40 Watt X-Band Outdoor High Power SSPA Block Upconverter

FEATURES

- No Shelter Required
- Low Cost Operation
- Complete Digital M&C Interface
- RS-232, RS-422, RS-485
- Optional Ethernet Interface

The **XTS-40X-B1** High Power Solid State Block Upconverters (BUC) are a series of compact fully integrated antenna mount units designed for low cost operation and longevity. The L-Band input interfaces to standard modems operating in the 950 - 1450 MHz range.

Intended for outdoor operation, the **XTS-40X-B1** eliminates the need for a separate shelter. The construction and light weight allows for direct mount to the antenna. This eliminates long waveguide runs and associated RF losses.

Forced air cooling is implemented in the package to allow reliable operation over extended temperature ranges. The monitor and control (M&C) interface provides a component system status.

The block upconverter operates from an external, weatherized power supply which provides the system DC sources.

The L-Band transmit signal and 10 MHz reference frequency are brought to the unit over a single coaxial line.

BUY NOW

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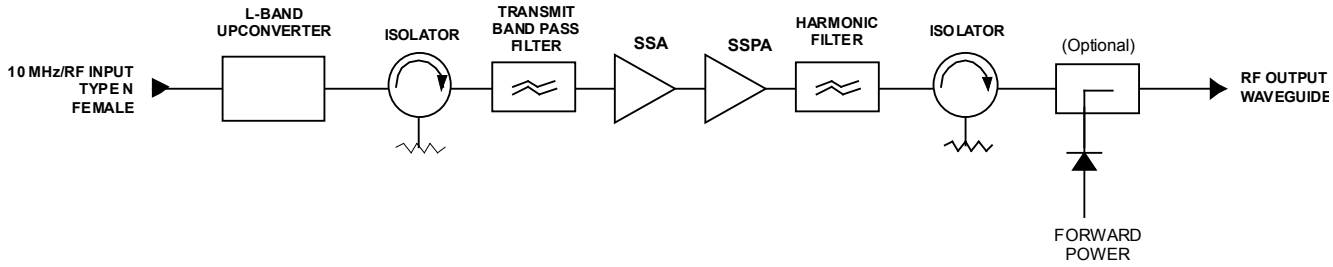
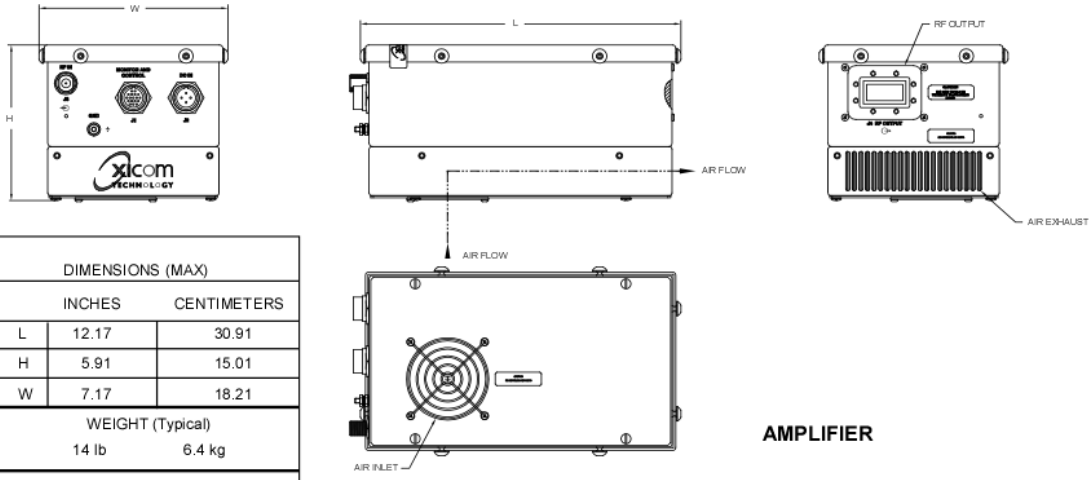
PERFORMANCE SPECIFICATION

Parameters	XTS-40X-B1	
FREQUENCY RANGE		
Output	7.9 to 8.4 GHz	
Input	950 to 1450 MHz	
LO Frequency	6950 MHz	
Input Level, w/o damage (maximum)	10 dBm	
Reference Signal Frequency	external 10 MHz	
10 MHz Power Level	2 dBm ± 5 dB	
Reference Input Impedance	50 Ohms	
OUTPUT POWER		
Saturated Power (typical)	46 dBm	
Rated Power (P1dB) @ Amplifier Flange (minimum)	45 dBm	
GAIN		
Small Signal, min.	50 dB	
Maximum SSG Variation Over		
Any Narrow Band	± 0.4 dB per 40 MHz	
Full Band	± 1.25 dB	
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	
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	-80 dBW/4 kHz	
GROUP DELAY (maximum)		
Bandwidth	Any 40 MHz	
Linear	± 0.01 nS/MHz	
Parabolic	± 0.005 nS/MHz^2	
Ripple	0.5 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum) In band discrete 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 1 kHz 10 kHz 100 kHz 1 MHz	-63 dBc/Hz -73 dBc/Hz -83 dBc/Hz -93 dBc/Hz -103 dBc/Hz
10 MHz REFERENCE PHASE NOISE (maximum)	1 kHz 10 kHz 100 kHz	-150 dBc/Hz -160 dBc/Hz -160 dBc/Hz
VSWR		
Input (maximum)	2.0:1	
Output (maximum)	1.3:1	

BLOCK DIAGRAM

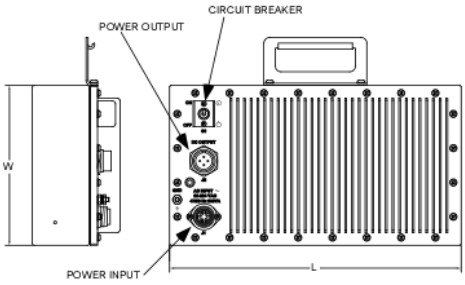


OUTLINE DRAWING

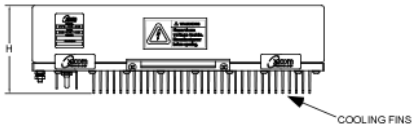


DIMENSIONS (MAX)		
	INCHES	CENTIMETERS
L	12.17	30.91
H	5.91	15.01
W	7.17	18.21
WEIGHT (Typical) 14 lb 6.4 kg		
OUTPUT = CPR–112G		

AMPLIFIER



POWER SUPPLY
(Optional)



DIMENSIONS		
	INCHES	CENTIMETERS
H	3.9	9.91
L	12.8	35.5
W	7.05	17.91

Nominal Weight = 8.2 lbs (3.72 kg)

PRIME POWER

22 to 56 VDC
450 VA Typical

CE

ENVIRONMENT

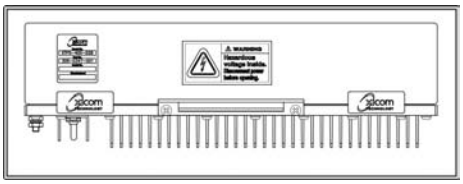
NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-40°C to +50°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 100% Condensing
ALTITUDE	12,000 Feet MSL Max.
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

Type	Function	
REMOTE CONTROL	Transmit ON/OFF	Fault Reset
	RF Inhibit	
REMOTE STATUS	Transmit ON/OFF	Summary Fault
	Temperature (°C)	RF Inhibit (ON/OFF)
	Forward Power (Optional)	Fault Identification Lock Detect Over Temperature
XICOM COMMAND SET	ASCII Commands	

OPTIONS

- Input Diplexer (combining IF and 10 MHz reference)
- Detected RF Transmit Power
- Ethernet Interface
- External AC Power Supply, 90 to 264 VAC, 47 to 63 Hz



External Power Supply

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