STA6140 C Series 400W C-Band Antenna Mount HPA

FEATURES

Ultralinear
Lightweight
High Efficiency
Broadband

STA6140 C series 400W Antenna Mount HPA

The STA6140 C 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.

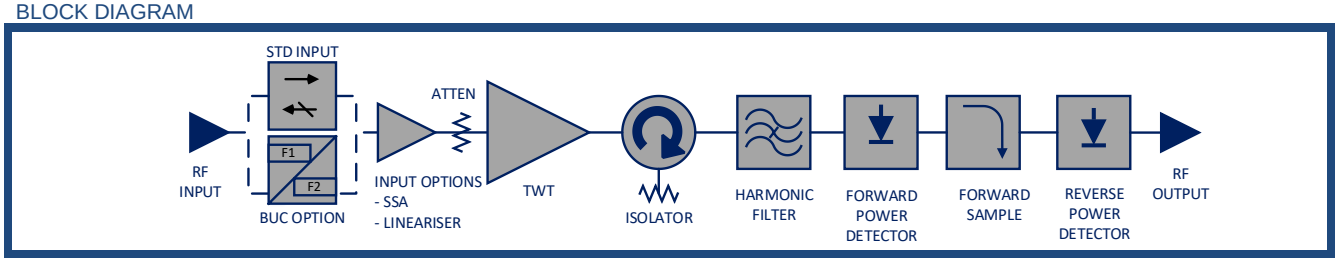
The company's products have an enviable reputation for performance, robust quality and reliable service.

The STA6140 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
- 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	
CC1	5.850 – 6.425 GHz
CC2	5.850 – 6.650 GHz
CC3	5.850 – 6.725 GHz
CC4	5.850 – 7.025 GHz
CC6	6.725 – 7.025 GHz
Output Power	(for load VSWR ≤ 1.5:1)
TWT Power	56.02 dBm (400 W)
Rated (flange)	55.44 dBm (350 W) min.
Gain	
At Prated	≥ 70 dB[5]
Small Signal	≥ 75 dB[5]
Variation, over 40 MHz	≤ 0.5 dB peak-peak
Variation, over 800 MHz	≤ 2.5 dB peak-peak[1] ≤ 4.0 dB peak-peak[2]
Slope	± 0.02 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	30.0 dB typical
Adjustment step size	0.1 dB
AM/PM	≤ 2.5°/dB @ $P_O \leq$ Prated-7 dB[1] ≤ 2.5°/dB @ $P_O \leq$ Prated-4 dB[2]
Inter-modulations (IMD) 2 equal carriers 10MHz apart	≤ -18 dBc @ $P_O \leq$ Prated-4 dB[1] ≤ -26 dBc @ $P_O \leq$ Prated-4 dB[2]
Spectral Re-growth (SR)	≤ -30 dBc @ $P_O \leq$ Prated-6 dB[1] ≤ -30 dBc @ $P_O \leq$ Prated-4 dB[2]
Input VSWR (Return Loss)	≤ 1.3:1 (17.7 dB)[3]
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	≤ -70 dBW/4KHz[1] ≤ -65 dBW/4KHz[2]
3.4 – 4.2 GHz	≤ -150 dBW/4KHz
12.0 – 18.0 GHz	≤ -110 dBW/4KHz
Spurious @ $P_o \leq$ MLP	≤ -60 dBc
Residual AM	
f < 10kHz	≤ -50 dBc
10kHz < f < 500kHz	≤ -20[1.5+Log f(kHz)] dBc
f > 500kHz	≤ -85 dBc
Phase Noise	
Phase Noise Profile	10 dB below IESS requirement[3]
AC fundamental	≤ - 47 dBc
Sum of all spurs	≤ - 50 dBc
Group Delay (any 40 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	100-240 VAC ± 10%, single phase 50-60 Hz ± 5%
Inrush Current	200% max.
Power Consumption	1350 VA typical 1450 VA maximum
Power Factor	0.98 typical 0.96 minimum

Environmental:

Ambient Temperature	
Operating	-40°C to +60°C
Non-operating	-54°C to +71°C
Relative Humidity	100% condensing
Altitude	
Operating	12,000 ft. with standard adiabatic de-rating of 2°C/1000 ft.
Non-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 LxWxH[6]	588 x 254 x 280 mm 23.2 x 10.0 x 11 inches
Weight	25 kg typical
Cooling	Internal Forced Air
Heat Dissipation	1100W typ.

Connectors:

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)

M&C Interface

Network	Ethernet
Serial	RS422/485

Notes

1) No Linearizer
2) With Linearizer
3) Input VSWR, 1.6:1 max with internal BUC
4) Meets IESS requirement with internal BUC
5) Low gain option 46dB (49dB with Linearizer)
6) Request Outline

Specifications are subject to change without notice