XTKD-2000K Ku-Band Rack-Mount High Power Amplifier

- **Compact 1/2 Cabinet Height**
- **Large Touch Screen Graphical Display**
- **Parameter trend Recording**
- **Power Save Mode**
- **Power Supply Redundancy**
- **RS-232/485 Serial Interface**
- **Ethernet Interface**
- **Built-In 1:1 Controller**

Xicom Technology is proud to introduce our latest KPA product, the XTKD-2000K, a compact Klystron Power Amplifier (KPA) that occupies half the standard rack space and comes loaded with practical solutions and cost saving features.

Xicom designed a color touch-screen display with an easy to use graphical interface that allows users to easily monitor all KPA parameters in both real-time and as a trend plot over short or long periods. Data is also available via an RS-232/485 interface and via an Ethernet port.

Xicom's RF deck includes a power saver mode and variable speed blower. The XTKD-2000K conveniently incorporates industry standard tubes, available from multiple suppliers, thus minimizing tube replacement costs. Also, these tubes are available with optional digital fast-tuners that allow <1 second local or remote tuning.

Xicom provides built-in power supply redundancy to optimize reliablility. The XTKD-2000K includes three 5kW power supplies, any two of which will operate the amplifier normally. Xicom power supplies have been field proven over hundreds of units.

Xicom even included a built-in 1:1 redundant controller. Waveguide switch orientation is both graphically displayed and settable on the color digital panel, thereby eliminating the need for a separate controller. Remote switching is also available.

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PERFORMANCE SPECIFICATIONS

Parameter	XTKD-2000K	XTKD-2000K1	XTKD-2000K2	XTKD-2000K3
FREQUENCY RANGE	14.0 - 14.5 GHz	13.75 - 14.5 GHz	14.5 - 14.8 GHz	12.75 - 13.25 GHz
OUTPUT POWER				
Klystron	2450 W	2450 W	2450 W	2200 W
Rated Power @ HPA Flange	2000 W	2000 W	2000 W	1850 W
PRESET CHANNELS	8, 12	8, 12	8, 12	8, 12
BANDWIDTH	85 MHz	85 MHz	85 MHz	80 MHz
GAIN				
At rated power	80 dB			
Variation, max (at rated power)	0.40/dB Pk-Pk over Fo ± 30 MHz			
Slope, maximum	0.04/dB MHz over Fo ± 30 MHz			
Stability, 24 Hr maximum	± .25 dB/24 hrs at constant drive/temperature			
Stability, Temperature	± 2.5 dB at constant drive			
GAIN ADJUSTMENT	0 - 30 dB, 0.12 dB Steps			
HARMONIC OUTPUT, maximum	-80 dBc			
INTERMODULATION w/2 = signals	-28 dBc maximum at 7 dB total output backoff			
AM/PM CONVERSION, maximum	4.0°/dB at rated power			
NOISE POWER, maximum				
Transmit Band	-65 dBw/4 kHz			
Receive Band	-150 dBW/4 kHz 10.95 - 12.20 GHz) -110 dBW/4 kHz (16.0 - 40.0 GHz) excludes passband			
GROUP DELAY, maximum				
Bandwidth	Any 80 MHz			
Linear	0.10 nsec/MHz			
Parabolic	0.02 nsec/MHz^2			
Ripple	2.0 nsec Peak to Peak			
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			
Load w/o damage	2.0:1			
Load, shutdown	>2.0:1			

PRIME POWER

190-260 VAC, L-L, Delta
50-60 Hz, Three Phase, Three Wire, Plus Ground

11500 VA Maximum

0.95 Minimum Power Factor

180% max in ruch current

OPTIONS

- 330-450 VAC, L-L, Wye
- 50-60 Hz, Three Phase, Four Wire + Ground
- Redundant 1:1 Configuration in One Cabinet
- Phase Combined & 1:N Configurations
- Fast Tuner (<1 second)

CE COMPLIANT

ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50° C to +70° C
OPERATING TEMPERATURE RANGE	-10° C to +50° C
HUMIDITY	Up to 95% Noncondensing
ALTITUDE	10,000 feet MSL maximum
SHOCK AND VIBRATION	Normal Transportation

INTERFACE

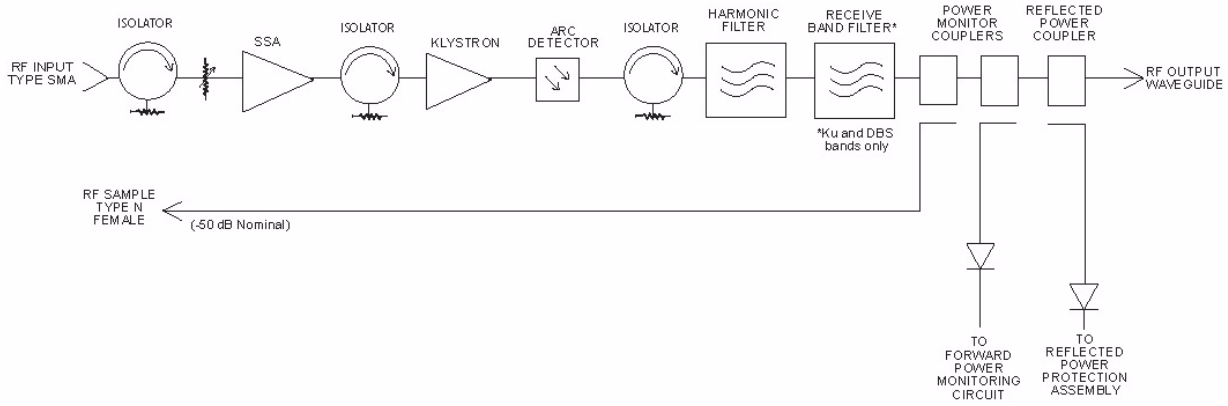
TYPE		FUNCTION		
CONTROLS	Local	Local/Remote	Emergency Stop	Channel Selector
	Local and Remote	Channel Selection (Optional)	Fault Suimulation Test	Units (Watts, dBm, dBw)
		Heater Standby ON/OFF	Attenuator Setting	Fault Reset
		Min/Max Power	HV ON/OFF	Switch Setting*
		Beam Voltage Adjust	Audio Alarm ON/OFF	RF Inhibit
		Auto Power Save		
STATUS		Power Out	Blower Pressure	Summary
		Local/Remote	Fan speed	High VSWR
		HV ON	Power Supply Temperature	High/Low Voltage
		Power Out	Switch Setting*	Body Current
		Klystron Temperature	Min/Max Power	Kylstron Temperature
		Body Current	Beam voltage	P.S. Temperature
		Beam Hours	Channel Selected	Blower
		Heater Standby	Heater Time Out (FTD)	Low Line
		Beam Current	Standby	Waveguide Arc
		Reflected Power	Fault:	Interlock
		Heater Current	Attenuator Setting	Pwer Supply A/B/C
		Heater Hours	Heater Voltage	
	Dry Form-C Relay Contacts (Two)	Summary Fault		
COMPUTER	Hardware Interface	2 ports: RS-232 & RS-422/RS-485, Ethernet		
SERIAL PORT	Xicom Command Set	ASCII Commands		
RF SAMPLE PORT COUPLING		-50 dB Nominal		

* For 1:n systems

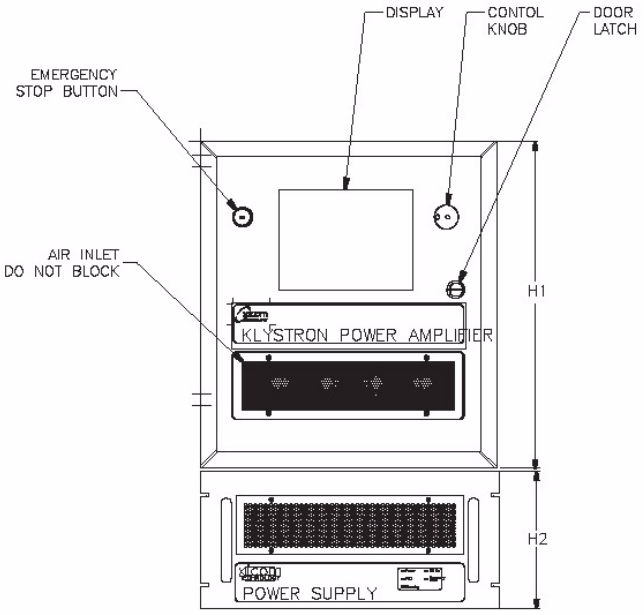
XTKD-2000Ku Klystron Power Amplifiers

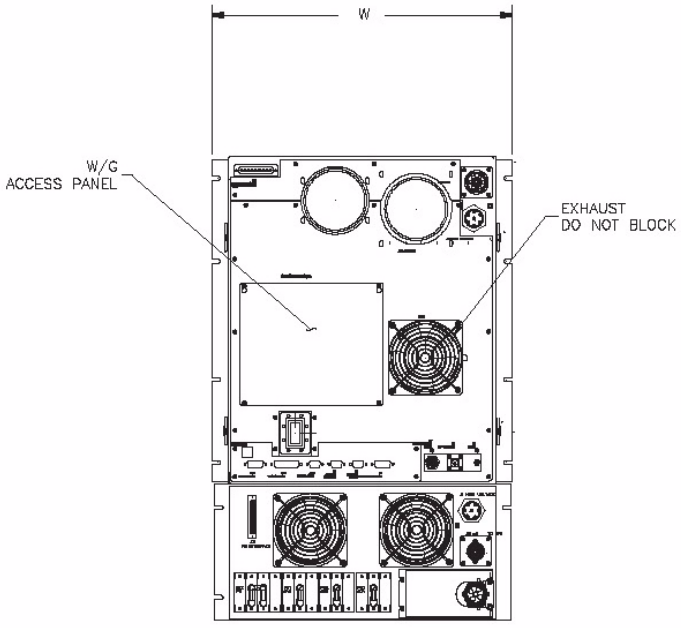
XICOM TECHNOLOGY
A RADYNE COMPANY

Block Diagram



Outline Drawing





DIMENSIONS

	INCHES	CENTIMETERS
W	19.00	48.26
H1	21.00	53.34
H2	8.72	22.15

Nominal Weight = 300 lbs. (136.1 kg)

RF OUTPUT

Ku-band	WR-75

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