



XTRS-400X-B1 X-Band Rack Mount Solid State Power Amplifiers With Block Upconverter



- **400 Watt**
- **Complete Digital M&C Interface**
Ethernet
RS-232
RS-485
- **Optional Redundancy Control**
1:1
1:1 with load switching
1:1 Soft Fail
- **Removable Power Supply**

The XTRS-400X-B1 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 7 rack units (12.25 inches) of a standard 19 inch rack cabinet. Nominal weight is 140 pounds.

The unit features a menu driven front panel display, RS-232/422/485 serial port and Ethernet interfaces 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.

The amplifier includes an integrated L-Band Block Upconverter that interfaces to standard modems operating in the 950-1450 MHz range. The L-Band transmit signal and 10 MHz reference are brought to the unit over a single coaxial line.

Depending upon user requirements, this high power amplifier can be configured for single thread, redundant, or phase combined configurations.

BUY NOW



PERFORMANCE SPECIFICATIONS

Parameter	XTRS-400X-B1
FREQUENCY RANGE standardOutput	
Input	7.9 - 8.4 GHz
LO Frequency	950-1450 MHz
Input Level, w/o damage	6950 MHz
Reference Signal Frequency	10 dBm Max
10 MHz power level	external 10 MHz
Reference Input Impedance	2 dBm, Max 50 Ohms
OUTPUT POWER	
Saturated Power (Typical)	56 dBm
Rated Power(P1dB) @ Amplifier Flange	55 dBm
GAIN	
Small Signal, minimum	60 dB
Maximum SSG Variation Over:	
Any Narrow Band	±0.65 dB per 80 MHz
Full Band	±1.25 dB
Slope, maximum	± 0.04 dB/MHz
Stability, 24 Hr maximum	± 0.25 dB
Stability, Temperature	± 2 dB maximum over temperature range at any frequency
INTERMODULATION	
with two signals	- 25 dBc maximum with two equal carriers at 3 dB total power backoff from rate output
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	- 80 dBW/4 kHz
GROUP DELAY, maximum	
Bandwidth	Any 80 MHz
Linear	± 0.01 nS/MHz
Parabolic	± 0.005 nS/MHz ²
Ripple	0.5 nS/Pk-Pk
RESIDUAL AM NOISE, maximum	
in band spurious	- 60 dBc > 100 kHz from carrier AC fundamental -50 dBc Sum of all spurs -47 dBc
OUTPUT SPURIOUS @ Rated Power (P1dB)	
	-60 dBc
PHASE NOISE, maximum	
	100 Hz -630dBc/Hz
	1 kHz -73 dBc/Hz
	10 kHz -83 dBc/Hz
	100 kHz -93 dBc/Hz
	1 MHz -103 dBc/Hz
10 MHz Reference Phase Noise maximum	
	1 kHz -150 dBc/Hz
	10 kHz -160 dBc/Hz
	100 kHz -160 dBc/Hz

PRIME POWER

OPTIONS

90-264 VAC
 47 to 63 Hz, single phase
 2800 VA Typical
 0.95 Minimum Prime Power Factor

- Redundancy Control

1:1	Option 29
1:1 w/load Switching	Option 30
1+1 Soft Fail	Option 31



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 (400 CFM Typical)

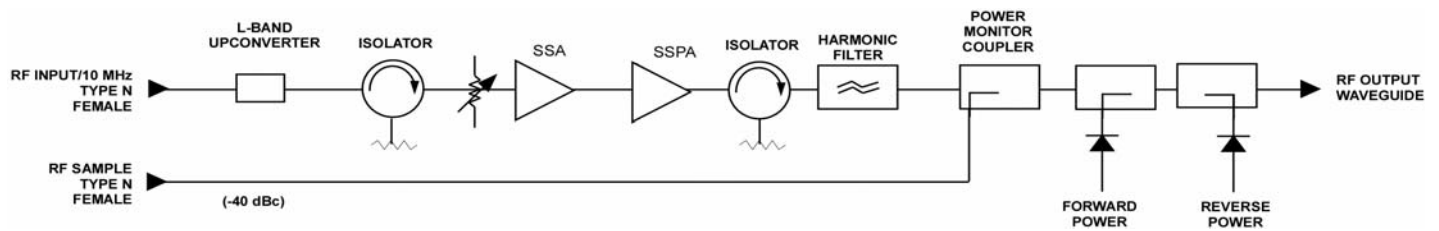
INTERFACE

	TYPE	FUNCTION			
CONTROLS	Local	Local/remote	AC Power ON/OFF		
	Local and Remote	Gain	Transmit ON/OFF	Fault Reset	
		Min/Max Power Alarm/Fault	Audio Alarm ON/OFF	Lamp Test	
		Reflected Power Alarm/Fault	Units (Watts, dBm, dBW)	Constant Power	
STATUS	Front Panel LEDs	Standby	Transmit		
		Local	Remote		
		Summary Fault			
	Front Panel Digital Display	Power Out	Attenuator Setting	Faults:	
		Reflected Power	Unit Selection	High VSWR	
		Temperature	Standby Hours	Temperature	
Transmit Hours		Power Supply			
Dry Form-C Relay Contacts (Two)	Summary Fault				
COMPUTER	Hardware Interface	2 ports:	RS-232 & RS-422/RS-485		
		1 port:	Ethernet		
SERIAL PORT	Xicom Command Set	ASCII Commands			
RF SAMPLE PORT COUPLING		-40 dB Nominal			

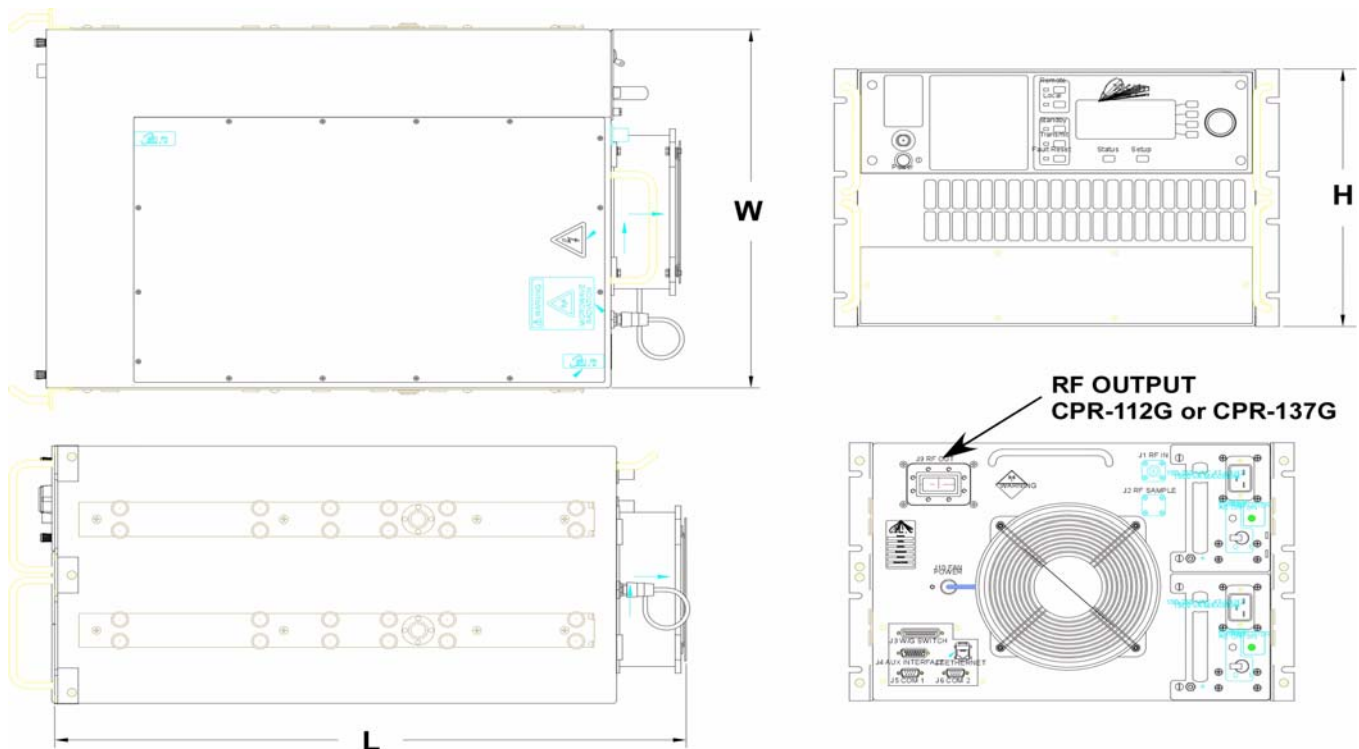
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Block Diagram



Outline Drawing



WEIGHT (TYPICAL)	
140 LBS	63.50 kg

	DIMENSIONS	
	INCHES	CENTIMETERS
L	26.98	68.529
W	17.00	43.18
H	12.22	31.038



Post Office Box 1639
 101 Eagle Road - Building #7
 Avon, Colorado 81620 USA
 970 748-3094 or tollfree 866 SATCOM1
 Fax 970 748-3096
www.satcomresources.com



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