

750 Watt Peak Power Ku-Band Rack Mount High Power Amplifier with Touch Screen



FEATURES

- *750W peak power, 355W CW power*
- *Touch screen interface*
- *Compact 3RU chassis*
- *Built-in redundancy controller*
- *Extended frequency bands available*
- *Ethernet interface, remote diagnostics*
- *Parameter trend analysis*
- *Optional integrated linearizer*

The **XTRT-750KHE** is a highly efficient rack mountable traveling wave tube amplifier (TWTA) designed for fixed and mobile uplink applications. The unit includes RF gain control, a solid state pre-amplifier, RF filters, cooling, and monitoring and control (M&C) systems. Rack space is conserved because the amplifier occupies only 3 rack units (5¼ inches) of a standard 19-inch rack cabinet. Nominal weight is 56 pounds.

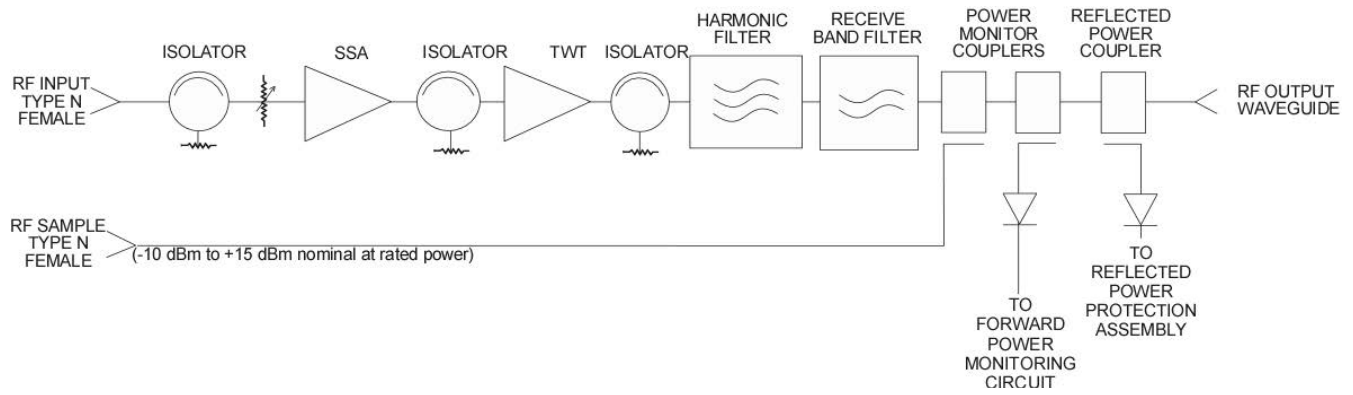
The **XTRT-750KHE** is a 750W amplifier with a touch screen front panel for easy customer interface. The display shows HPA status, parameter trend analysis and event logs, and remote diagnostics can be easily performed via the Ethernet interface. Also, because the display can show and control waveguide switches or a combiner, the need for separate external controllers is eliminated for common architectures.



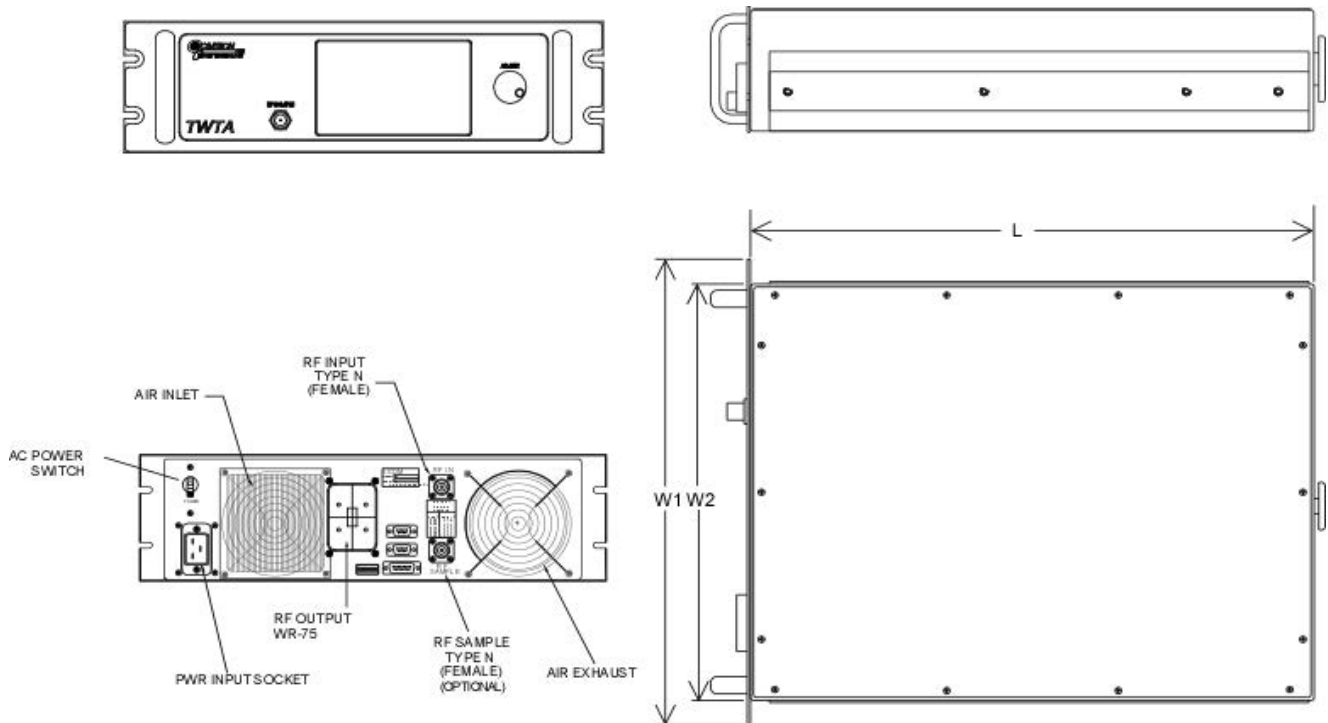
PERFORMANCE SPECIFICATION

Parameters	XTRT-750KHE	XTRT-750KHE1
FREQUENCY RANGE	13.75 to 14.5 GHz	12.75 to 14.5 GHz
OUTPUT POWER		
Peak TWT Power	750 Watts (58.7 dBm)	
Maximum CW power (P_{MAX})	355 Watts (55.5 dBm)	
Linear Power (P_{LINEAR})	300 Watts with optional linearizer (54.8 dBm) 165 Watts without linearizer (52.2 dBm)	
GAIN		
Large Signal (minimum)	70 dB	
Small Signal (minimum)	70 dB	
Attenuator Range (continuous)	30 dB, 0.1 dB steps	
Maximum SSG Variation Over		
Any Narrow Band	1.0 dB per 80 MHz	
Full Band	2.5 dB per 500 MHz	
Slope (maximum)	± 0.02 dB/MHz	
Stability, 24 hr. (maximum)	± 0.25 dB	
Stability, Temperature (maximum)	± 1.0 dB over temperature range at any frequency	
INTERMODULATION (maximum) relative one of two equal carriers	-25 dBc @ P_{LINEAR} with optional linearizer	
AM/PM CONVERSION (maximum)	2.0 deg/dB @ P_{LINEAR}	
HARMONIC OUTPUT (maximum)	-60 dBc	
NOISE POWER (maximum)		
Transmit Band	-70 dBW/4 kHz	
Receive Band	-150 dBW/4 kHz 10.95 to 12.75 GHz	-150 dBW/4kHz 10.95 to 11.75 GHz
GROUP DELAY (maximum)		
Bandwidth	Any 80 MHz	
Linear	0.01 nS/MHz	
Parabolic	0.005 nS/MHz ²	
Ripple	0.05 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum)	-50 dBc to 10 kHz -20 (1.5 + logf) dBc 10 to 100 kHz -85 dBc above 100 kHz	
PHASE NOISE (maximum)	12 dB below IESS phase noise profile AC fundamental -50 dBc Sum of all spurs -47 dBc	
VSWR		
Input (maximum)	1.3:1	
Output (maximum)	1.3:1	

BLOCK DIAGRAM



OUTLINE DRAWING



DIMENSIONS		
	Inches	Centimeters
W1	17.00	43.18
W2	19.00	48.26
L	23.00	58.42
H	5.22	13.26
Nominal Weight = 56 lbs (25.4 kg)		

PRIME POWER

100 to 240 VAC
 47 to 63 Hz, Single Phase
 1450 VA Typical @ P_{LINEAR} 180 to 240 VAC
 1650 VA Typical @ P_{LINEAR} 100 VAC
 0.95 Minimum Prime Power Factor



ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-10°C to +50°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 95% Noncondensing
ALTITUDE	10,000 Feet MSL (maximum)
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

	Type	Function	
CONTROLS	LOCAL	Local/Remote	AC Power On/OFF
	LOCAL AND REMOTE	Gain	High Voltage ON/OFF
		Min/Max Power Alarm/Fault	Audio Alarm ON/OFF
		Reflected Power Alarm/Fault	Units (Watts, dBm, dBW)
		Fault Reset	Lamp Test
		Heater Standby ON/OFF	System
STATUS	FRONT PANEL LCD	Standby	Power
		Local	Remote
		Summary Fault	High Voltage ON/OFF
		Heater Time Out (FTD)	Heater Standby
		Power Out	Beam Hours
		Reflected Power	Helix Current
		TWT Temperature	Helix Voltage
		Heater Hours	Faults:
		Uplink Power (option)	High VSWR
		Event Log	High Voltage
	Trend Log	Helix Current	
System Status	TWT Temperature		
	DRY FORM-C RELAY CONTACTS (2)	Summary Fault	
COMPUTER SERIAL PORT	HARDWARE INTERFACE	Two Ports: RS-232 & RS-422/RS-485 Ethernet T10/100	
	XICOM COMMAND SET	ASCII Commands	
	RF SAMPLE PORT COUPLING	-37 dB Nominal	

OPTIONS

- Remote External Controller
- 1:1, 1:2, 1:N Redundancy
- High Gain
- Linearizer
- Alternate Frequencies Available

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