

**Model 20T4G18A,
M1 through M3
20 Watts CW
4.2-18 GHz**

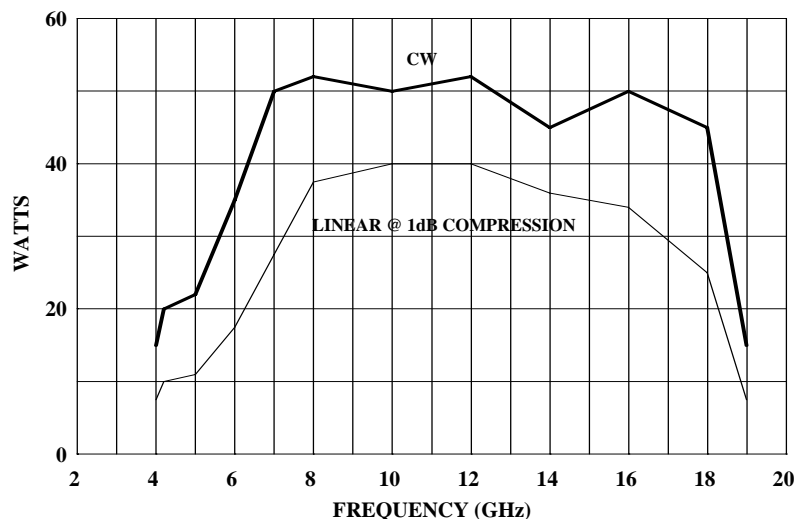
The Model 20T4G18A is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable micro TWT provides a conservative 20 watts minimum at the amplifier output connector. Stated power specifications are at fundamental frequency.

The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0dBm input, VSWR protection, gain control, RF output sample port, auto sleep, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. Modular design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

Housed in a stylish contemporary cabinet this unit is designed for benchtop use but can be removed from the cabinet for rack mounting. The Model 20T4G18A provides readily available RF power for a variety of applications in Test and Measurement, (including EMC RF susceptibility testing), Industrial and University Research and Development, and Service applications.

See Model Configuration for alternative packaging and other special features.

20T4G18A TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 20T4G18A

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal	42 watts
Minimum	20 watts
Linear @ 1dB Compression	10 watts minimum

FLATNESS..... ±9 dB maximum, 4.2 - 18 GHz
 ±5dB maximum, 8.0 - 18 GHz

FREQUENCY RESPONSE 4.2-18 GHz instantaneously

INPUT FOR RATED OUTPUT 1.0 milliwatt maximum

GAIN (at maximum setting) 43 dB minimum

GAIN ADJUSTMENT (continuous range)..... 35 dB minimum

INPUT IMPEDANCE..... 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE..... Output power foldback protection at reflected power exceeding 20 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

MODULATION CAPABILITY..... Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal. AM peak envelope power limited to specified power.

NOISE POWER DENSITY Minus 80 dBm/Hz (maximum)
 Minus 90 dBm/Hz (typical)

HARMONIC DISTORTION (at 20 watts)..... 4.2-4.5GHz; Minus 0dBc maximum, Minus 1dBc typical
 4.5-5GHz; Minus 1dBc maximum, Minus 2dBc typical
 5-7GHz; Minus 2.5dBc maximum, Minus 4dBc typical
 7- 10 GHz; Minus 5dBc maximum, Minus 9dBc typical
 10 - 12 GHz; Minus 8dBc maximum, Minus 12dBc typical
 Above 12 GHz; Minus 20dBc maximum, Minus 30dBc typical

PRIMARY POWER 99-260 VAC
 50/60 Hz single phase,
 600 VAC maximum

CONNECTORS

RF input	Type N precision female on rear panel
RF output	Type N precision female on rear panel
RF output sample port	Type N precision female on rear panel
GPIO	IEEE-488-(f)
Interlock	DB-15 female on rear panel

COOLING..... Forced air (self contained fans), air entry and exit in rear.

WEIGHT (approximate) 32 kg, 70 lbs.

SIZE (W x H x D)..... 50.3 x 16.5 x 68.6 cm, 19.8 x 6.5 x 27 in.,

MODEL CONFIGURATIONS

- E** **Package Alternatives:** May select an alternative from the following [E1C or (E1C and E2S) and/or E3H]:
- E1C** **Cabinet:** Without outer enclosure, size 48.3 x 13.3 (3U) x 68.6 cm, 19.0 x 5.25 (3U) x 27 in. Subtract approximately 9 kg, 20 lbs from weight.
- E2S** **Slides:** slides installed, add approximately 2 kg, 5 lbs.
- E3H** **Handles:** Front handles installed.
- S** **Special Features:** May select a special feature (extra cost) from the following [S1R]:
- S1R** **Reflected** power port: Added Type N precision female connector on rear panel. Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points, evenly spaced over specified frequency response.

MODEL NUMBERS FOR 20T4G18A

Model Number	Features
	E S
20T4G18A	Base model
M1	E1C
M2	E1C & E2S& E3H
M3	E1C S1R

Model number example: Model 20T4G18A M2 would have options E1C, E2S, E3H, no cabinet, slide and front handles installed.