The Model 176 TWT Amplifier has been designed specifically to operate pulsed traveling wave tubes in the 1 to 2 kW peak power range at frequencies up to 18 GHz. Particular emphasis has been placed on the generation of the output RF pulse shape without the use of RF switches. Pulse width control is with an external pulse.

Internal power supplies are DC-DC converter designs with fast loop response times so that output level variations are minimal for any PRF including a non-periodic or burst type PRF. The modular power supplies and grid pulse generator have very low ripple, with attendant low phase noise in the TWT Amplifier.

The modular design of the Model 176 provides convenient accessibility to all elements in the TWT amplifier. Plug-in PC boards are accessible through the front panel. The PC card cover contains a legend for PC card located test points and controls. High voltage modules are encapsulated, plug-in assemblies. There is no exposed high voltage. Most modules are interchangeable between all units regardless of frequency.
Model 176 TWT Amplifier

SPECIFICATIONS

- Duty Cycle: 6.0%, Maximum
- Pulse Width Range: 0.07 to 100 µs
- PRF Range: 0 to 400 kHz
- RF Rise / Fall Time: 15 ns, Maximum
- RF Pulse Droop: 0.5 dB/100 µs, Maximum
- Delay, Input to RF: 200 ns, Maximum
- Phase Noise: < ± 1° pk to pk
- Amplitude Variation: 0.1 dB, Maximum
- Spurious Outputs: -50 dBc, Maximum
- Input Pulse: 5 Volts into 50 ohms
- Noise Figure: 35 dB, Nominal
- RF Connectors: Precision Type N or Waveguide
- Primary Power: 120 VAC ± 10%, 50/60 Hz
- Operating Temperature: 0 to 50°C
- Weight: 130 lbs, Nominal
- Dimensions: 12.25x19x28.5 (in.)

Standard Equipment

- Input Isolator
- Filament / Operate Time
- IEEE-488 Remote Interface
- Reverse Power Monitor

Options

- Driver Amplifier
- Pulse Width up to 125 µsec
- Extended Frequency Coverage
- Higher Peak Power
- RF Sample Ports
- Detected RF Output
- RS-232/422 Remote Interface
- Other Primary Power
- Outdoor Enclosure
- RF Connectors on Front Panel
- Harmonic Filters