



XTS-16K-B1 16 Watt Ku-Band Outdoor High Power SSPA Block Up Converter



- **16 Watt**
- **No Shelter Required**
- **Low Cost Operation**

- **Complete Digital M&C Interface**
- **RS-232, RS-422, RS-485**
- **Optional Ethernet Interface**

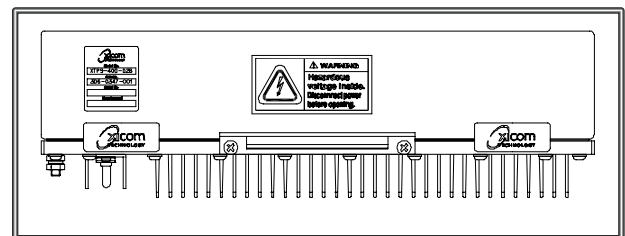
The XTS-16K-B1 High Power Solid State Block Upconverters (BUC) are a series of compact fully integrated antenna mount units designed for low cost operation and longevity. The L-Band input interfaces to standard modems operating in the 950 - 1700 MHz range.

Intended for outdoor operation, the XTS-16K-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.



External Power Supply

PERFORMANCE SPECIFICATIONS

Parameter	XTS-16K-B1	XTS-16K1-B1	XTS-16K2-B1	
FREQUENCY RANGE extended other frequency coverage available				
Output	14.0-14.5 GHz	13.75-14.5 GHz	13.75-14.5 GHz	
Input	950-1450 MHz	950-1700 MHz	950-1700 MHz	
LO Frequency	13050 MHz	12800 MHz	12800 MHz	
Input Level, w/o damage	10 dBm, Max	10 dBm, Max	10 dBm, Max	
Reference Signal Frequency	external 10 MHz	external 10 MHz	external 10 MHz	
10 MHz power level	2 dBm \pm 5 dB	2 dBm \pm 5 dB	2 dBm \pm 5 dB	
Reference Input Impedance	50 Ohms	50 Ohms	50 Ohms	
OUTPUT POWER				
Saturated Power (typical)	43 dBm	42 dBm	13.75-14 GHz	14-14.5 GHz
Rated Power(P1dB) @ Amplifier Flange (minimum)	42 dBm	41 dBm	42 dBm	43 dBm
GAIN				
Small Signal, minimum		55 dB		
Maximum SSG Variation Over:				
Any Narrow Band		\pm 0.65 dB per 80 MHz		
Full Band		\pm 1.25 dB		
Slope, maximum		\pm 0.04 dB/MHz		
Stability, 24 Hr maximum		\pm 0.25 dB		
Stability, Temperature		\pm 2.0 dB maximum over temperature range at any frequency		
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		
GROUP DELAY, maximum				
Bandwidth		Any 80 MHz		
Linear		\pm 0.01 nS/MHz		
Parabolic		\pm 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	-63 dBc/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		
VSWR				
Input, maximum		2.0:1		
Output, maximum		1.3:1		

PRIME

20-56 VDC
90-264 VAC, 47-63 Hz with External Supply
200 VA Typical



OPTIONS

- Input Diplexer (combining IF and 10 MHz reference)
- Detected RF Transmit Power
- External AC Power Supply
- Ethernet Interface

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

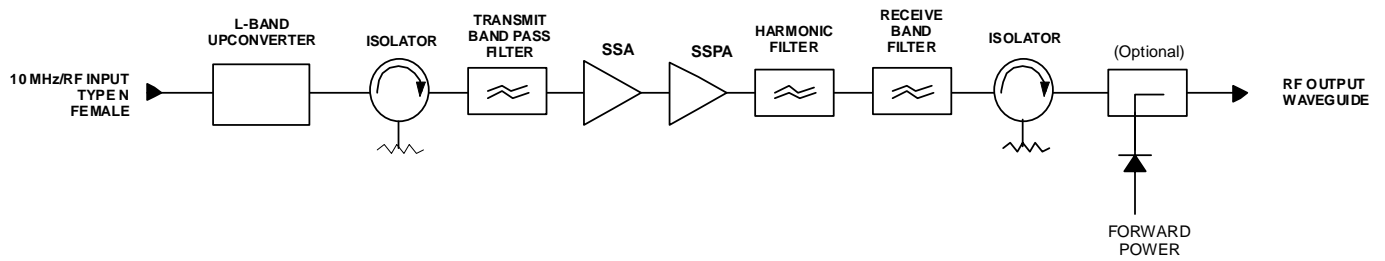
TYPE	FUNCTION	
REMOTE CONTROL	Transmit ON/OFF RF Inhibit	Fault Reset
REMOTE STATUS	Transmit ON/OFF Temperature (°C) RF Inhibit (ON/OFF) Forward Power (Optional)	Summary Fault Fault Identification Lock Detect Over Temperature

Xicom Command Set ASCII Commands

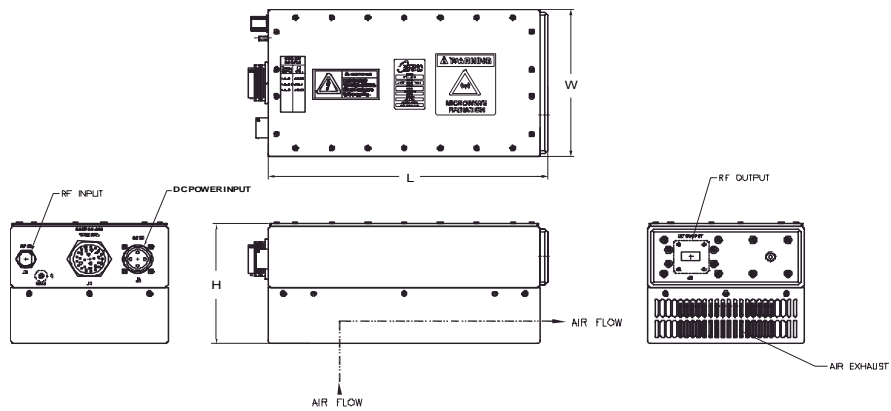
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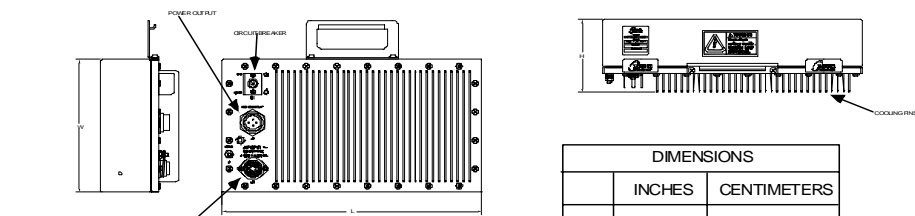
Block Diagram



Outline Drawing



DIMENSIONS (MAX)		
	INCHES	CENTIMETERS
L	11.63	29.54
H	5.5	13.97
W	6.5	16.51
WEIGHT (Typical)		
	15 lb	6.8 kg
RF OUTPUT = WR-75 Tapped		



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)

POWER SUPPLY (Optional)