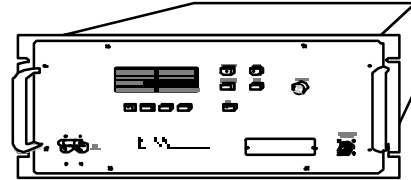


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THE ETM TWT AMPLIFIER ADVANTAGE

Mechanical:

- **Housing:** Housed in a compact ruggedized rack-mounted enclosure
 - Dimensions: 19 inches wide x three, five or six rack units high * x 24.5 inches deep
 - Weight: 70 to 100 lbs. (model dependent)
- **Interlock:** Mechanical interlocks to protect personnel from accidental high voltage shock
- **Cooling:** Forced air cooling from the rear of the unit, Air exhausting from the rear of the unit
- **Fan:** 400Hz (Instrumentation: DC Fan)

Electrical

- **Microprocessor Based Front Panel Control Head:** Controls amplifier functions and allows user to interface with a variety of remote systems
- **Emergency Bypass Switch:** Manual front panel override feature available to bypass control head should the unit fail and it is imperative the amplifier remains transmitting
- **Remote Interface:** RS-422/485 or IEEE488
- **Front Panel Display:** Displays significant TWT voltages and currents, forward and reverse power, and operating temperatures.
 - Vacuum Fluorescent Display, 4-line, 20-character
 - 100 Event Log Screen
 - Associated help screen to aid operator
- **Modular High Frequency Power Supply:**
 - The power supply and associated cooling system in the ETM 2KVA TWTA is fully capable of operating a broad range of TWTs
 - Modular power supply allows for ease of repair and maintenance. Each module plugs into the power supply heatsink and is securely attached with four captive screws
 - Power Supply Module Replacement Time \leq 10 minutes
- **Travelling Wave Tube(TWT) Replacement:**
 - Gridded tubes can be replaced without high voltage break out boxes or high voltage resistive loads to simulate the travelling wave tube
- **Universal Power Input:** is achieved through the use of a wide input (105 to 255 vac, 50/60 Hz) power factor correction circuit.

Long Term Value: The long term advantage of the modular ETM TWT amplifier is its reliability, efficiency and versatility. The amplifier is easy to upgrade, operate and support. An ETM amplifier is an excellent choice from a logistic and low cost of ownership point of view.

Customer Support:

Warranty: Two year warranty, parts and labor.

Maintenance: MTTR \leq 45 minutes (typically over the phone) with trained technician

Customer Service: 24 hour / 7 days a week

Training: Free at ETM Electromatic, Inc. Newark, Ca

Replacement Parts: Spare modules are kept in stock at ETM and are available for overnight shipment.

Acceptance Test Procedures:

- 100 hour minimum amplifier Burn-In: hot and cold cycles to -20°C

Monitors and Controls:

Protection of the TWT and power supply from internal and external conditions is accomplished through factory pre-set fault limits. Fault limits are set for:

| <u>Parameter</u> | Condition: | |
|--------------------------|------------------|------------|
| | <u>Excessive</u> | <u>Low</u> |
| Input Line Voltage | X | X |
| Helix Voltage | X | X |
| Heater Current | X | |
| Collector Voltage | | X |
| 15 Volt DC Supply | | X |
| Grid Voltage | X | |
| Heater Voltage | X | |
| Helix Current | X | |
| TWT Temperature | X | |
| Power Supply Temperature | X | |
| Reflected Power | X | |

Monitored Parameters:

- Forward Power (dBm, watts, graph)
- Reverse Power (dBm, watts, graph and percent of forward power)
- Cabinet Temperature (^oC or ^oF) (Hardware and Software Settable)
- TWT Baseplate Temperature (^oC or ^oF) (Hardware and Software Settable)

TWT Parameters:

- Helix Current
- Filament Voltage
- Filament Current
- Collector Voltage
- Cathode Voltage
- Grid Voltage

User Controlled Warning Settings:

Audible pre-fault warning levels, set by the operator, will activate if the following parameters approach the fault level. Advance warnings allow the operator time to make adjustments, avoiding a potential shutdown during a critical transmission.

- Over Forward Power
- Under Forward Power
- Over Reverse Power
- Over Helix Current
- Over Cabinet Temperature
- Over Baseplate Temperature

*** Height:**

SatCom: Three (5.25 inches) or Five (8.75 inches) rack units (model dependent)

Instrumentation: Five (8.75 inches) or Six (10.50 inches) rack units (model dependent)