Klystron Power Amplifiers
C-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 its latest KPA product, the XTKD-3000C, 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-3000C 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-3000C 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-3000C	XTKD-3000C1	XTKD-3000C2
FREQUENCY RANGE	5.85 - 6.425 GHz	5.85 - 6.675 GHz	6.70 - 7.05 GHz
OUTPUT POWER			
Klystron	3350 W	3350	3000 W
Rated Power @ Amplifier Flange	3000 W	3000	2600 W
PRESET CHANNELS	6, 12, 24	6, 12, 24	12
BANDWIDTH	45 MHz	45 MHz	40 MHz
GAIN			
at rated power	77 dB		
variation, max (at rated power)	0.40 dB Pk-Pk over Fo ± 13 MHz		
slope, maximum (at rated power)	0.04/dB MHz over Fo ± 13 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	-29 dBc max at 7 db total output backoff		
HARMONIC OUTPUT, maximum	-80 dBc		
AM TO PM CONVERSION			
maximum	4.0°/dB at rated power		
NOISE POWER, maximum			
Transmit Band	-70 dBw/4 KHz		
Receive Band	-150 dBw/4 KHz (3.7 - 4.2 GHz)		
	-110 dBw/4 KHz (4.2 - 40.0 GHz) excludes passband		
GROUP DELAY, maximum			
Bandwidth	Any 36 MHz		
Linear	0.25 nS/MHz		
Parabolic	0.05 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	1.25:1		
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
12500 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
Extended Frequency 5.85 to 6.725 GHz
80 MHz Bandwidth
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

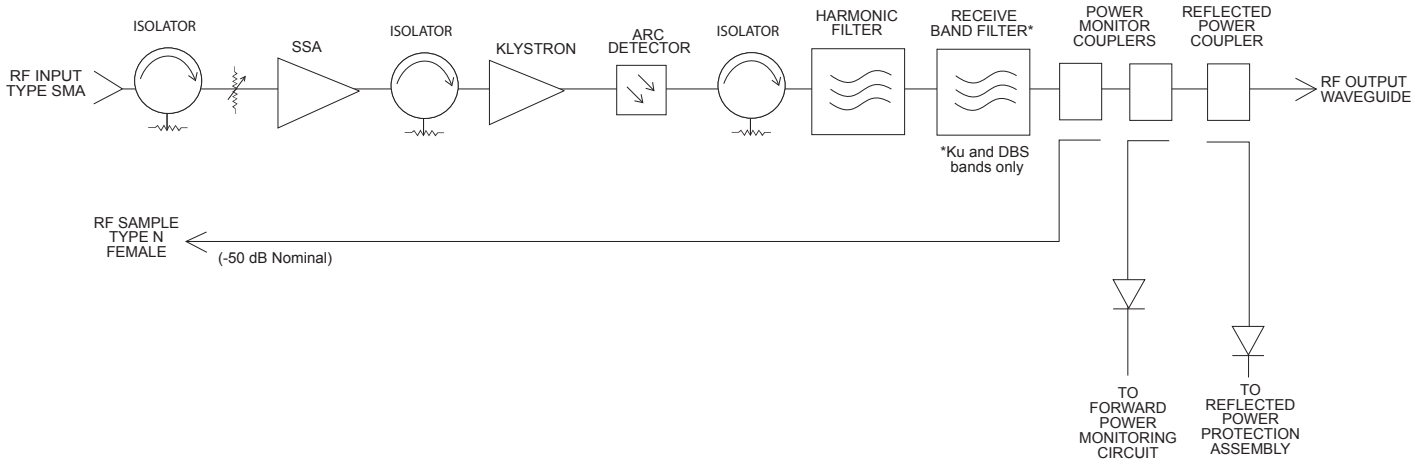
INTERFACE

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	

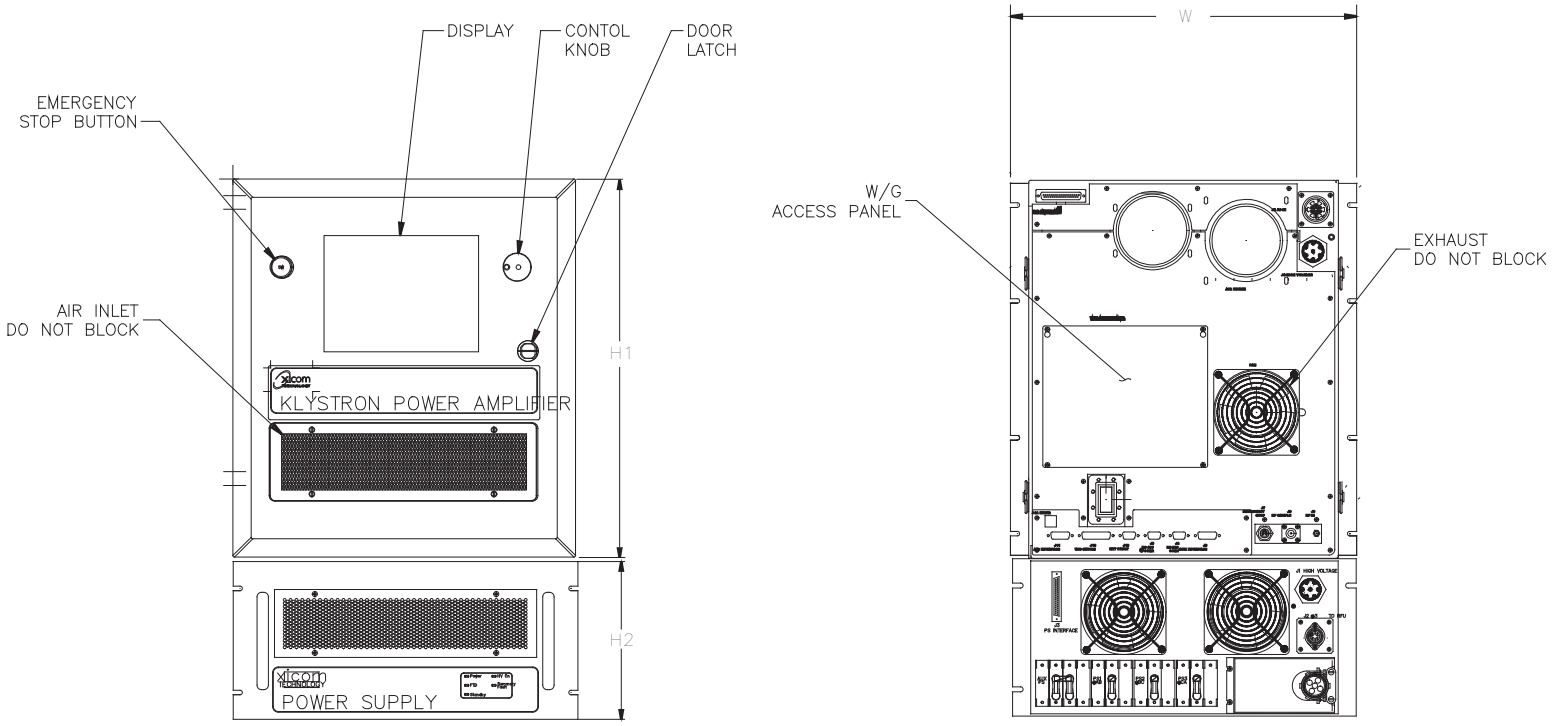
* For 1:n systems

XICOM TECHNOLOGY

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

C-band	CPR-137G

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