STR5375
750W Ku-Band
Touchscreen Indoor TWTA

STR5375 Ku series 750W Indoor TWTA

The new generation of STR Series rack mount TWTAs provide an easy to operate, colour touch screen interface with a multi-functional selector wheel. The colour touch screen display provides clear, easy to read status of the amplifier's operation, including: RF output power monitoring, heater, helix monitoring, & TWT temperature. Set up screens are intuitive and simple to manage and the touch panel allows full local control and monitoring of all amplifier parameters, including automatic level control, system event logging and graphical trend analysis. Remote control operation can be made via RS485 or through an Ethernet interface, and a web page interface is also available. If a redundancy system is required, this can be set up and controlled via the touch screen. Changes to operating parameters can be locked and password protected if required.

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.

Features

- Compact 4RU enclosure
- Touch screen control
- Ethernet interface
- Remote diagnostics
- Forward and reverse power monitoring
- TWTA performance Event & Data logging
- Constant Power Control
- Uplink Power Control (UPC)
- Redundant Control - contains control and drive circuits for 1:1 or 1:2 Redundancy

Options

- L-Band Block upconverter
- Auto sense Int/Ext Reference Source

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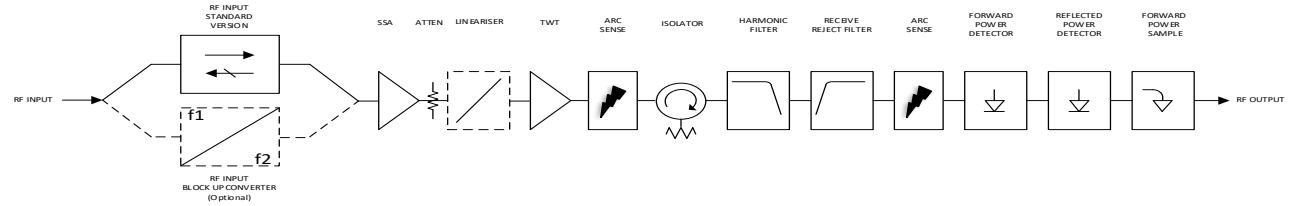
BLOCK DIAGRAM



RF Performance:

Frequency	
KU1	13.75 – 14.50 GHz
KU2	12.75 – 14.50 GHz
KU3	13.75 – 14.80 GHz
KU4	12.75 – 13.25 GHz

Output Power	(for load VSWR ≤ 1.5:1)
TWT Power	58.8 dBm (750 W)
Rated (flange)	58.1 dBm (650 W) typical

Gain	
Gain	≥ 70 dB
Variation, 80 MHz, ΔG_{80MHz}	≤ 0.8 dB peak-peak
Variation, 750 MHz, ΔG_{750MHz}	≤ 2.5 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 @ $P_O \leq P_{LIN}$ - 1dB	≤ 2.0°/dB
Inter-modulations (IMD) 2-tone	≤ -18 dBc @ $P_O \leq P_{LIN}$ – 1 dB* ≤ -26 dBc @ $P_O \leq P_{LIN}$ – 1 dB**
Spectral Re-growth (SR)	≤ -30 dBc @ $P_O \leq P_{LIN}$ – 1 dB**
Noise Power Ratio (NPR)	≤ -19 dBc @ $P_O \leq P_{LIN}$ – 1 dB** * no Linearisер, **opt Linearisер

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 (T_X)	≤ -70 dBW/4KHz
Receive Band (R_X)	≤ -150 dBW/4KHz (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	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	0.005 nsec/MHz^2, 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	13 A max @ 200 VAC
Power Consumption	2200 VA typical 2450 VA maximum
Power Factor	0.98 typical 0.96 minimum

Environmental:

Ambient Temperature	-10°C to +55°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

Mechanical:

Dimensions	Request outline
Length	60.96 cm
Width	48.26 cm
Height	17.78 cm
Weight	32 kg typical

RF Input	Type N(f) 50 ohm
RF Output	WR-75
RF Sample	Type N(f) 50 ohm
AC Input	Amphenol C016 20C003 200 12
Ethernet	RJF
Com Aux Interface WG Switch	9-Way D-Type 25-Way D-Type 37-Way D-Type