SpacePath Ultralinear 1250W DBS-Band Antenna Mount HPA

The STA54125P DBS 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.

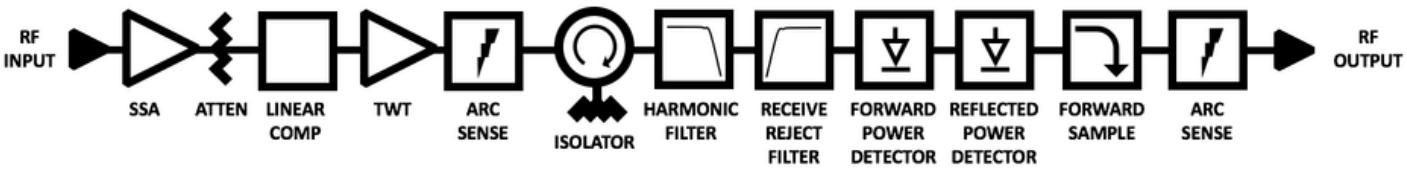
The HPA incorporates a high efficiency multi-collector TWT powered by an advanced power supply built on over 30 years of experience in the design and manufacture of satellite amplifiers.

The company's products have an enviable reputation for performance, robust quality and reliable service. The STA54125P DBS 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
- Modular construction for long term serviceability
- Removable air filters
- CE complaint
- 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 range		**DB1:** 17.30 - 18.10 GHz **DB2:** 17.30 - 18.40 GHz **DB3:** 17.30 - 17.80 GHz
Bandwidth		800 MHz / 1300 MHz
Output Power (for load VSWR ≤ 1.5:1)	TWT Power	Peak: 1250 W (60.97 dBm) CW: 750 W (58.75 dBm)
	HPA Rated (flange)	Peak: 1114 W (60.47 dBm) CW: 668 W (58.25 dBm)
	Linear, P_{LIN}	57.5 dBm (565 W)
Gain		≥ 70 dB
Gain Variation, 80 MHz, ΔG_{80MHz}		≤ 0.8 dB peak-peak
Gain Variation, 800 MHz, ΔG_{800MHz}		≤ 2.5 dB peak-peak
Slope, ΔG_{SLOPE}		± 0.04 dB/MHz max
Gain Stability vs. Time		± 0.25 dB max / 24hrs @ constant drive and temperature
Gain Stability vs. Temperature		± 1.0 dB max / 24hrs @ constant drive and frequency
Adjustment range, G_{ADJ}		30.0 dB typical
Adjustment step size		0.1 dB
AM/PM		≤ 2.0°/dB @ $P_O \leq P_{LIN}$ - 1dB
Inter-modulations (IMD) 2-tone		≤ -28 dBc @ $P_O \leq P_{LIN}$ - 1dB
Spectral Re-growth (SR)		≤ -30 dBc @ $P_O \leq P_{LIN}$ - 1dB
Noise Power Ratio (NPR)		≤ -19 dBc @ $P_O \leq P_{LIN}$ - 1dB
Noise power	Transmit band	≤ –70 dBW/4 kHz
	Receive band	≤ –150 dBW/4 kHz (10.65 - 11.75/12.75 GHz)
Spurious @ $P_O \leq$ 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		10dB below IESS requirement ≤ -50 dBc max, AC fundamental ≤ -47 dBc max, Sum of all spurs
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
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

Electrical	
Full Load Current	13 A max @ 200 VAC
AC Input Voltage	200-240 VAC ± 10%, single phase 50-60 Hz ± 5%
Power consumption	2200 VA typical 2600 VA maximum
Power factor	0.98 typical 0.96 minimum

Physical	
Dimensions (request outline)	52cm deep x 26 cm width x 26 cm height
Weight	21KG typical
Cooling	Integral forced-air
RF Input	Type N(f) 50 ohm
RF Output	WR-62
RF Sample port	Type N(f) 50 ohm
AC Input	Amphenol C016 20C003 200 12
Ethernet	RJF71B
M&C Connector	PT07E18-32S (MS3114E-18-32S)

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

Specifications are subject to change without notice

ETL SYSTEMS LTD
Coldwell Radio Station, Madley,
Hereford, England HR2 9NE

EMAIL
info@etlsystems.com

TELEPHONE
+44 (0)1981 259020