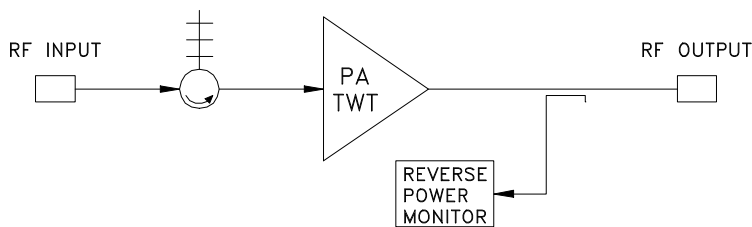


Model 174L 2kW TWT Amplifier **4.0% DUTY**



FEATURES:

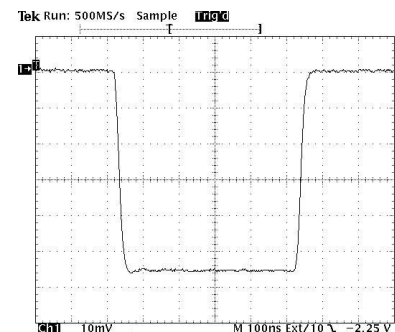
- Frequency 1 to 2.5 GHz
Octave / Multioctave
- Low Spurious Outputs
- Phase and Amplitude Stability
- Complete TWT Protection
 - Pulse Input Protection
 - Helix Overcurrent
 - Cathode Over/Undervoltage
 - Filament Low Voltage
 - Overtemperature
 - Input Energy Limit
 - Reverse Power Monitor
- Custom Requirements
- Solid State Except for the TWT
- Front Panel Voltage Adjustments
- Front Panel Fault Isolation
- Modular Construction
- DC TWT Filaments
- Four Line Display
 - Operating Mode
 - Cathode Voltage
 - Helix Current
 - Filament and Operate Time
- Front Panel Controls
 - Power On / Off
 - Operate
 - Standby
 - Fault Reset
 - Local / Remote



The Model 174L TWT Amplifier has been designed specifically to operate pulsed traveling wave tubes in the 2 kW peak power range at frequencies of 0.8 to 2.5 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 174L 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.



Detected RF Output

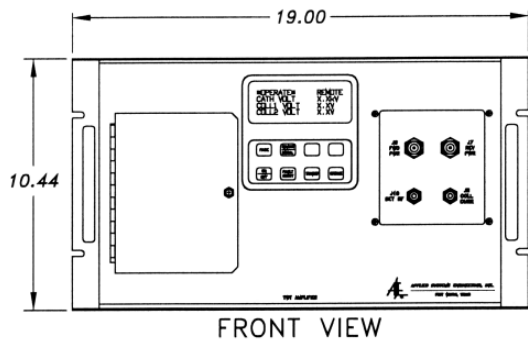


APPLIED SYSTEMS ENGINEERING, INC.

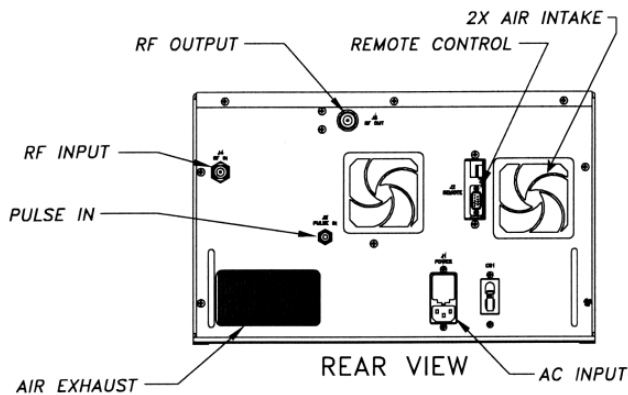
FORT WORTH, TEXAS

Model 174L TWT Amplifier SPECIFICATIONS

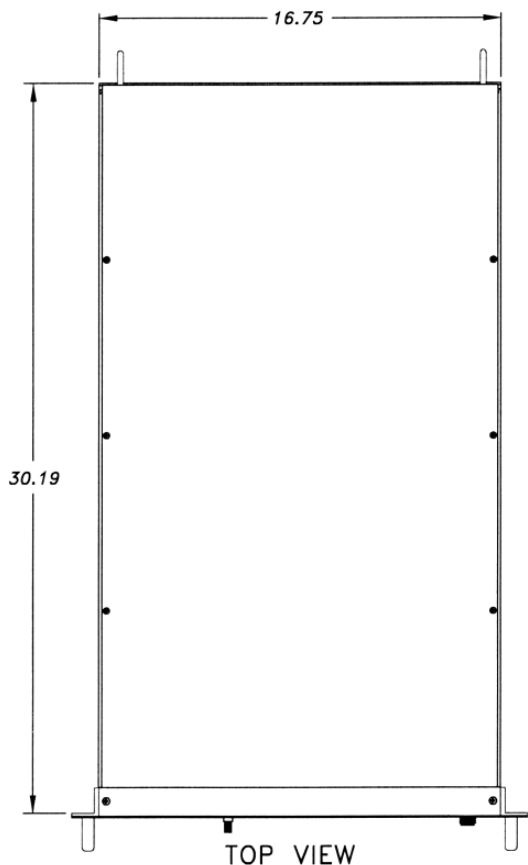
Duty Cycle	4.0%, Maximum
Pulse Width Range	0.05 to 15 us
PRF Range	0 to 200 kHz
RF Rise / Fall Time	15 ns, Maximum
RF Pulse Droop	0.5 dB, Maximum
Delay, Input to RF	200 ns, Maximum
Phase Noise	$< \pm 1^\circ$ pk to pk
Amplitude Variation	0.1 dB, Maximum
Spurious Outputs	-50 dBc, Maximum
Input Pulse	5 Volts into 50 ohms
Noise Figure	35 dB, Nominal
RF Connectors	Precision Type N or Waveguide
Primary Power	120/220/240 VAC $\pm 10\%$, 50/60 Hz
Operating Temperature	0 to 50°C
Weight	115 lbs, Nominal
Dimensions	10.5x19x30.5 (in.)



FRONT VIEW



REAR VIEW



TOP VIEW

Standard Equipment

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

Options

- Driver Amplifier
- Wider Pulse Widths
- 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



APPLIED SYSTEMS ENGINEERING, INC.

PO BOX 122987 FORT WORTH TEXAS 76121
TELEPHONE: (817) 249-4180 FAX: (817) 249-3413

mdl174L_1.wpd
05-18-09