PT-1KW Series Pulse TWT Microwave Power Amplifiers

1.0 – 18 GHz • 1,000 – 2,000 watts, Minimum Rated Power

The PT series of KW Pulse amplifiers built by IFI; are high power, "State-of-the-art" Pulse TWT amplifiers specifically designed for microwave testing applications. Our elegant approach provides 1,000-2,000 Watts of pulse power for various frequency ranges from 1.0 to18.0 Gigahertz in various packages that offers all the controls and communications needed for today's automated test systems. These amplifiers have field proven reliability and unsurpassed performance as the best in the industry.

From the ground up the PT series amps are built to withstand rugged handling, whether it's being shipped to you or hauled around from site to site. Our amplifiers feature modular construction and this concept of modular design minimizes internally produced EMI signal leakage and provides easy access for field service and rapid turnaround at depot level repair facilities. Redundant thermal and airflow sensors prevent the TWT from overheating. In addition, high VSWR protection is built in.

The PT series "State-of-the-art" interface is sophisticated yet simple to use. The backlit LCD screen shows forward/reverse power indication, status and self-diagnostic information. All the amplifiers operating parameters are simultaneously available in the amplifier front panel display as well as over the remote bus. Selection switches allow you to switch the amplifier to the desired mode of operation for local control if the unit is not being operated remotely. For computer automation, both an RS-232 and IEEE-488 interface are included. To meet individual requirements, the PT series amplifiers can be easily customized with our available options that may be required for your application.

With all this capability and its reliable elegant design, the PT series amplifiers are the perfect amplifier for your testing needs. IFI also offers different size packages to best suit your application. We have standard 10.5" high models for most commercial systems, but we also offer an 8.75" high version for space limited applications.

IFI Pulse TWT Amplifier Features:

- Solid State Power Supply Designs
- Instantaneous Broadband Frequency ranges
- Modular Design Construction
- Rugged construction & High Reliability
- Backlit LCD Display
- Integrated Force Air Cooling
- Self-diagnostic circuitry
- IEEE-488 interface, RS232

Models & General Specifications:

Model Number	Frequency Range (GHz)	Rated Power (kW minimum)	Gain (dB min)	Mains (kVA)	Weight (pounds)	Size (Inches)
PT21-1KW	1.0-2.0	1.0	60	1.5	85	10.5"Hx19"Wx25.25D
PT21-2KW	1.0-2.0	2.0	63	1.5	85	10.5"Hx19"Wx25.25D
PT251-1KW	1.0-2.5	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT251-2KW	1.0-2.5	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT42-1KW	2.0-4.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT42-2KW	2.0-4.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT82-1KW	2.0-8.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT82-2KW	2.0-8.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT825-1KW	2.5-8.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT825-2KW	2.5-8.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT84-1KW	4.0-8.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT84-2KW	4.0-8.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT128-1KW	8.0-12.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT128-2KW*	8.0-12.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT1812-1KW	12.0-18.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT1812-2KW*	12.0-18.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT188-1KW	8.0-18.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT188-2KW*	8.0-18.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D
PT186-1KW	6.5-18.0	1.0	60	1.5	75	10.5"Hx19"Wx25.25D
PT186-2KW*	6.5-18.0	2.0	63	1.5	75	10.5"Hx19"Wx25.25D

* Over the majority of the band

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Standard Features for IFI PT-Series Pulse TWT Amplifiers	
Standard Features	VSWR Reflected Power Protection, the unit operates without damage or oscillation into any magnitude of phase or load impedance, Open & Short Circuit Protection.
	* Alternate Prime Power (specify at time of order)
	GPIB IEEE 488 & RS232 Remote Control
	RF Sample Port on the Front Panel, 112R for rear panel
	Internal Pre-amplification to obtain rated output power with an input level of 0 dBm or less.
	RF Input/Output Connectors on the Front Panel, 118R for rear panel
	Internal Systems Diagnostics & Status Indicators
	Filament/Beam Elapsed Time Metering in hours
	RF Safety Interlock
	Forward/Reflected Power Indication simultaneously on Front Panel display

PT- Series Specifications:	
Frequency Range:	As Specified in Model Table
Rated Output Power:	As Specified in Model Table
Gain @ Rated Power:	As Specified in Model Table
Prime Power:	As Required for Customer (Some are listed below)
Input/output Impedance:	50 ohms
RF Input/ Sample Connectors:	Type N Female, unless specified otherwise
RF Output Connector:	Type SC or 716 Female up to 8 GHz, 8-12 GHz is WR90, 12-18 GHz is WR62, 7.5-18 GHz is WRD750, 6.5-18 GHz is WRD650 Other waveguides available by request or specification (see Option 117)
Input VSWR/Output VSWR:	2.0:1/ 2.5:1
Pulse Input:	BNC Female Front Panel {TTL into 50ohms standard}consult factory for special requirements
Pulse Width Range:	100nsec – 100usec
PRF Range:	Up to 100 KHz Standard, Higher PRF ranges available consult factory
Duty Cycle:	6% Standard, Lower & Higher PRF ranges subject to TWT spec.
Rise & Fall Time:	15 ns nominal; 20 ns maximum
Pulse to Pulse Jitter:	+/- 5 nsec maximum
Pulse Width Jitter:(Distortion)	+/- 5 nsec maximum
Pulse Recovery Time:	150 nsec maximum
Pulse Delay:	250 nsec maximum / 180 nsec typical
Pulse Droop:	0.5 dB/100usecs, 0.1dB/10usec
Power Output Stability:	0.2dB Pulse to Pulse at constant drive level & PRF
Pulse On/Off Ratio:	80 dB
Phase Stability Pulse to Pulse:	+/-1 degree nominal
Temperature:	0º to 50º C operating, -40º to 70º C non-operating
Humidity:	95% without condensation
Altitude:	10,000 feet operating, 50,000 non-operating
Cooling System:	Air cooled, self-contained
Modulation:	All types, AM, FM, Pulse
Configuration:	Rack Mount as specified in Model Table
Spurious Outputs:	<-60 dBc nominal

Standard Prime Powers:
100, 115, 120 VAC ±10% 50/60 Hz, single phase
200, 220, 230, 240VAC ±10% 50/60 Hz, single phase
100/200VAC,115/208 or 200/220/230/240VAC ±10% 50/60 Hz, three phase Wye or Delta and/or 400 Hz power is available.
Special Prime Powers other then listed are subject to availability

Some Available Options for IFI PT- Series TWT Amplifiers	
Option 103 G/D:	VSWR Reflected Power Protection "Graceful Degradation Feature" which will automatically reduce the input drive and fold back the output power when the average reflected power exceeds a preset limit of 3.0:1. The unit operates without damage or oscillation into any magnitude of phase or load impedance.
Option 110-1E:	GPIB IEEE-488 RS232 and Ethernet Remote Control
Option 110-2:	GPIB IEEE-488 and RS 422 Remote Control
Option 110-3	GPIB IEEE-488 and RS 485 Remote Control
Option 113:	Chassis Slides for 19" Rack Mounting
Option 118F or R:	Front Panel RF Connections 118R for Rear Panel RF Connections
Option 123F or R:	Reflected RF Sample Port -40, -50 or -60dB N or SMA, Front or Rear Panel

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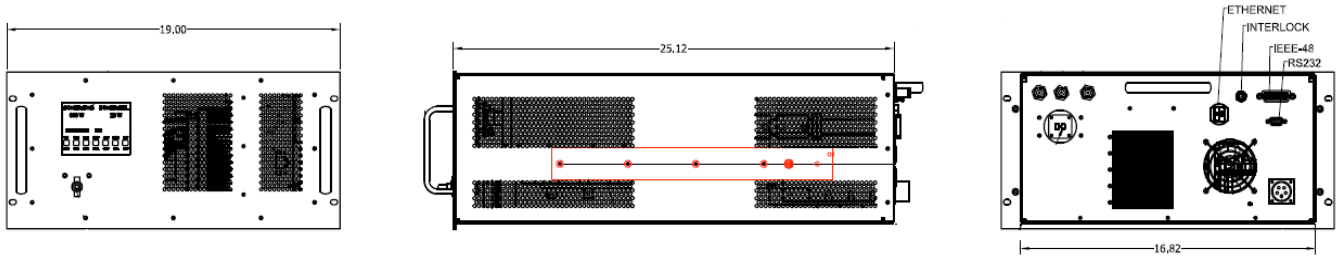
Outline Configurations:

8.75" High Chassis Outline



10.5"H x 25.25"D Chassis Outline