



# DATASHEET & SPECIFICATIONS



## SERIES 9100

## HIGH POWER MICROWAVE AMPLIFIER

### MODEL

**Series 9100 Amplifier** systems provide the maximum in reliability, cost effectiveness and system growth potential. This state-of-the-art production product delivers incomparable Pulsed RF performance for operation in benign laboratory or hostile field environments. Microprocessors provide the operator and or computer, access to monitor TWT conditions, fault latching and control of power supply and modulator parameters.

### RF Specifications

Frequency	Input Power (for Rated Output)
Power Ripple	Spurious Output 0-250 Hz > 250 Hz
Output Peak Power	Output VSWR Protection
Load VSWR	Gain Stability
Duty Cycle	
Gain (for rated output)	*Optionally customer may specify maximum input power.

### RF Sampling

RF Output Pulse Video Sample	RF Interstage Power Sample
RF Output Power Sample	RF Input Power Sample



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## Modulation

Pulse Width		Droop	
Repetition Rate		Pulse Jitter	
Rise and Fall Time		Video/RF Throughput Delay	

## Electrical

Primary Input Power Mains		Modulation Input Pulse	
Primary Power Consumption		Digital Interface	
Elapsed Time Meter		*LAN Optional	

## Mechanical

Front Panel		Finish- Front Panel Chassis	
Dimensions- Front Panel Depth		Weight	
		Cooling	

## Environmental

Operating Temperature	
Storage Temperature	
Humidity	
Altitude	

## DIGITAL INTERFACE RS-232

RS-232 interface provides ability to remotely operate, monitor, control and adjust the system. IEEE-488, an optional feature, provides the ability to remotely operate, monitor and control operation of the amplifier. Any fault condition latches information. Ethernet (LAN) and RS-422 are also available. Software is provided to operate with MS Windows.

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**DIGITAL INTERFACE RS-232**

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CONDITIONS MONITORED AND INTERLOCKED

VSWR	
Body Voltage	
Body Current*	
Heater Voltage*	
Heater Current*	
Grid Bias Voltage*	
Grid Pulse Amplitude*	
Access Lid Interlock	
Excessive Temperature	
PRF Limit*	
Pulse Width Limit*	
Pulse Received	

\*The following parameters and associated High/Low limits are factory adjustable (including Cathode Voltage).

**CONTROLS & INDICATORS**

**FRONT PANEL**

- : Switches
- : Illuminated Status Monitor
- : Off/Standby/Operate/Reset
- : Warm-up/Standby/Operate/Reset

**ACCESSORIES SUPPLIED (1-EACH)**

- Maintenance Manual
- Primary Input Power Mating Connector
- CD ROM: Computing Operating Software

CONNECTORS      TYPE

RF Input (Rear Panel)	
RF Output (Rear Panel)	
RF Samples (Front Panel)	
RF Output Pulse Video Sample (Front Panel)	
Modulation Input Panel (Front Panel)	

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## DIGITAL INTERFACE RS-232

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CONDITIONS MONITORED AND INTERLOCKED	ADJUSTABLE PARAMETERS
RS 232	
IEEE-488 (Optional)	
Ethernet (Optional)	
Primary Power Input	
Remote Control	

NOTE: RF Connectors may be optionally located on either the front or rear panels.

### Controls and Indicators (Optional)

Operation	The front panel display is active whenever TWTA is powered on.
Standard Mode	Warm-up (with time remaining) Standby Operate (with pulse indication) Fault (with fault name)
Diagnostics Mode	Following parameters are available through menu: heater voltage, heater current, grid bias voltage, grid drive voltage, helix voltage, helix current, collector voltage, collector current, cathode current, VSWR.

### Options

Option E- Rack Mounting	Allows the unit to be mounted in a standard EAI 19" rack cabinet, incorporating side mounted sides.
Option G- 400 Hz	Provides for 400 Hz AC frequency operation.
Option J- Output Isolator	Protects the TWT from varying load VSWR conditions. Insertion loss of the Isolator will lower the output power slightly (0.5 dB typically) from normal. Call the factory for configuration and dimensions (Isolator may be provided externally).
Option X- Reflected Power Protection	Protects the TWT from high load VSWR and intended for use on ultra wide band or high power units for which Isolators are not normally available. Consists of a coupler and detector that turns the TWTA off when excessive reflected power is sensed. Typical insertion loss is 0.5 dB.