

400 Watt C-Band Rack Mount High Power SSPA



FEATURES

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

The **XTRS-400C** 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 135 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.

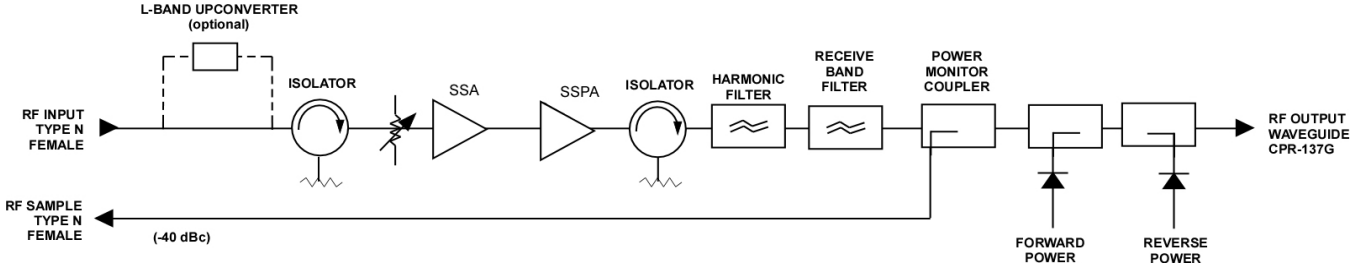
A high frequency resonant conversion power supply is used that accepts a wide range of prime power (90 to 264 VAC). Power factor correction circuitry is also included which minimizes line current distortion and reduces the required Volt-Amps input. Depending upon user requirements, this high power amplifier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



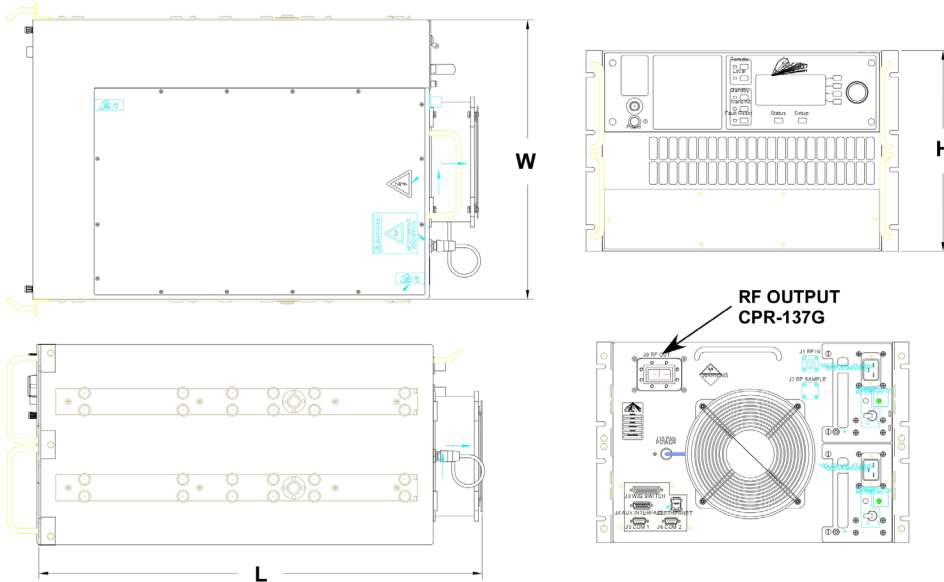
PERFORMANCE SPECIFICATION

Parameters	XTRS-400C	XTRS-400C1
FREQUENCY RANGE, extended frequency coverage available	5.85 to 6.425 GHz	5.85 to 6.65 GHz
OUTPUT POWER		
Saturated Power (typical)		56 dBm
Rated Power (P1dB) @ Amplifier Flange (minimum)		55 dBm
GAIN		
Small Signal (minimum)	65 dB, gain control set for maximum gain	
Small Signal (maximum)	75 dB, gain control set for maximum gain	
Gain Flatness (maximum)	2.5 dB	
Maximum SSG Variation	0.8 dB per 40 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 3.7 to 4.2 GHz	
GROUP DELAY (maximum)		
Bandwidth	Any 40 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

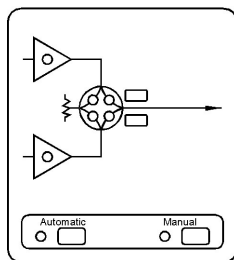


OUTLINE DRAWING

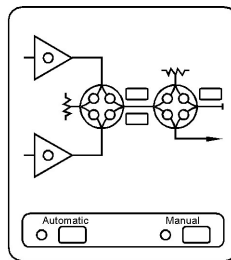


WEIGHT (TYPICAL)	
135 LBS	61.23 kg

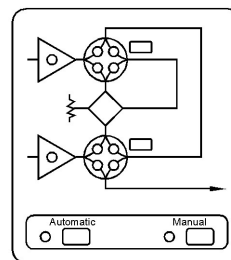
DIMENSIONS		
	INCHES	CENTIMETERS
L	26.98	68.529
W	17.00	43.18
H	12.22	31.038



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
 2200 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 (400 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
		Summary Fault	
	FRONT PANEL DIGITAL DISPLAY	Power Out	Attenuator Setting
		Reflected Power	Unit Selection
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
 5.85 to 6.65 GHz (Option C1)
 5.85 to 6.725 GHz (Option C2)
- 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:
 5.85 to 6.425 GHz
 5.85 to 6.65 GHz

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