

200 Watt Ku-Band Antenna Mount High Power Amplifier



FEATURES

- *Rugged 34 lb. antenna mount package*
- *Extended frequency band available*
- *Simple low cost installation*
- *RS-232/422/485 M&C interface*
- *1:1, 1:2, 1:N redundancy*

The **XTD-200K** is a compact, antenna mountable, traveling wave tube amplifier designed for low cost installation and long life. Intended for outdoor operation, the self contained **XTD-200K** 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 wave-guide 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.

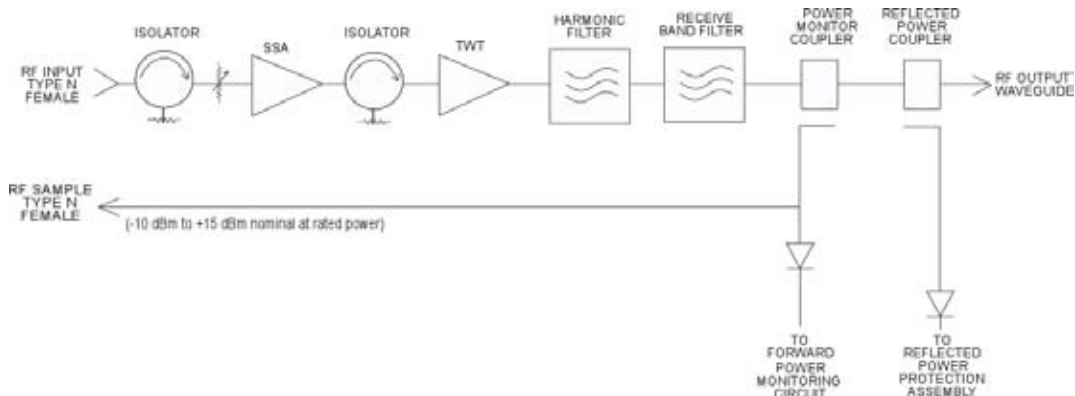
Mounting brackets are supplied to mount the high power amplifier to most popular antennas.



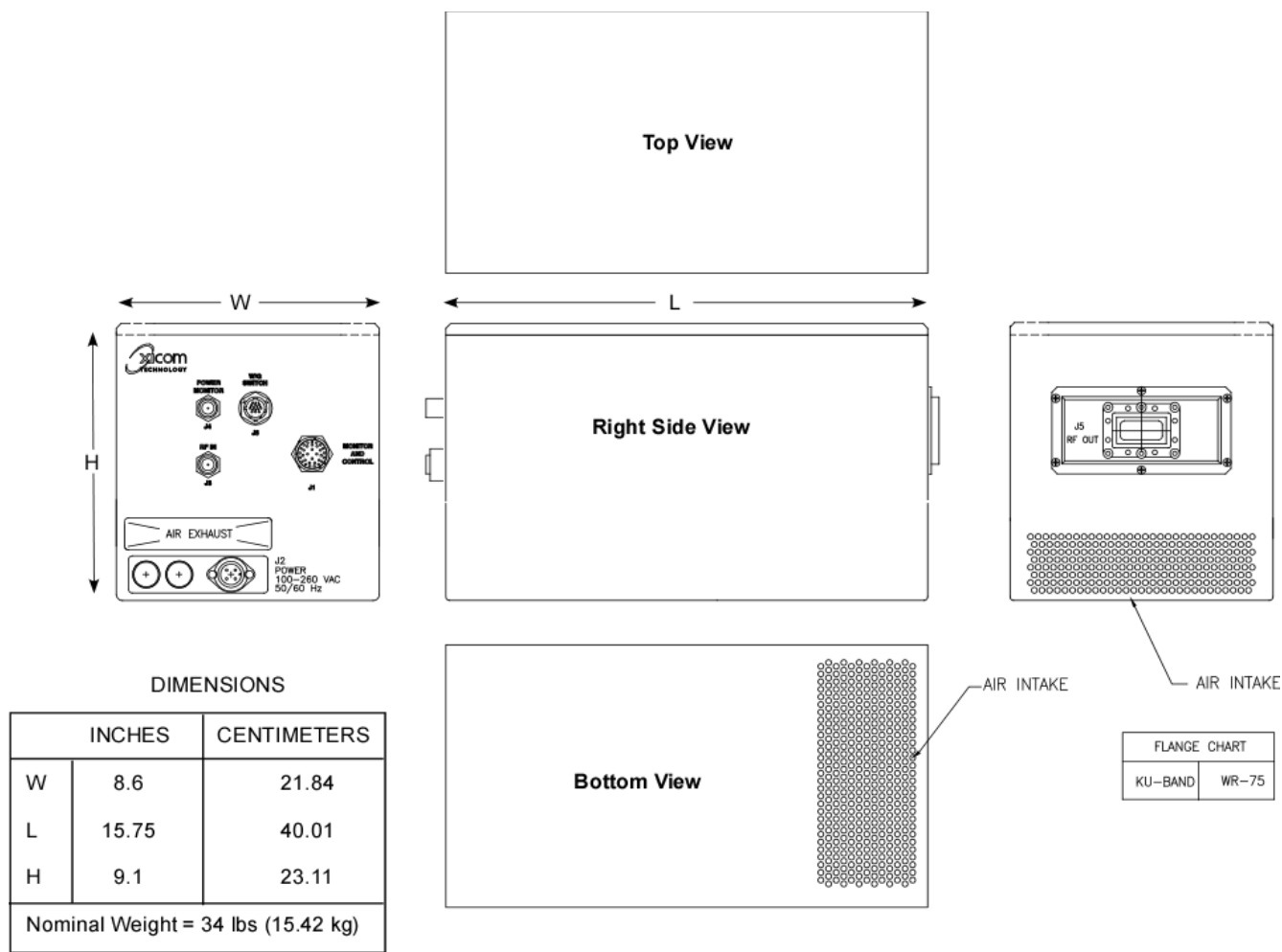
PERFORMANCE SPECIFICATION

Parameters	XTD-200K
FREQUENCY RANGE standard, extended frequency coverage available	13.75 to 14.5 GHz (12.75 to 14.5 GHz)
OUTPUT POWER	
Traveling Wave Tube	200 Watts
Rated Power @ Amplifier Flange	175 Watts
GAIN	
Large Signal (minimum)	38 dB (70 dB w/optional IPA)
Small Signal (minimum)	43 dB (75 dB w/optional IPA)
Gain Flatness (maximum)	± 1 dB
Maximum SSG Variation Over	
Any Narrow Band	1.0 dB per 80 MHz
Full Band	2.5 dB/750 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
INTERMODULATION (maximum) with two equal carriers	-18 dBc @ 4 dB total output backoff from rated power
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	-150 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)	12 dB below IESS phase noise profile AC fundamental -50 dBc, Sum of all spurs -47 dBc
VSWR	
Input (maximum)	1.3:1
Output (maximum)	2.2:1

BLOCK DIAGRAM



OUTLINE DRAWING



PRIME POWER

100-260 VAC
47 to 63 Hz, Single Phase
850 VA Typical
0.95 Minimum Prime Power Factor



ENVIRONMENT

Nonoperating Temperature Range	-50°C to +70°C
Operating Temperature Range	-40°C to +60°C (-40°C to +50°C with reverse air flow option)
Humidity	Up to 100% Condensing
Altitude	10,000 feet MSL maximum (2°C/1000 feet derating)
Shock and Vibration	Normal Transportation
Cooling	Forced Air

INTERFACE

Type	Function		
Local Control	Prime Power ON/OFF	Local/Remote	
	Power Supply ON/OFF	HV ON/OFF	
Local Status	Tri-Color LED		
	Fault Red	Standby: Continuous Amber	
	HV ON: Green	FTD: Flashing Amber	
Remote Control	HV ON/OFF	RF Inhibit (HV OFF)	Heater Standby
	RF Attenuation (w/preamp)	Fault Reset	
Remote Status	HV ON	Heater/Beam Hours	Filament Time Delay
	RF Output Power	Fault Identification	Helix Current
	Reflected Power	TWT Temperature	Helix Voltage
Form C Dry Contact Closure	Summary Fault		
RF Monitor Port	-37 dB Coupling Value (Approx.)		

OPTIONS

- Remote External Controller
- Extended Frequency Coverage
- 1:1, 1:2, 1:N Redundancy
- Variable Phase Combined
- Integrated Linearizer
- Block Upconverter

Headquarters

Comtech Xicom Technology, Inc.
3550 Bassett Street
Santa Clara, CA 95054
USA

Phone: +1-408-213-3000

Fax: +1-408-213-3001

email: sales@xicomtech.com

Web: www.xicomtech.com

Europe Sales Office

Comtech Xicom Technology Europe, LTD
4 Portland Business Center
Manor House Lane
Datchet
Berkshire SL3 9EG
United Kingdom

Phone: +011 44 (0) 1753 549 999

Fax: +011 44 (0) 1753 549 997

email: sales@xicomeurope.com

Web: www.xicomtech.com

Asia Sales Office

Comtech Xicom Technology
150 Cecil Street
#08-02
Singapore 069543

Phone: +011 65 6325 1953

Fax: +011 65 6325 1950

email: asiasales@xicomtech.com

Web: www.xicomtech.com