



# XTS-50C

## C-Band Outdoor

### Solid State Power Amplifiers

- 50 Watt
- No Shelter Required
- Short Waveguide Run
- Low Cost Installation
- Removable Power Supply
- Complete Digital M&C Interface
- RS-232, RS-422, RS-485
- Built-in Redundancy Control
  - 1:1
  - 1:1 with load switching
  - 1+1 Soft Fail
- 3 Year Warranty



The XTS-50C high power solid state power amplifier are compact, fully integrated antenna-mount units designed for low cost operation and longevity.

Intended for outdoor operation, the XTS-50C eliminate the need for a separate amplifier shelter. In addition, the distance between the amplifier and the antenna feed horn 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 high frequency resonant conversion power supply is used that accepts a wide range of prime power (90 to 264 VAC).

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.

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



Field Replaceable Power Supply



# PERFORMANCE SPECIFICATIONS

Parameter	XTS-50C	
FREQUENCY RANGE standard other frequency coverage available	5.85 - 6.425 GHz	5.85 - 6.65 GHz (Option C1)
OUTPUT POWER		
Saturated Power (Typical)	47 dBm	47 dBm
Rated Power(P1dB) @ Amplifier Flange	46 dBm	46 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 Over:	0.8 dB per 40 MHz	
Slope, maximum	± 0.04 dB/MHz	
Stability, 24 Hr maximum	± 0.25 dB	
Stability, Temperature	± 2.0 dB maximum over temperature range at any frequency	
GAIN CONTROL	20 dB	
INTERMODULATION with two equal signals	- 25 dBc maximum with two equal carriers at 3 dB total power backoff from rated 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	- 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 <sup>2</sup>	
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	1.2:1	
Output, maximum	1.3:1	

## PRIME

Working Range 90 MIN. - 264 MAX., VAC  
47 to 63 Hz, single phase  
450 VA Typical  
0.95 Minimum Prime Power Factor



## OPTIONS

- Extended Frequency  
5.85-6.65 GHz Option C1
- Built-in L-Band Block Upconverter Option B1  
Frequencies Available:  
5.85-6.425 GHz  
5.85-6.65 GHz

## 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

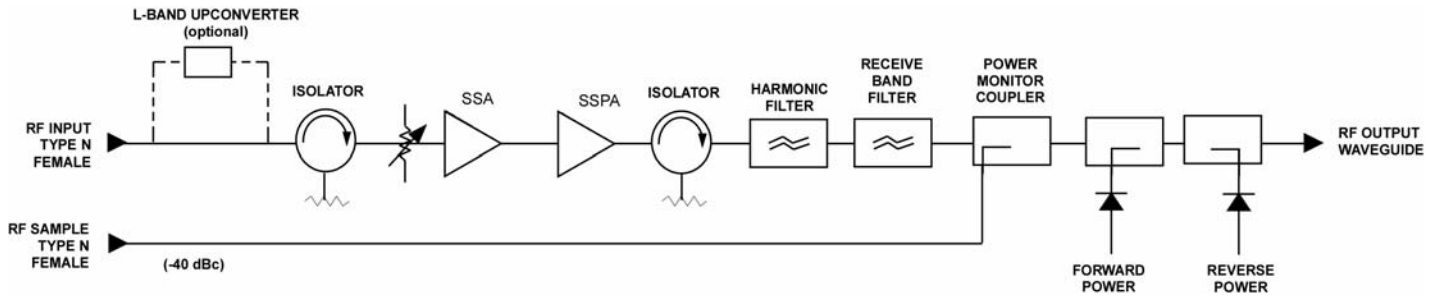
## INTERFACE

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: Amber
	Transmit ON: Green	
REMOTE CONTROL	Transmit ON/OFF	RF Inhibit
	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	
Xicom Command Set	ASCII Commands	
RF MONITOR PORT	-40 dB Coupling Value (Nominal)	

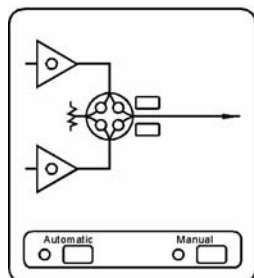
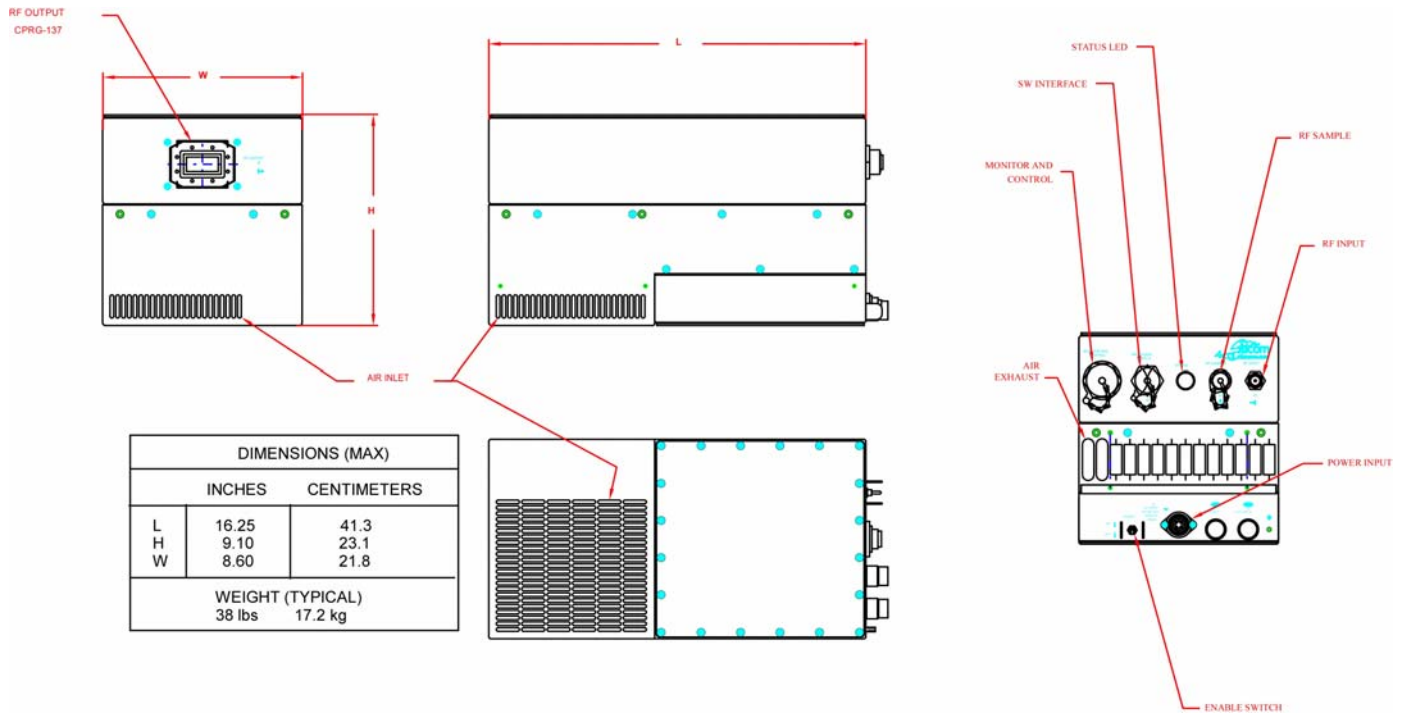
# XTS-50C High Power Solid State Amplifiers



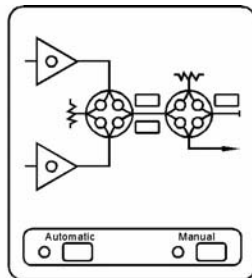
# Block Diagram



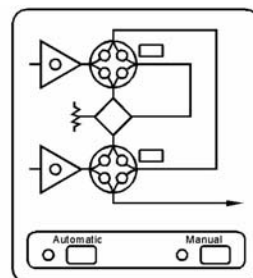
# Outline Drawing



Redundant 1:1



Redundant 1:1  
with Load Switching



1+1 Soft Fail