

XTC-100

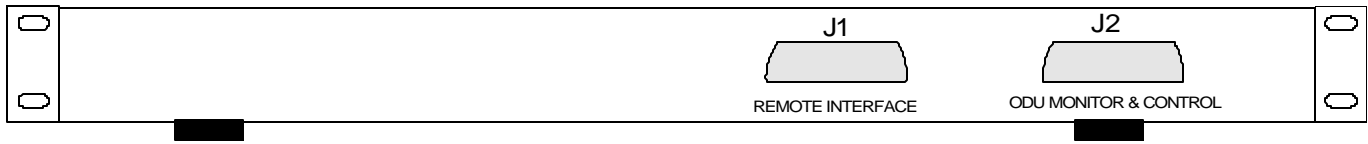
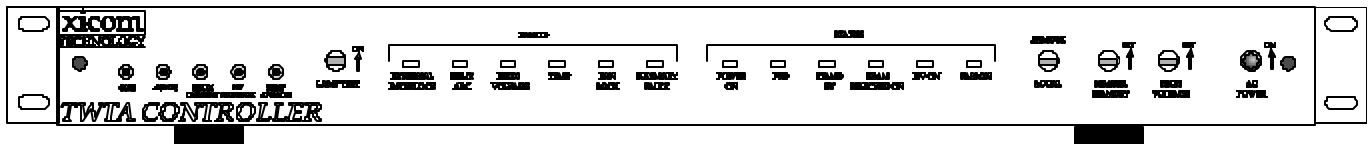
TWTA CONTROLLER

Features

- Full antenna mount TWTA control and status
- Powered from XT-50, XT-100, XT-400 series TWTAs
- One rack unit high (1 ¾ inch)
- Remote control parallel interface

The XTC-100 controller provides full control and monitoring of the XT-50, XT-100 and XT-400 series of TWTAs. Powered from the TWTA, the controller allows for remote control and monitoring from the ground station's M&C. (See the table below for the remote control pinouts.) The unit is compact and requires only one rack unit (1 ¾ inch) of a standard 19 inch rack.

Front Panel



Rear Panel

Type	Pin	Function	Return Pin	
Control Interfaces All circuits are active LOW	2	Beam Select ON Control	4	<i>Pin 4 tied to Pin 16</i>
	3	Beam Select OFF Control	4	
	5	External Interlock*	4	
	6	Fault Reset Control	4	
Digital Status Circuits All circuits are active LOW	8	Beam ON Status Indicator	7	<i>Pins 7, 9, 11, and 22 tied together. May be interchanged</i>
	10	Summary Fault Indicator	22	
	12	Beam Select ON Indicator	24	
	21	Standby Status Indicator	9	
	23	Filament Time Delay (FTD)	11	
Analog Status Circuits	25	Remote/Local Indicator	13	<i>Pin 16 tied to Pin 4</i>
	14	Helix Current Monitor	16	
	15	High Voltage Monitor	16	
Output Voltage Circuits	17	TWT Temperature Monitor	16	
	1	+24 Volts DC	16	
Ground	19	+15 Volts DC	16	
	4,16	Common Ground (Connected)	N/A	

Note:

*Pin 5 must be connected to Pin 4 with special jumper or external interlock circuit



LOCAL FUNCTIONS

Control Functions - Front Panel Toggle Switches

- | | |
|---|--|
| <ul style="list-style-type: none">• Power On• Heater Standby | <ul style="list-style-type: none">• High Voltage On• Local / Remote |
|---|--|

Note: Heater Standby reduces the traveling wave tube's (TWT) heater voltage when high voltage is off. This improves TWT life when the unit is the back-up unit in a redundant configuration. High Voltage On overrides the Heater Standby command. The reduced heater voltage does not affect turn on time when high voltage is applied.

Status Indicators - Front Panel LED Indicators

- | | |
|--|--|
| <ul style="list-style-type: none">• Power On• Filament Time Delay (FTD)• Standby• Beam On Selected• High Voltage On• Fan On | <ul style="list-style-type: none">• Helix / Arc Fault• Fan Lock Fault• High Voltage Fault• Temperature Fault• External Interlock• Summary Fault |
|--|--|

Analog Monitoring - Front Panel Test Points

- | | |
|---|---|
| <ul style="list-style-type: none">• Helix Current• TWT Temperature | <ul style="list-style-type: none">• Helix Voltage• 15 VDC (100 mA maximum), or RF Video (XT-50/100/400 option) |
|---|---|

Note: Helix Current and TWT Temperature monitoring points are available on the front panel. RF Video monitoring, +15VDC, and +24VDC provided via the remote interface connector.

REMOTE FUNCTIONS

Control Functions

- | | |
|---|--|
| <ul style="list-style-type: none">• Beam On• Fault Reset | <ul style="list-style-type: none">• Beam Off (resets all faults) |
|---|--|

Note: Requires a momentary closure to ground.

Status Indicators

- | | |
|---|---|
| <ul style="list-style-type: none">• Filament Time Delay (FTD)• Standby• Beam Selected• Beam On | <ul style="list-style-type: none">• Summary Fault• External Interlock• Local / Remote Setting• Summary Fault |
|---|---|

Note: The remote status signals are buffered with photo couplers.

Analog Monitoring

- | | |
|---|---|
| <ul style="list-style-type: none">• Helix Current• TWT Temperature | <ul style="list-style-type: none">• Helix Voltage• RF Video (XT-50/100/400 option) |
|---|---|

Output Voltage

- | | |
|--|--|
| <ul style="list-style-type: none">• +15 VDC (100 mA maximum) | <ul style="list-style-type: none">• +24 VDC (100 mA maximum) |
|--|--|