



STA3408 Series, StellarMini™ 80 W, DBS-Band, Antenna Mount TWTA

The STA3408 range of DBS amplifiers from Spacepath Communications provide over 75W of Rated Output Power in compact, lightweight rugged weatherproof enclosure. The advance cooling techniques enable the unit to operate in extreme environmental conditions.

The units can be deployed globally, are easy to integrate and user friendly. A serial RS422/485 interface is included as standard with comprehensive monitoring and control.

OPTIONS

- Integral BUC that can be supplied as a Standard Wide Band or Dual Band version with selectable LO allowing the entire DBS frequency range to be covered by one unit.
- Lineariser enabling the unit to provide over 43W Linear power

FEATURES

- Lightweight and compact
- Wide Operating temperature range -40°C to $+60^{\circ}\text{C}$
- Intuitive Monitoring & Control through RS422/RS485
- Weatherproof antenna mount construction allows exposed mounting
- Redundant control – contains control and drive circuits for 1:1 redundancy
- Wide input supply 90V to 264V AC
- Wide range of accessories including: controllers, waveguide
- networks, cable assemblies, ducting adaptor and cowl

TECHNICAL SPECIFICATION

PERFORMANCE			
Frequency Range			
Standard	DB2	17.3 - 18.4 GHz	
Frequency Range - BUC Option (See Note 1)			
Sub-Band	Output (GHz)	Input (MHz)	LO (GHz)
DB1	17.3 - 18.1	950 - 1750	16.35
DB2	17.3 - 18.4	950 - 2050	16.35
DB3	18.1 - 18.4	1150 - 1450	16.95
External Reference - BUC Option (See Note 1)			
Frequency	10 MHz		
Level	0 ± 5dBm		
Impedance	50 Ω		
Output Power			
Sub-Band	DB1 & DB2	DB3	
TWT Flange (min)	85 W (49.3dBm)	67 W (49.3 dBm)	
HPA Rated Output (min)	76W (48.8 dBm)	60 W (47.8 dBm)	
Gain			
Sub-Band	DB1 & DB2	DB3	
Gain at Rated Power	70 dB min.		
Small Signal Gain	75 dB min.		
Gain Flatness - Full Band	4 dB p-p	3 dB p-p	
Gain Flatness - 36 MHz	1 dB p-p		
Gain Stability - 24Hrs (Const. drive)	0.5 dB		
Gain Stability - Over Temp range	2 dB p-p		
Gain Control	25 dB min		
Linearity			
Inter modulation	-25dBc, 2 equal carriers, 10MHz apart, Total OPBO		
	<i>No Linearizer</i>	<i>With Linearizer</i>	
	Prated-8dB	Prated-3dB	
Spectral Regrowth	-30dBc, 1 symbol rate from carrier (QPSK)		
	<i>No Linearizer</i>	<i>With Linearizer</i>	
	Prated-6dB	Prated-2dB	
Phase Noise			
Continuous - Standard	10dB below IESS phase noise profile		
Continuous - With Internal BUC	Meets IESS phase noise profile		
AC Fundamental	-50 dBc		
Sum of all spurs	-47 dBc		
Noise & Spurious			
Harmonic	-60 dBc		
Spurious	-65 dBc		
Noise Power Density			
Tx Band	70 dBW/4kHz		
Rx Band	130 dBW/4kHz		
VSWR			
Input VSWR	1.3:1 (1.6:1 With Internal BUC)		
Output VSWR	1.3:1		
Electrical			
Prime Power	Single Phase, Line-Neutral or Line-Line		
Voltage	90 to 264 Vac		
Power Requirement	660 VA typical at Prated		
Power Factor	0.95 min.		

Mechanical		
Dimensions LxWxH	348x183x147.5 mm	
Weight	9.0kg (19.8 lbs)	
Cooling	Integral Forced-Air	
Connectors		
RF Input	N-Type 50Ω (Female)	
RF Output	PBR140 with 6-32 UNC 2B threaded holes	
RF Output Sample	N-Type 50Ω (Female)	
Prime Power	Amphenol T3110-000	
Control Interface	62GB-12E-18-32-PN	
Monitor & Control		
Interface	RS422/485	
Monitor	Off	Output Power Monitor
	Standby	Reflected Power Monitor
	Transmit	TWT Temperature
	Summary Fault	Helix Current Monitor
	Redundancy Fault	Helix Voltage
	Reflected Power	Collector Voltages
	External Interlock	Heater Voltage
	TWT Too Hot	Elapsed Hours
	Mean/Peak Helix Current	
	Low/High Power Alarm	
Control	Off	High Power Alarm Set
	Standby	Low Power Alarm Set
	Transmit	Auto Redundancy Control
	RF Inhibit	RF Switch Control
	LO Select (Optional Note 1)	Gain Control
Environmental		
Temperature - Operating	-40°C - +55°C (derate 2°C/300m above sea level)	
Temperature - Storage	-40°C - +85°C	
Humidity	Up to 100%.	
Altitude - Operating	4.5 km (15,000 ft) max.	
Altitude - Non-Operating	12 km (40,000 ft) max.	
Vibration/Shock	BS EN 60721-3-2 Level 2M3	
Compliance Standard		
EU Directives	EMC Directive 2014/108/EU	
	Low voltage directive 2014/34/EU.	
	ROHS Directive 2011/65/EU	
EMC - Emissions	EN6000-6-3	
	FCC Part 15B	
EMC - Immunity	EN61000-6-2	
Safety	IEC 62368-1	

Notes

1) Internal BUC Option

The Internal BUC is available as single LO versions covering the bands DB1, DB2 & DB3 or a Dual Band version with selectable LO for DB1 & DB3

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