

# RADITEK

**TWTA**  
**High Power**

## TWT Amplifier

18.0-26.5GHz, 200Watt, 20% Duty Cycle

RTWTA-18.0-26.5-200W-20%-w9



Specifications		Units
<b>RF POWER</b>		
Frequency <i>minimum</i>	18.0 – 26.5	GHz
Output Peak Power	+53	<i>dBm nominal</i>
Duty Cycle *	20	<i>% maximum</i>
Input Power <i>For rated output</i>	0	<i>dBm nominal</i>
Spurious Output 0–250 Hz	-55	<i>dBc</i>
> 250 Hz	-60	<i>dBc</i>
<b>RF SAMPLING (optional)</b>		
RF Output Pulse Video Sample	10 mv/kw <i>into 50 Ω</i>	
RF Output Power Sample	- 40	<i>dB</i>
RF Interstage Power Sample	-20	<i>dB</i>
RF Input Power Sample	-20	<i>dB</i>
<b>MODULATION</b>		
Pulse Width *	100ns to 50μs	
Repetition Rate *	50	<i>KHz min</i>
Rise & Fall Time	50	<i>Ns max</i>
Droop	0.05 dB/ $\mu$ s <i>maximum</i>	<i>dB/ <math>\mu</math>s maximum</i>
Pulse Overshoot	1% <i>maximum</i>	<i>% maximum</i>
Pulse Jitter	$\pm$ 2 ns <i>maximum</i>	<i>ns maximum</i>
Power Ripple	0.2 dB <i>maximum</i>	<i>dB maximum</i>
Video / RF Throughput Delay	300	<i>ns maximum</i>
<b>ELECTRICAL</b>		
Primary Input Power Mains	105-125/1 $\phi$ /60 Hz	
Modulation Video Input Pulse	+5 v <i>into 50 Ω</i>	
Digital Interface	RS-232	
<i>optional</i>	Ethernet	

\* NOTE: Product of the pulse width and pulse repetition rate is limited by duty cycle

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### **Digital Interface RS-232 (Ethernet Optional)**

RS-232 interface provides ability to remotely operate, monitor, control, and adjust the system. Ethernet (optional) provides the ability to remotely operate & monitor operation of the amplifier. Any fault condition latches information. Software is provided to operate with MS Windows.

### **Conditions Monitored and Interlocked**

Body Voltage	00.00 kV
Body Current	00.00 mA
Collector #1 Voltage	00.00 kV
Collector #1 Current	000.0 mA
Heater Voltage	0.00 V
Heater Current	0.00 A
FE on Voltage -	00.00V
FE off Voltage	000.00 v
Access Lid Interlock	Fault
Excessive Temperature	Fault
PRF Limit	Fault
Pulse Width Limit	Fault
Pulse Received	Yes/No

### **CONTROLS & INDICATORS**

FRONT PANEL : Switches : OFF/STANDBY/OPERATE/RESET  
: Illuminated Status Monitor : Warmup/Standby/Operate/Reset

### **CONNECTORS**

R F Input, *rear panel* : Waveguide, WR-42, Cover Flange  
R F Output, *rear panel* : Waveguide, WR-42, Cover Flange  
RF Samples, (optional), *rear panel* : Waveguide, WR-42, Cover Flange  
RF Output Pulse Video Sample, *front panel* : Co-ax, Type "BNC F"  
Modulation Video Input Pulse, *rear panel* : Co-ax, Type "BNC F"  
RS 232 Serial, *rear panel* : DB 9 F  
Primary Power Input, *rear panel* : NEMA L5-20, *three wire*

### **MECHANICAL**

FRONT PANEL : Standard RETMA 1/8" thick,  
with slotted mounting holes.  
DIMENSIONS: Front Panel : Width 19", Height, 8 3/4"  
Depth : Chassis, 26"  
Overall, 33" (maximum)  
FINISH: Front Panel : Anodize, Color Black  
Chassis : Alodine, Color Gold  
WEIGHT : 80 pounds (Maximum)  
COOLING : Self contained forced air

### **ENVIRONMENTAL**

TEMPERATURE: Operating : 0 to +50°C  
Derate 10°C for 10,000 foot Operation  
Storage : - 30 to +60°C  
HUMIDITY : 0 to 95% non-condensing  
ALTITUDE : 0 to 10,000 feet above sea level

### **ACCESSORIES SUPPLIED**

1-each, CD operating software  
1-each, Instruction/Service Manuals  
1-each, Primary Input Power Connector