XT-200KS Ku-Band Antenna Mount Power Amplifiers

- **200 Watts Ku-Band**
- **No Shelter required**
- **Short Waveguide Run**
- **Low Cost Installation**
- **Power factor Corrected**

The XT-200KS is a compact antenna mountable traveling wave tube amplifier designed for low cost installation and long life.

Intended for outdoor operation, the self contained XT-200KS eliminates the need for a separate amplifier shelter. In addition, the distance between the amplifier and the antenna feed horn can be short thus eliminating long waveguide runs and their associated RF losses.

RF filters, cooling, and monitor & 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 (100 to 260 VAC).

A remote external controller is available to operate the HPA from a user selected location. Depending upon user requirements these high power amplifiers can be configured for single thread, redundant, or phase combined configurations.

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PERFORMANCE SPECIFICATIONS

Parameter	XT-200KS, Ku-Band
FREQUENCY RANGE standard	13.75 to 14.5 GHz
other frequency coverage available	(12.75 to 14.5 GHz)
OUTPUT POWER	
Traveling Wave Tube	200 Watts
Rated Power @ Amplifier Flange	175 Watts
GAIN	
Large Signal, minimum	40 dB
Small Signal, minimum	46 dB
Maximum SSG Variation Over:	
Any Narrow Band	1.0 dB per 80 MHz
Full Band	2.5 dB
Slope, maximum	± 0.04 dB/MHz
Stability, 24 Hr maximum	± 0.25 dB
Stability, Temperature	± 1.0 dB maximum over temperature range at any frequency
INTERMODULATION with two equal signals	- 18 dBc maximum with two equal carriers at 4 dB total output power backoff
HARMONIC OUTPUT, maximum	- 60 dBc
AM/PM CONVERSION, maximum	2.5 deg/dB at 6 dB below rated output power
NOISE POWER, maximum	
Transmit Band	- 70 dBW/4 kHz
Receive Band	- 70 dBW/4 kHz 10.95 to 12.75 GHz
GROUP DELAY, maximum	
Bandwidth	Any 80 MHz
Linear	± 0.01 nS/MHz
Parabolic	± 0.005 nS/MHz^2
Ripple	0.5 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 AC fundamental -50 dBc Sum of all spurs -47 dBc
VSWR	
Input, maximum	1.2:1
Output, maximum	2.2:1 *Note: 1.3:1 Output VSWR With Optional External Isolator*

PRIME POWER

100-260 VAC

47 to 63 Hz, single phase

650 VA Typical

0.95 Minimum Prime Power Factor

CE COMPLIANT

OPTIONS

Detected RF
Remote External Controller
Preamplifiers
Gain Control
Serial Interface
Extended Frequency Coverage
1:1, 1:2, 1:N Redundancy
Variable Phase Combined

ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50° C to + 70° C
OPERATING TEMPERATURE RANGE	-40° C to +50° C
HUMIDITY	Up to 100% Condensing
ALTITUDE	10,000 feet MSL maximum
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

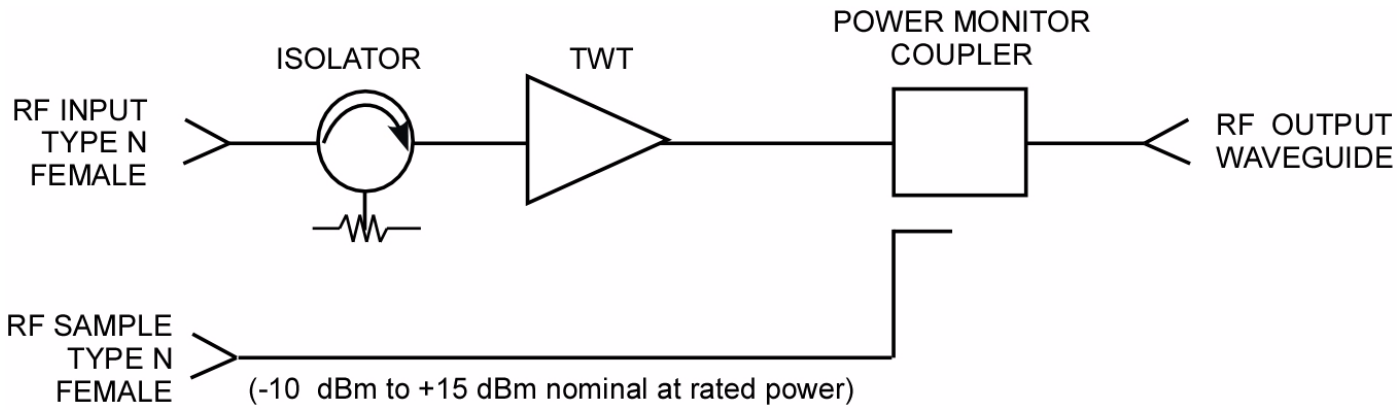
INTERFACE

TYPE	FUNCTION		
CONTROLS	High Voltage ON/OFF	Heater Standby	Fault Reset
	Note: heater Standby reduces the TWT heater voltage for situations where the high voltage is off for extended periods.		
MONITORS — ANALOG	Helix Current (2 mA/V)	Cathode Voltage (1000:1 V/V	
	TWT Temperature	RF Output Power (Optional)	
AUXILIARY VOLTAGES	+15 VDC (100 MA Max)		
	+24 VDC (100 MA Max)		

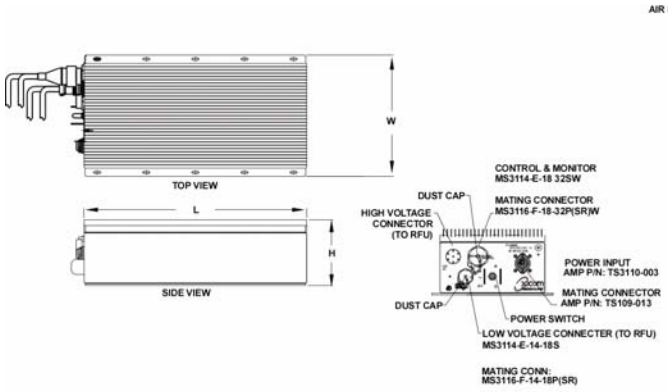
XT-200KS High Power Amplifiers

xicom TECHNOLOGY

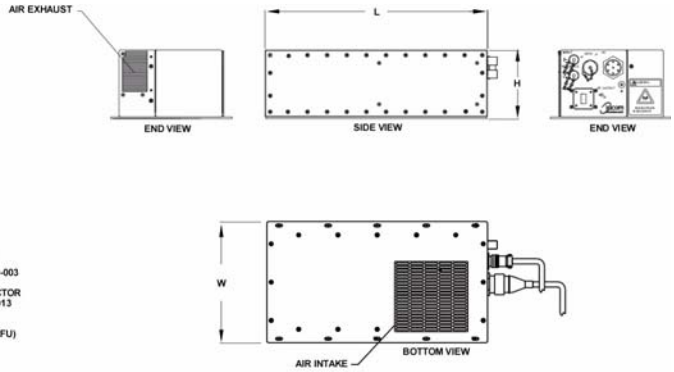
Block Diagram



Outline Drawing



PSU



RFU

DIMENSIONS

		INCHES	MILLIMETERS
RFU	W	9.25	234.95
	L	17.00	431.80
	H	5.25	133.35
PSU	W	9.25	234.95
	L	17.00	431.80
	H	5.00	127.00

RF OUTPUT

Ku-band	WR-75

Document # 805-1103-001 04/21/2004
XT-200KS REV 1

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