

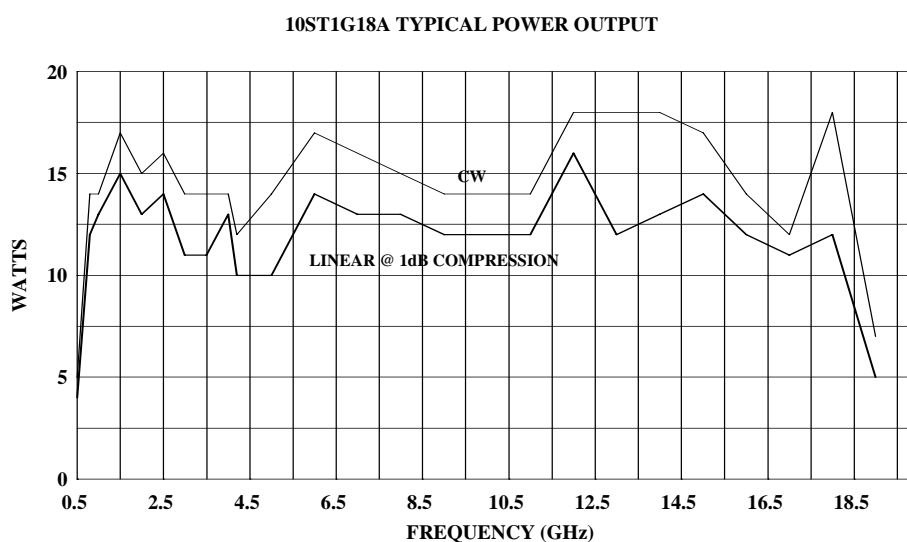
**Model 10ST1G18A,
M1, M2
10 Watts CW
0.8-18 GHz**

The Model 10ST1G18A is a self contained, forced air cooled, broadband hybrid solid state and traveling wave tube (TWT) microwave amplifier designed for applications where low harmonic content is required in sub-band ranges and where high gain and moderate power output are required. A reliable amplifier system provides a conservative 10 watts minimum at the amplifier output connector with low harmonics. 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 supplies 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 this unit is designed for bench top use but can be removed from the cabinet for rack mounting. The Model 10ST1G18A 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 package alternatives.



SPECIFICATIONS

Model 10ST1G18A

POWER (fundamental), CW, @ OUTPUT CONNECTOR

| | |
|--------------------------------|--------------------------------|
| Nominal | 15 watts |
| Minimum | 10 watts |
| Linear @ 1dB Compression | 8 watts minimum, 0.8 – 4.2 GHz |
| | 5 watts minimum, 4.2 – 18 GHz |

| | |
|---------------|------------------------------|
| FLATNESS..... | ±3 dB maximum, 0.8 – 4.2 GHz |
| | ±9 dB maximum, 4.2 – 18 GHz |

FREQUENCY RESPONSE0.8 - 18 GHz in one of four selectable sub-bands

INPUT FOR RATED OUTPUT 1.0 milliwatt maximum

GAIN (at maximum setting)40 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 2.5:1 maximum

OUTPUT IMPEDANCE50 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 10 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 (in user selectable sub-band (at 10 watts)
Minus 20dBc maximum,
Minus 30dBc typical

PRIMARY POWER99-260 VAC
50/60 Hz single phase
700 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 |
| GPIO | IEEE-488 female |
| Interlock | DB-15 female on rear panel |

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

MODEL CONFIGURATION

- E Must select one enclosure type from the following
[E1 or E2 or E2S]:
- E1 Removable outer enclosure, size 19.8 x 11.7 x 27 in., 50.3 x 29.7 x 68.6 cm. Add approximately 30 lb, 14 kg to weight of E2.
- E2 Without outer enclosure size 19.0 x 10.5 x 27 in., 48.3 x 26.7 x 68.6 cm. Weight approximately 90 lbs., 41 kg.
- E2S Enclosure removed for rack mounting: slides and front handles installed, size same as E2. Add approximately 5 lbs, 2 kg to weight of E2.

| MODEL | FEATURE |
|-------------|---------|
| 10ST1G18A | E1 |
| 10ST1G18AM1 | E2 |
| 10ST1G18AM2 | E2S |