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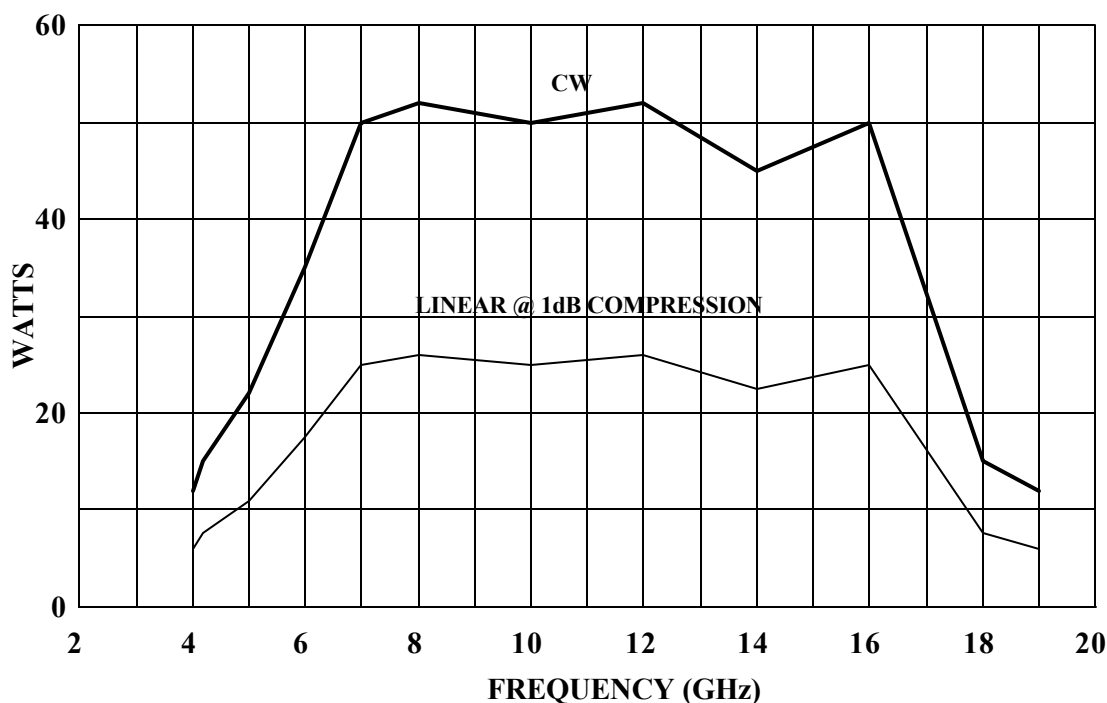
MODEL 15T4G18
M1, M2, M3, M4, M5
15 WATTS CW
4.2 - 18 GHz

The Model 15T4G18 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where low harmonic content is required in sub-band ranges and where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable micro TWT provides a conservative 15 watts minimum at the amplifier output connector, 10 watts in low harmonic modes. Stated power specifications are at the 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, 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.

See Model Configuration for packaging and power specification alternatives.

15T4G18 TYPICAL POWER OUTPUT



SPECIFICATIONS
Model 15T4G18

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal	40 watts
Minimum	15 watts, 10 watts in low harmonic mode
Linear @ 1dB Compression	7 watts minimum
FLATNESS	±9 dB maximum, 4.2 - 18 GHz ±5dB maximum, 8.0 - 18 GHz
FREQUENCY RESPONSE	4.2 - 18 GHz instantaneously or one of three selectable sub-bands in low harmonic mode
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
GAIN (at maximum setting)	41 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 (10 watts in low harmonic mode). 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 (in user selectable sub-band (at 10 watts))	Minus 20dBc maximum, Minus 30dBc typical
HARMONIC DISTORTION (full band at 15 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 VA maximum
CONNECTORS	
RF input	Type N female on rear panel
RF output	Type TNC female on rear panel
RF output sample port	Type N female on rear panel
GPIB	IEEE-488 (f)
Interlock	DB-15 female on rear panel
COOLING	Forced air (self contained fans), air entry and exit in rear.

MODEL CONFIGURATION

MODEL NUMBER	DESCRIPTION	WEIGHT	SIZE (W x H x D)
15T4G18	With removable enclosure	34 kg (75lb)	50.3 x 29.7 x 68.6 cm 19.8 x 6.5 x 27 in
15T4G18M1	Shipped without an outer cabinet	25 kg (55lb)	48.3 x 13.3 x 68.6 cm 19.0 x 5.25 x 27 in
15T4G18M2	Enclosure removed for rack mounting slides and front handles installed	28 kg (60lb)	48.3 x 13.3 x 68.6 cm 19.0 x 5.25 x 27 in
15T4G18M3	With removable enclosure Tube selected for increased minimum power in low harmonic mode at minus 20dBc maximum harmonic distortion: 20 watts, 4.2 – 6 GHz 17 watts, 6 – 8 GHz 13 watts, 8-10 GHz Above 10 GHz no minimum power is specified	34 kg (75lb)	50.3 x 29.7 x 68.6 cm 19.8 x 6.5 x 27 in
15T4G18M4	Shipped without an outer cabinet Tube selected for increased minimum power in low harmonic mode at minus 20dBc maximum harmonic distortion: 20 watts, 4.2 – 6 GHz 17 watts, 6 – 8 GHz 13 watts, 8 – 10 GHz Above 10 GHz no minimum power is specified	25 kg (55lb)	48.3 x 13.3 x 68.6 cm 19.0 x 5.25 x 27 in
15T4G18M5	Enclosure removed for rack mounting slides and front handles installed Tube selected for increased minimum power in low harmonic mode at minus 20dBc maximum harmonic distortion: 20 watts, 4.2 – 6 GHz 17 watts, 6 – 8 GHz 13 watts, 8 –10 GHz Above 10 GHz no minimum power is specified	28 kg (60lb)	48.3 x 13.3 x 68.6 cm 19.0 x 5.25 x 27 in

