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**SPECIFICATION FOR A PULSED
TRAVELLING WAVE TUBE AMPLIFIER
MODEL PTC6358
7.5 - 18.0 GHz**

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1. INTRODUCTION

This specification describes a Travelling Wave Tube (TWT) based, High Power RF Amplifier; Part Number PTC6358. The equipment has been designed to operate in the pulse mode, with duty cycles up to 6%. Features include Digital Front panel, Forward Power Monitoring via Front panel sample port, Reverse Power Protection, Power Factor Correction, 110 to 240V AC operation without adjustment and IEEE488.1 remote control.

Cooling is by forced air with internal fan.

1.1 Front Panel Indicators

Standby	ON when TWT has finished Warm-up, 180 seconds after power ON
Operate	ON when unit switched to OPERATE
Elapsed Time	Mechanical indicators for Heater and High Voltage hours
LCD Display	Displays unit status and configuration

1.2 Front Panel Controls

Line On	Applies power to Fan and PSU
Operate	Applies TWT high voltage and enables RF output
Standby	Returns unit to STANDBY mode
Menu Controls	Up, Down, Enter, Back

1.3 Remote Operation

Information Command	Status
Information Replies	Filament Time Delay Standby Operate

Tripped, the cause being one of the following:

	Unit Hot
	High Reflected Power
	Helix Over-current
	Cathode Over-current
	Helix Arc
	Over Duty
	Line Volts
	Low Logic Volts
	Interlock Error
	Watchdog Activated
State Changing Commands	Remote Local Operate Standby / Reset

2. ELECTRICAL INTERFACE SPECIFICATION

Connector 1

Connector Function	Mains input Power
Type	MS3102-20-4P
	Pin A-phase, B-neutral, C-not connected, D-earth
Location	Rear Panel

Connector 2

Connector Function	Pulse Modulator Input
Type	BNC Jack 50Ω
Location	Front Panel
Signal Type	5V TTL, active high

Connector 3

Connector Function	RF Input
Type	N female 50Ω
Location	Front Panel

Connector 4

Connector Function	Amplifier RF Output
Type	WRD750 flange standard
Location	Front Panel

Connector 5

Connector Function	Forward Power Sample
Type	N female 50Ω
Location	Front Panel

Connector 6

Connector Function	Chassis Earth
Type	M6 x 20 stud
Location	Rear Panel

Connector 7

Connector Function	IEEE Control
Type	Centronics style
Location	Rear Panel

3. ELECTRICAL SPECIFICATION

Parameter	Min	Typ	Max	Unit
RF Input				
Frequency	7.5		18.0	GHz
Amplitude			0	dBm CW/Peak
Pulse Modulator Input				
Inhibit	0		0.7	V (into 50Ω)
Transmit	2.0		5.0	V (into 50Ω)
Pulse Width	0.2		20	μs
Pulse Repetition Freq.	0		20	kHz
Duty Cycle	0		6	%
RF Output				
Forward Peak Power	1500	2000		W Pulse
Peak Reflected Power			350	W Pulse
Forward Power Monitor		-50		dB
Harmonics		-6.5	-3	dBc
Spurious		-50	-40	dBc
Max Load VSWR		2:1	3:1	ratio, Note 1
Pulse Rise/Fall Time			100	ns
Pulse propagation delay		250	300	ns
Beam on Noise		2		dBm/MHz
Prime Power				
Voltage	110		240	VAC
Frequency	47		63	Hz
Start-up Current			13	A, at 230VAC
Operating Current			13.6	A, at max duty and 110VAC
Operating Current			6.5	A, at max duty and 230VAC
Power Consumption		1.3	1.5	kW, at max duty

Note 1: Full band VSWR and at any time during operation.

4. MECHANICAL SPECIFICATION

Width	19" Front panel width
Height	4U (7") Front panel height
Depth	780mm maximum from Rear face to Front panel, including handles
Weight	30 kg typical

5. ENVIRONMENTAL SPECIFICATION

Storage Temperature Ambient	-20°C to +70°C
Operating Temp Relative	0°C to +40°C
Humidity	80% maximum, non-condensing
Cooling	Air enters through the side and Rear panel and exhausts through the Rear panel of the equipment which must be given free access.
Maximum operating altitude	3,000ft max
Shocks and Vibration	Commercial