount HPA

The STA6275 X 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 user-friendly 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.

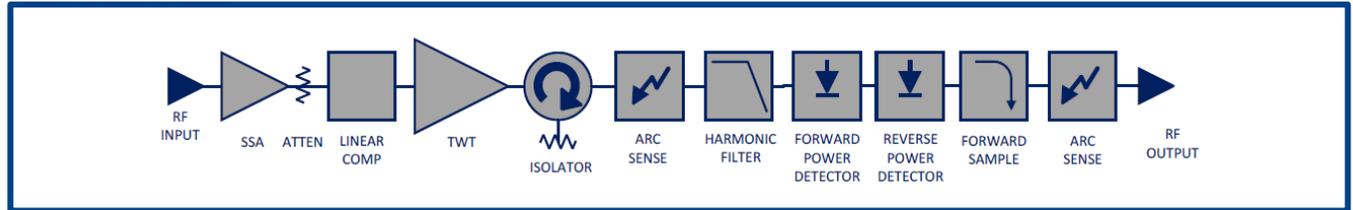
The company's products have an enviable reputation for performance, robust quality and reliable service.

The STA6275 X 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
- 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

XX1 7.9 – 8.4 GHz

Output Power (for load VSWR ≤ 1.5:1)

TWT Power 58.75 dBm (750 W)

Rated at HPA Flange (Prated) 58.13 dBm (650 W)

Gain

Gain ≥ 70 dB

Variation, 40 MHz, $\Delta G_{40\text{MHz}}$ ≤ 1.0 dB peak-peak

Variation, 500 MHz, $\Delta G_{500\text{MHz}}$ ≤ 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*
≤ -26 dBc @ Prated – 4 dB**

Spectral Re-growth (SR) ≤ -30 dBc @ Prated – 4 dB**

Noise Power Ratio (NPR) ≤ -19 dBc @ Prated – 4 dB**

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 2nd & 3rd ≤ -60 dBc

Noise Power

Transmit Band (Tx) ≤ -70 dBW/4KHz

Receive Band (Rx) ≤ -70 dBW/4KHz
(7.25 – 7.75 GHz)

Spurious @ $P_o \leq \text{MLP}$ ≤ -60 dBc

Residual AM ≤ -50 dBc, $f < 10\text{KHz}$
≤ -20(1.5+LOG(frequency KHz))dBc,
 $f = 10\text{KHz}$ to 500KHz
≤ -85 dBc >500KHz

Phase Noise 10 dB below IESS requirement
≤ -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/MHz², 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/m²

Mechanical:

Dimensions Request outline

Length 588 mm (excluding connectors)

Width 254 mm

Height 271 mm

Weight 25 kg typical

RF Input Type N(f) 50 ohm

RF Output CPR112G with 8-32 UNF threaded holes

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)

* no Linearizer

** with Linearizer

Specifications are subject to change without notice