

Klystron Power Amplifiers C-Band



FEATURES

- *Touch screen interface*
- *Built-in redundancy controller*
- *Ethernet interface, remote diagnostics*
- *Parameter trend analysis*
- *Power save mode*

The **XTKT-3000C** and **XTKT-3000C2** are compact Klystron Power Amplifiers (KPAs) designed for fixed and mobile uplink applications. Xicom KPAs are ½ the height of conventional KPAs. Reduced height is complimented by reduced weight. Shipping is greatly simplified as the RF deck, klystron tube, and power supply are shipped individually and weigh 100 pounds each.

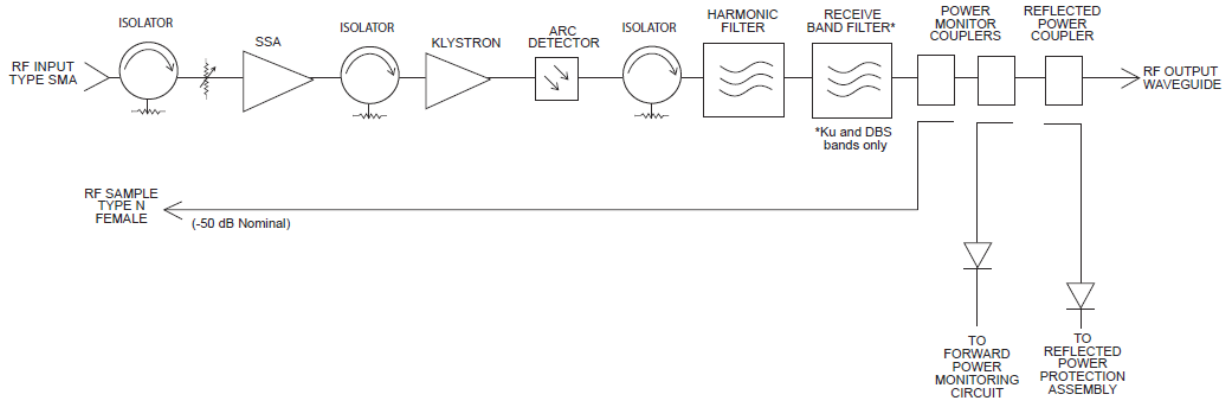
These are amplifiers with a touch screen front panel for easy customer interface. The display shows HPA status, parameter trend analysis and event logs, and remote diagnostics can be easily performed via the Ethernet interface. Also, because the display can show and control waveguide switches or a combiner, the need for separate external controllers is eliminated for common architectures.



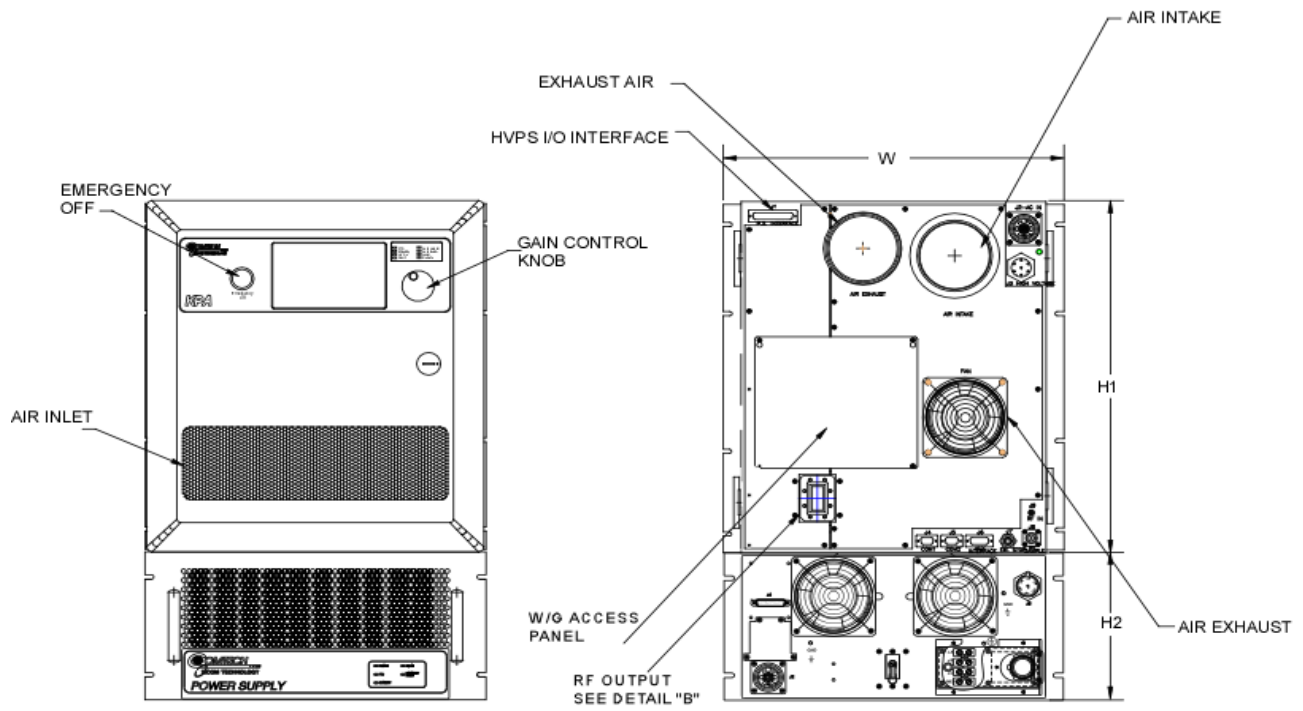
PERFORMANCE SPECIFICATION

Parameters	XTKT-3000C	XTKT-3000C2
FREQUENCY RANGE	5.85 to 6.425 GHz	6.70 to 7.05 GHz
OUTPUT POWER		
Klystron	3350 W	3000 W
Rated Power @ Amplifier Flange	3000 W	2600 W
PRESET CHANNELS	6, 12, 24	12
BANDWIDTH	45 MHz	40 MHz
GAIN		
At Rated Power	77 dB	
Variation, at rated power (maximum)	0.40 dB Pk-Pk over Fo ± 30 MHz	
Slope, at rated power (maximum)	± 0.04 dB/MHz over Fo ± 30 MHz	
Stability, 24 hr. (maximum)	± 0.25 dB/24 hrs at constant drive/temperature	
Stability, Temperature (maximum)	± 2.5 dB at constant drive	
GAIN ADJUSTMENT	0 to 30 dB, 0.1 dB steps	
INTERMODULATION (maximum) with two equal carriers	-29 dBc @ 7 dB total output power backoff from rated power	
HARMONIC OUTPUT (maximum)	-80 dBc	
AM/PM CONVERSION (maximum)	4.0 deg/dB at rated power	
NOISE POWER (maximum)		
Transmit Band	-70 dBW/4 kHz	
Receive Band	-150 dBW/4 kHz (3.7 to 4.2 GHz) -110 dBW/4 kHz (4.2 to 40.0 GHz) excludes passband	
GROUP DELAY (maximum)		
Bandwidth	Any 36 MHz	
Linear	± 0.25 nS/MHz	
Parabolic	± 0.05 nS/MHz ²	
Ripple	2.0 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum)	-50 dBc up 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)	1.25:1	
Load w/o damage	2.0:1	
Load, shutdown	> 2.0:1	

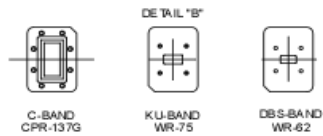
BLOCK DIAGRAM



OUTLINE DRAWING



DIMENSIONS (max)		
	INCHES	CENTIMETERS
W	19.00	48.26
H1	21.00	53.34
H2	8.72	22.15
Nominal Weight		
	300 lb.	136.1 kg.



RF OUTPUT
C-Band: CPR137G

PRIME POWER

190 to 260 VAC, L-L, Delta
50 to 60 Hz, Three Phase, Three Wire, Plus Ground
11500 VA (maximum)
0.95 Minimum Prime Power Factor
180% in-rush current (maximum)



ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-10°C to +50°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 95% Noncondensing
ALTITUDE	10,000 Feet MSL (maximum)
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

	Type	Function		
CONTROLS	LOCAL	Local/Remote	AC Power On/OFF	
		Lamp Test	Emergency Stop	
		Channel Selector		
	LOCAL AND REMOTE	Heater Standby ON/OFF	Channel Selection (Optional)	
		Lamp Test	Beam Voltage Adjust	
		Audio Alarm ON/OFF	HV ON/OFF	
		Fault Reset	Units (Watts, dBm, dBW)	
Auto Power Save		RF Inhibit		
Attenuator Setting				
STATUS	FRONT PANEL LCD	HV On	Heater Time Out (FTD)	
		Standby	High Voltage Fault	
		Heater Standby	Local Mode	
		Remote Mode	Body Current Fault	
		Summary Fault		
		Power Out	Reflected Power	
		Attenuator Setting	Klystron Temperature	
		Body Current	Beam Voltage	
		Beam Current	Channel Selected	
		Heater Voltage	Faults:	
	Heater Hours	High VSWR		
	Beam Hours	Body Current		
	Waveguide Arc	High Voltage		
	Blower Pressure	Klystron Temperature		
	Fan Speed	P. S. Temperature		
		Blower		
	DRY FORM-C RELAY CONTACTS (2)	Summary Fault		
COMPUTER SERIAL PORT	HARDWARE INTERFACE	RS-232 & RS-422/RS-485	Ethernet (T10/100)	
	XICOM COMMAND SET	ASCII Commands		
	RF SAMPLE PORT COUPLING	-50 dB Nominal		

OPTIONS

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

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