Klystron Power Amplifiers Ku-Band

- Compact 1/2 Cabinet Height
- Large Touch Screen Graphical Display
- Parameter Trend Recording
- Power Save Mode
- Power Supply Redundancy
- RS-232/485 Serial Interfaces
- Ethernet Interface
- Built-In 1:n 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 re-tuning.

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

· Xicom even included a built-in 1:n 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 @ Amplifier 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 (at rated power)	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, 0.1 dB Steps			
INTERMODULATION w/2 = signals	-28 dBc max at 7 db total output backoff			
HARMONIC OUTPUT, maximum	-80 dBc			
AM TO PM CONVERSION				
maximum	4.0º/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 nS/MHz			
Parabolic	0.02 nS/MHz squared			
Ripple	2.0 nS/PK-PK			
RESIDUAL AM NOISE, maximum	-50 dBc up to 10 KHz -20 (1.5 + Log f) dBc 10 to 500 KHz -85 dBc above 500 KHz			
PHASE NOISE, maximum	10 dB below IESS-308 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 max
.95 minimum power factor
180% max in rush current

CE COMPLIANT

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)

ENVIRONMENT

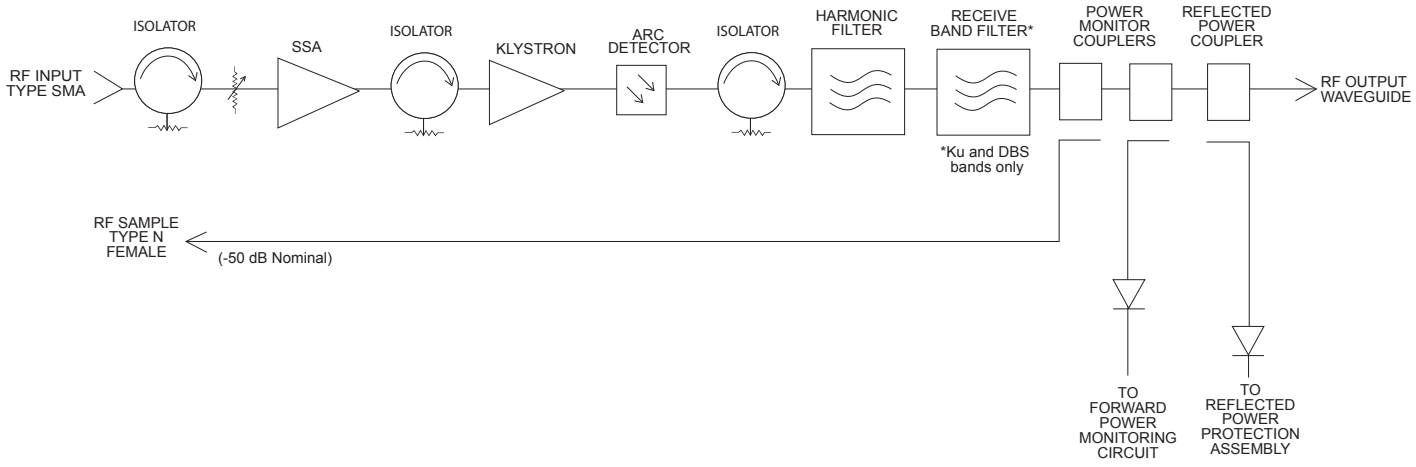
NON-OPERATING TEMPERATURE RANGE	-50 C to +70 C
OPERATING TEMPERATURE RANGE	-10 C to +50 C
ALTITUDE	10,000 feet MSL maximum
SHOCK AND VIBRATION	Normal Transportation
RELATIVE HUMIDITY	95% Non-Condensing

INTERFACE

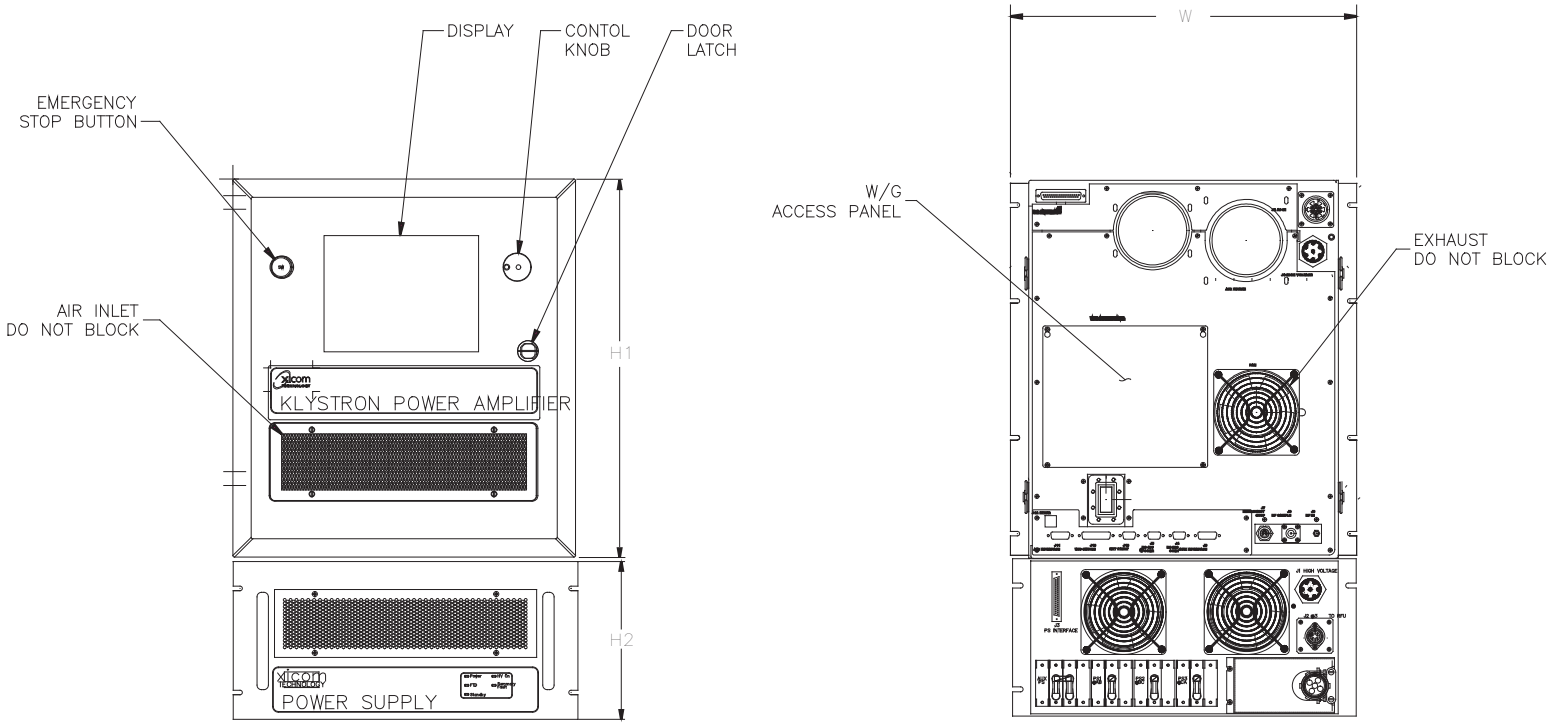
TYPE AND MODE		FUNCTION	
CONTROLS	Local	Local/Remote	Emergency Stop
AC Power ON		Channel Selector	
	Local and Remote	Heater Standby ON/OFF	Channel Selection (Optional)
		Fault Simulation Test	Beam Voltage Adjust
		Audio Alarm ON/OFF	HV ON/OFF
		Fault Reset	Units (Watts, dBm, dBw)
		Attenuator Setting	RF Inhibit
		Switch Setting*	Auto Power Save
			Min/Max Power
STATUS		HV ON	Heater Time Out (FTD)
		Standby	Local/Remote
		Heater Standby	Min/Max Power
		Power Out	Beam Voltage
		Attenuator Setting	Channel Selected
		Body Current	Faults:
		Beam Current	Summary
		Heater Voltage	High VSWR
		Heater Current	Body Current
		Heater Hours	High/Low Voltage
		Beam Hours	Klystron Temperature
		Blower Pressure	P.S. Temperature
		Fan Speed	Blower
		Reflected Power	Low Line
		Klystron Temperature	Waveguide Arc
		Power Supply Temp	Interlock
		Switch Setting*	Power Supply A/B/C
	Dry Form-C Relay Contacts (Two)	Summary Fault	
COMPUTER	Hardware Interface	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

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

DBS-band WR-75

805-0111-001 03/01/02

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