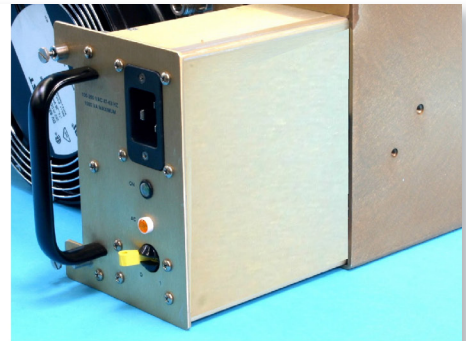


50 Watt Ku-Band Rack Mount High Power SSPA



Front Panel



Rear Panel showing Power
Supply Partially Removed

FEATURES

- Built-in Redundancy Control
- Complete Digital M&C Interface
- Removable Power Supply

The **XTRS-50K** is a highly efficient rack-mountable solid state power amplifier (SSPA) designed for fixed and mobile uplink applications. RF filters, isolators, cooling, and monitor and control (M&C) systems are all self-contained within the package. Rack space is conserved because the amplifiers occupy only 4 rack units (7 inches) of a standard 19 inch rack cabinet. Nominal weight is 80 pounds.

The unit features a menu driven front panel display, RS-232/422/485 serial port and Ethernet interface for complete computer control. Forward power, reverse power and temperature, and default parameters are easily monitored on the four line front panel display.

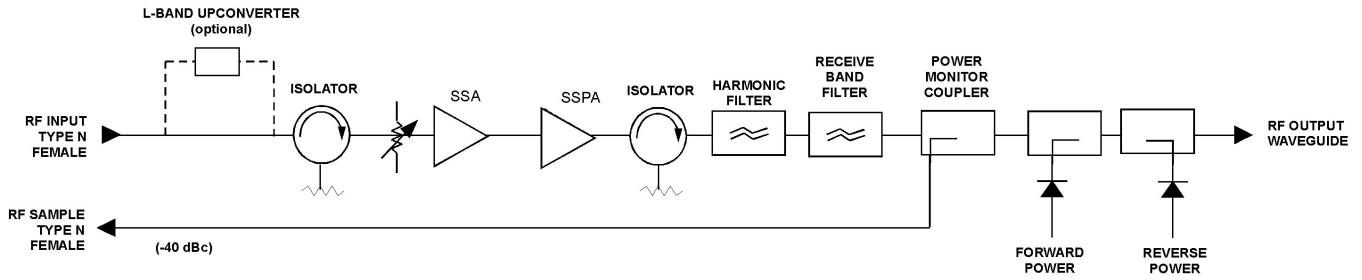
Gain control is provided via the front panel or through the remote interfaces. A high frequency resonant conversion power supply is used that accepts a wide range of prime power (90 to 264 VAC). Power factor correction circuitry is also included which minimizes line current distortion and reduces the required Volt-Amps input. Depending upon user requirements, this high power amplifier can be configured for single thread, redundant, or phase combined configurations



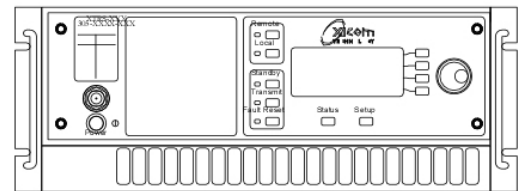
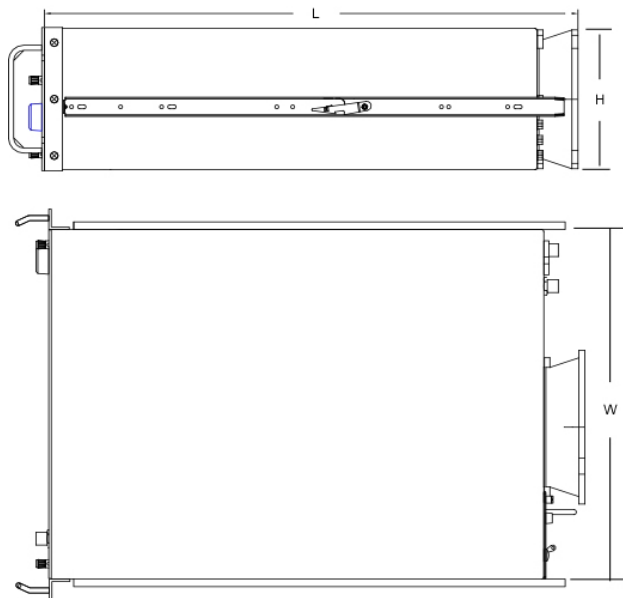
PERFORMANCE SPECIFICATION

Parameters	XTRS-50K	XTRS-50K2
FREQUENCY RANGE, extended frequency coverage available	14.0 to 14.5 GHz	13.75 to 14.5 GHz
OUTPUT POWER		
Saturated Power (typical)	47 dBm	46 dBm
Rated Power (P1dB) @ Amplifier Flange (minimum)	46 dBm	45 dBm
GAIN		
Small Signal (minimum)	60 dB, gain control set for maximum gain	
Small Signal (maximum)	70 dB, gain control set for maximum gain	
Gain Flatness (maximum)	2.0 dB	2.5 dB
Maximum SSG Variation	0.6 dB per 80 MHz	
Slope (maximum)	± 0.04 dB/MHz	
Stability, 24 hr. (maximum)	± 0.25 dB	
Stability, Temperature (maximum)	± 2.0 dB over temperature range at any frequency	
GAIN CONTROL	20 dB	
INTERMODULATION (maximum) with two equal carriers	-25 dBc @ 3 dB total output power backoff from rated power	
HARMONIC OUTPUT (maximum)	-60 dBc	
AM/PM Conversion (maximum)	2.5 deg/dB at 3 dB below rated output power	
NOISE POWER (maximum)		
Transmit Band	-80 dBW/4 kHz	
Receive Band	-150 dBW/4 kHz 10.95 to 12.75 GHz	
GROUP DELAY (maximum)		
Bandwidth	Any 80 MHz	
Linear	± 0.03 nS/MHz	
Parabolic	± 0.003 nS/MHz ²	
Ripple	1 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum) In band discrete spurious	-50 dBc to 10 kHz -20 (1.5 + logf) dBc 10 to 500 kHz -85 dBc above 500 kHz	
PHASE NOISE (maximum)	10 dB below IESS phase noise profile	
VSWR		
Input (maximum)	1.2:1	
Output (maximum)	1.3:1	

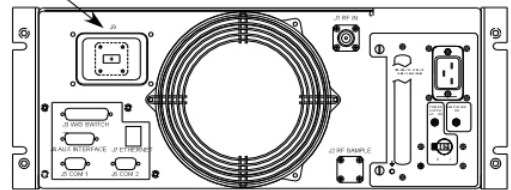
BLOCK DIAGRAM



OUTLINE DRAWING

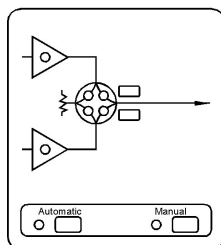


RF OUTPUT
WR-75

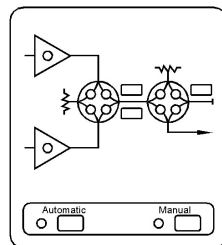


WEIGHT (TYPICAL)	
80 LBS	36.29 kg

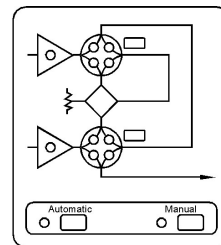
	DIMENSIONS	
	INCHES	CENTIMETERS
L	25.25	64.135
W	17.00	43.18
H	6.969	17.70



Redundant 1:1



Redundant 1:1
with Load Switching



1+1 Soft Fail

PRIME POWER

90 to 264 VAC
 47 to 63 Hz, Single Phase
 300 VA (typical)
 0.95 Minimum Prime Power Factor



ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	0°C to +50°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 95% Noncondensing
ALTITUDE	12,000 Feet MSL (maximum)
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air (100 CFM Typical)

INTERFACE

	Type	Function	
CONTROLS	LOCAL	Local/Remote	AC Power On/OFF
	LOCAL AND REMOTE	Gain	Transmit ON/OFF
		Min/Max Power Alarm/Fault	Audio Alarm ON/OFF
		Reflected Power Alarm/Fault	Units (Watts, dBm, dBW)
		Fault Reset	Lamp Test
Constant Power			
STATUS	FRONT PANEL LEDs	Standby	Transmit
		Local	Remote
	FRONT PANEL DIGITAL DISPLAY	Power Out	Attenuator Setting
		Reflected Power	Unit Selection
COMPUTER SERIAL PORT	HARDWARE INTERFACE	Temperature	Standby Hours
		Transmit Hours	Faults: High VSWR Temperature Power Supply
	DRY FORM-C RELAY CONTACTS (2)	Summary Fault	
COMPUTER SERIAL PORT	HARDWARE INTERFACE	Two Serial Ports: RS-232 & RS-422/RS-485	
		One Ethernet Port	
	XICOM COMMAND SET	ASCII Commands	
	RF SAMPLE PORT COUPLING	-40 dB Nominal	

OPTIONS

- Extended Frequency Coverage
13.75 to 14.5 GHz (Option K2)
- Redundancy Control
1:1 (Option 29)
1:1 w/Load Switching (Option 30)
1+1 Soft Fail (Option 31)
- Built-in L-Band Block Upconverter (Option B1)
Frequencies Available:
14.0 to 14.5 GHz
13.75 to 14.5 GHz

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