Model 3000TP12G18
M1 through M6
3000 Watt Pulse Amplifier
12GHz–18GHz

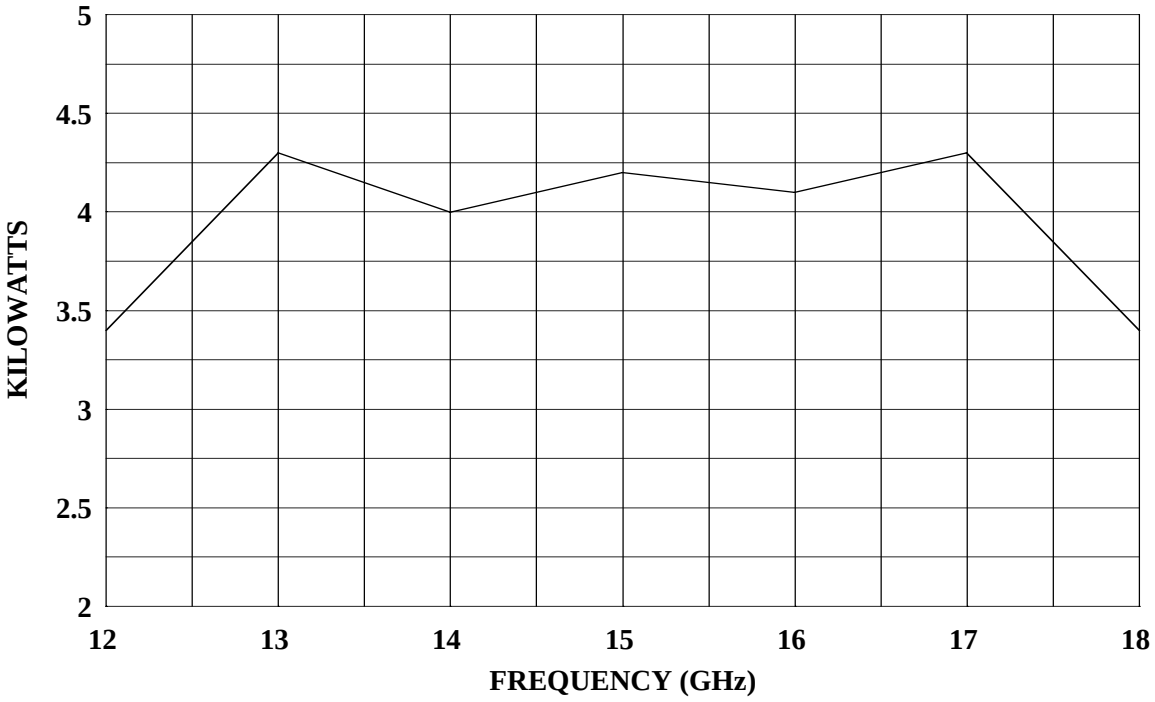
The Model 3000TP12G18 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for pulse applications at low to moderate duty factors where instantaneous bandwidth and high gain are required. A reliable TWT provides a conservative 3000 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.

The amplifier's front panel digital display shows forward and reflected average power output or forward and reflected peak power, 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 average or peak reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0dBm input, TTL Gating, 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 switching mode power supplies results in significant weight reduction.

Housed in a stylish contemporary cabinet, the amplifier provides readily available pulsed RF power for a variety of applications in Test and Measurement, (including EMC RF pulse susceptibility testing), Industrial and University Research and Development, and Service applications. AR also offers a broad range of amplifiers for CW (Continuous Wave) applications.

See Model Configurations for alternative prime power, packaging, and special features.

Model 3000TP12G18 Typical Peak Pulse Power Output



SPECIFICATIONS, MODEL 3000TP12G18

POWER (Fundamental), Peak Pulse, @ Output
- Nominal ..... 3800 watts
- Minimum ..... 3000 watts

FLATNESS ..... ±10 dB maximum

FREQUENCY RESPONSE ..... 12–18 GHz

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

GAIN (at maximum setting) ..... 65 dB minimum

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

INPUT IMPEDANCE ..... 50 ohms, VSWR 2.5:1 maximum

OUTPUT IMPEDANCE ..... 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE ..... Output pulse width foldback protection at peak reflected power exceeding 1500 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.

PULSE CAPABILITY
- Pulse Width ..... 0.07–50 microseconds.
- Pulse Rate (PRF) ..... 100 kHz maximum
- Duty Cycle ..... 4% maximum.
- RF Rise and Fall ..... 30 ns max (10% to 90%).
- Delay ..... 300 ns maximum from pulse input to RF 90%
- Pulse Width Distortion ..... ±30 ns maximum (50% points of output pulse width compared to 50% points of input pulse width)
- Pulse Off Isolation ..... 80 dB minimum, 90 dB typical
- Pulse Input ..... TTL level, 50 ohm nominal termination

NOISE POWER DENSITY
- (pulse on) ..... Minus 55 dBm/Hz (maximum); Minus 65 dBm/Hz (typical)
- (pulse off) ..... Minus 140 dBm/Hz (typical)

HARMONIC DISTORTION ..... Minus 8 dBc maximum

PRIMARY POWER ..... 190-260 VAC single phase 50/60 Hz 2.0 KVA maximum

CONNECTORS
- RF input ..... Type N female on rear panel
- RF output ..... Type WR62 waveguide flange on rear panel
- RF output forward sample port ..... Type N female on rear panel
- Pulse input ..... Type BNC female on rear panel
- GPIB ..... IEEE-488 female on rear panel
- Interlock ..... DB-15 female on rear panel

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

SIZE ..... 50.3 x 26 x 69cm (19.8 x 10 x 27in)

WEIGHT ..... 52 kg (115 lbs)

Model Configurations and Features - Model 3000TP12G18

E **Package Alternatives.** May select an alternative from the following [E1C or (E1C and E2S) and/or E3H]:

E1C **Cabinet:** Without outer enclosure for rack mounting, size (W x H x D) 49 x 22 (5U) x 74 cm, 19 x 8.75 (5U) x 29 in., Subtract approximately 11 kg, 25 lbs, for removal of outer enclosure.

E2S **Slides:** slides installed, add approximately 2 kg, 5 lbs.

E3H **Handles:** Front pull handles installed.

S **Special Features:** May select a special feature (extra cost) from the following [S1R]:

S1R Reflected power sample port, type N 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 Number	Features	
	E	S
3000TP12G18	Base model	–
M1	E1C	–
M2	E3H	–
M3	E1C & E3H	–
M4	E1C & E2S	–
M5	E1C & E2S & E3H	–
M6	–	S1R

Model number example: Model 3000TP12G18M2 would have option E3H front pull handles installed.