

**Model 50ST1G18,
M1 through M5
50 Watts CW
0.8-18 GHz**

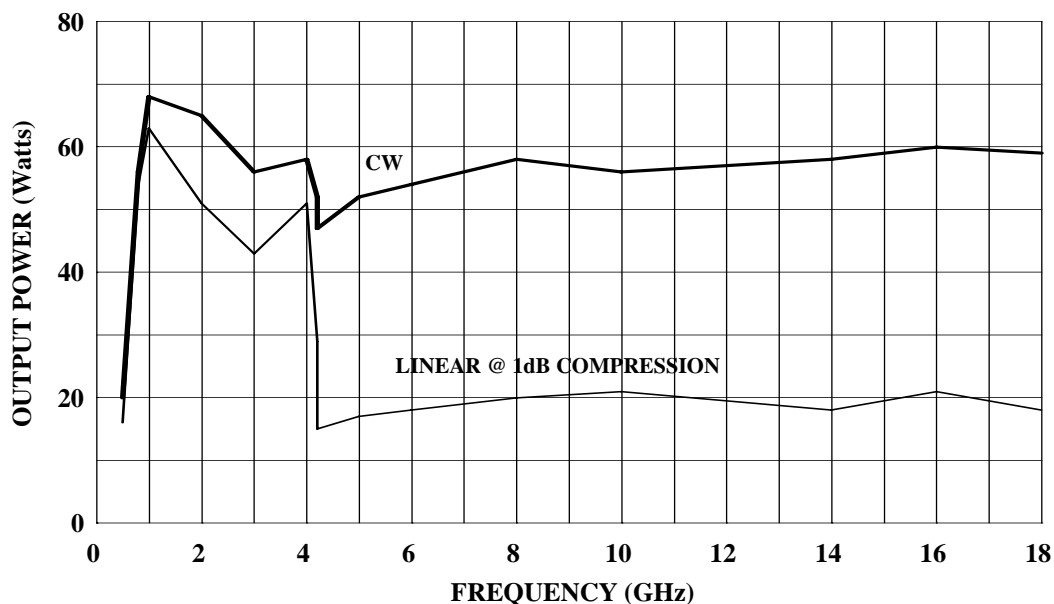
The Model 50ST1G18 is a self contained, forced air cooled, broadband hybrid solid state and traveling wave tube (TWT) microwave amplifier designed for applications where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable amplifier system provides a conservative 45 watts minimum at the amplifier output connector. 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, gain control, RF output sample port, VSWR protection for the TWT only, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. The appropriate sub-band is user selected from either the front panel menu or the GPIB interface. Modular design of the power supply and RF components allow for easy access and repair. Use of switching mode power supplies result 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 50ST1G18 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 Configurations for package alternatives.

Model 50ST1G18 Typical Performance



SPECIFICATIONS, Model 50ST1G18

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal	50 watts
Minimum	50 watts from 0.8 to 4.2 GHz, 45 watts from 4.2 to 6.0 GHz, 50 watts from 6.0 to 18 GHz
Linear @ 1dB Compression	10 watts minimum
FLATNESS	±3 dB maximum 0.8 – 4.2 GHz ±10 dB maximum, 4.2 - 18 GHz
FREQUENCY RESPONSE	0.8 -18 GHz in one of two selectable sub-bands, 0.8 - 4.2 GHz and 4.2 - 18 GHz
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
GAIN (at maximum setting)	47 dB minimum
GAIN ADJUSTMENT (continuous range)	10 dB minimum (0.8 – 4.2 GHz) 35 dB minimum (4.2 – 18 GHz)
INPUT IMPEDANCE	50 ohms, VSWR 2.0:1 maximum
OUTPUT IMPEDANCE	50 ohms, VSWR 2.5:1 typical
MISMATCH TOLERANCE	100% of rated power without foldback from 0.8 – 4.2 GHz. Output power foldback protection above 4.2 GHz 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 (from 4.2 – 18 GHz)	Minus 80 dBm/Hz (maximum) Minus 90 dBm/Hz (typical)
HARMONIC DISTORTION (at 50 watts)	0.8–4.2 GHz, Minus 20 dBc maximum, Minus 30 dBc typical 4.2-4.5 GHz; Plus 2.5 dBc maximum, Minus 0 dBc typical 4.5-6 GHz; Plus 0.5 dBc maximum, Minus 1 dBc typical 6-8 GHz; Minus 4 dBc maximum, Minus 6 dBc typical 8-10 GHz; Minus 6 dBc maximum, Minus 9 dBc typical Above 10 GHz; Minus 10 dBc maximum, Minus 15 dBc typical
PRIMARY POWER	99-260 VAC 50/60 Hz single phase 1400 VA 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
GPIB	IEEE-488 female
Interlock	DB-15 female on rear panel
COOLING	Forced air (self contained fans), air entry and exit in rear.
SIZE (W x H x D)	19.8 x 19 x 29 in, 50.3 x 48 x 74 cm
WEIGHT (approximate)	175 lbs, 80 kg

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 49 x 45 (10U) x 74 cm, 19 x 17.5 (10U) x 29 in., Subtract approximately 16 kg, 35 lbs, for removal of outer enclosure.
E2S	Slides: slides installed, add approximately 5 lbs, 2 kg.
E3H	Handles: Front handles installed.

MODEL NUMBERS FOR 50ST1G18

Model Number	Features
E	
50ST1G18	Base model
M1	E1C
M2	E3H
M3	E1C & E3H
M4	E1C & E2S
M5	E1C & E2S & E3H

Model number example: Model 50ST1G18M2 would have option E3H front handles installed.