

# Polarity®

## Rack Mount TWT Test Set

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## **Rack Mount Test Set Spec REV2**

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### Cathode (Helix) Power Supply

Cathode voltage: -1KV to -15.5KV w/ respect to ground  
Helix current: 100ma average max.  
Helix current peak: 1A peak max. - - output droop based on 0.15uf  
+/- 5% line regulated  
Negative w/ respect to ground  
Helix current meter (digital): 1xx.xma  
Cathode voltage meter (digital): .1x.xxKV  
Cathode current meter (digital): 1.xxxma  
Cathode faults: OV, OC, factory set  
Cathode output impedance < 250 ohms

### Collector#1 Power Supply

Adjustability: 10% to 80% - WRTC  
Collector current: 200ma avg  
Collector peak current: 3.5A - output droop based on 0.3uf  
Collector faults: OV, OC, factory set  
Collector voltage meter (digital): 1x.xxKV  
Collector current meter (digital): 1.xxxma  
Collector output impedance < 200 ohms  
Collector output capacitance .3uf

### Collector#2 Power Supply

Adjustability: 10% to 80% - WRTC  
Collector current: 200ma avg  
Collector peak current: 3.5A - output droop based on 0.3uf  
Collector faults: OV, OC, factory set  
Collector voltage meter (digital): 1x.xxKV  
Collector current meter (digital): 1.xxxma  
Collector output impedance < 200 ohms  
Collector output capacitance .3uf

### Collector#3 Power Supply

Adjustability: 10% to 80% - WRTC  
Collector current: 200ma avg  
Collector peak current: 3.5A - output droop based on 0.3uf  
Collector faults: OV, OC, factory set  
Collector voltage meter (digital): 1x.xxKV  
Collector current meter (digital): 1.xxxma  
Collector output impedance < 200 ohms  
Collector output capacitance .3uf

#### Heater Power Supply

Heater voltage: -1V to -7.5V w/ respect to cathode  
Heater current: 5A  
Heater voltage meter (digital): xx.xxV  
Heater current meter(digital): xxx.xA  
Protection: OV, OC, factory set  
Heater time: 0 to 599 seconds

#### Grid Modulator

Bias voltage: -1500V w/ respect to cathode  
Pulse Voltage: -50 to +350V w/respect to cathode  
Bias current max: 5ma average  
Pulse top current: 10ma average max, 100ma pk  
Bias voltage meter (digital): xxxV  
Ig current meter(digital): xxx.xma  
Rise time: < 200ns  
Fall time: < 200ns  
Frequency: CW to 20KHz

#### Protection – Cathode to ground protection

High-speed electronic crowbar system – fires in less than 10us  
Mechanical crowbar  
System will detect: Iw peak, Iw average, Ik average, and grid peak current

#### External Interlocks

Panel open  
EXT 1  
EXT 2

#### System Control

Manual Control  
Front panel LED type 3.5 digit meters for voltage and current  
Front panel running meter  
Heater time delay – 0 to 5 minutes  
Autoreset – for Iw avg, Iw pk, ig pk OC

#### High voltage output connections:

Potted high voltage connector - mating connector provided with flying leads

#### AC Input Power

208VAC, 3 PH, 60Hz

#### Rack Mount Cabinet

24”W x 24”D x 15”H