

100 Watt X-Band Outdoor High Power SSPA



FEATURES

- No Shelter Required
- Field Replaceable Power Supply
- RS-232/422/485 Interface
- Built-in Redundancy Control

The **XTS-100X** high power solid state power amplifier is a compact, fully integrated antenna-mount unit designed for low cost operation and longevity.

Intended for outdoor operation, the **XTS-100X** eliminates the need for a separate amplifier shelter. In addition, the distance between the amplifier and the antenna feed can be shorter, thus eliminating long waveguide runs and associated RF losses.

RF Filters, cooling, and monitor and control (M&C) systems are all self-contained within the package.

A fully integrated power supply is used that accepts a wide range of prime power (90 to 264 VAC) and includes power factor correction.

A remote external controller is available to operate the SSPA from a user selected location.

Depending upon user requirements, these high power amplifiers can be configured for single thread, redundant, or phase combined configurations. A built in L-band block upconverter is also available as an optional feature.

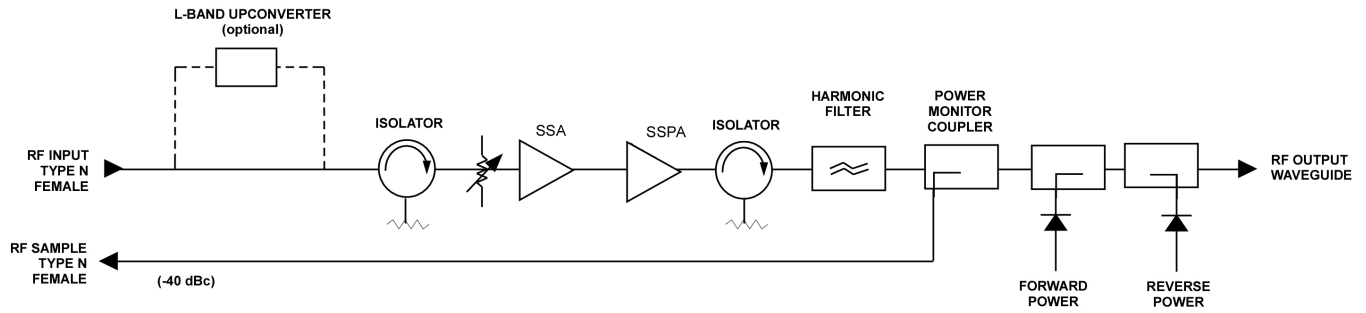
Mounting brackets are supplied to mount the high power amplifier to most popular antennas.



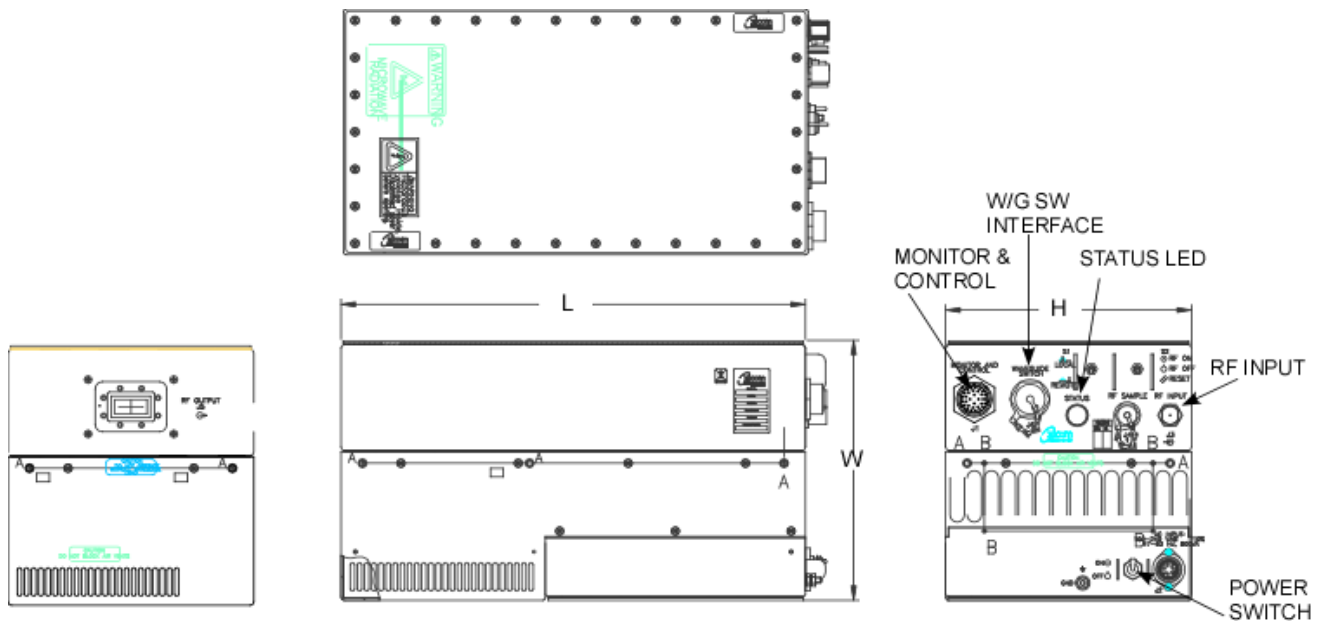
PERFORMANCE SPECIFICATION

Parameters	XTS-100X
FREQUENCY RANGE, (extended frequency coverage available)	7.9 to 8.4 GHz
OUTPUT POWER	
Saturated Power (typical)	50 dBm
Rated Power @ Amplifier Flange	49 dBm
Linear Power	47 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 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) WRT combined power with two equal carriers @ linear power	-25 dBc
SPECTRAL REGROWTH @ LINEAR POWER	-30 dBc, 1 SR, OQPSK
HARMONIC OUTPUT (maximum)	-60 dBc
AM/PM Conversion (maximum)	2.5 deg/dB @ 3 dB below rated power
NOISE POWER (maximum)	
Transmit Band	-80 dBW/4 kHz
Receive Band	-80 dBW/4 kHz 7.25to 7.75 GHz
GROUP DELAY (maximum)	
Bandwidth	Any 80 MHz
Linear	± 0.05 nS/MHz
Parabolic	± 0.005 nS/MHz ²
Ripple	1 nS/Pk-Pk
RESIDUAL AM NOISE (maximum)	-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)	1.3:1
Output (maximum)	1.3:1

BLOCK DIAGRAM



OUTLINE DRAWING



DIMENSIONS		
	INCHES	CENTIMETERS
L	16.25	41.275
H	9.1	23.114
W	8.6	21.844
WEIGHT = 42 lbs (19.05 kg)		
RF OUTPUT: CPR-137G or CPR-112G		

XTS-100X

PRIME POWER

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



ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-40°C to +50°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 100% Condensing
ALTITUDE	12,000 Feet MSL (maximum)
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

Type	Function	
LOCAL CONTROL	Prime Power ON/OFF	Local/Remote
	Power Supply ON/OFF	Transmit ON/OFF
LOCAL STATUS	Tri-Color LED:	
	Fault: Red	Standby: Continuous Amber
	Transmit ON: Green	
REMOTE CONTROL	Transmit ON/OFF	RF Inhibit (HV OFF)
	RF Attenuation	Fault Reset
	Summary Fault	Constant Power
REMOTE STATUS	Transmit ON	Transmit/Standby Hours
	RF Output Power	Fault Identification
	Reflected Power	Temperature
FORM C DRY CONTACT CLOSURE	Summary Fault	
COMPUTER SERIAL PORT	Hardware Interface: 2 Ports: RS-232 & RS-422/485	Xicom Command Set: ASCII Commands
RF MONITOR PORT	-40 dB Coupling Value (Nominal)	

OPTIONS

- 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)
- Ethernet Interface

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