

**Model 70T40G45,
M1 through M11
70 Watts CW
40 GHz–45 GHz**

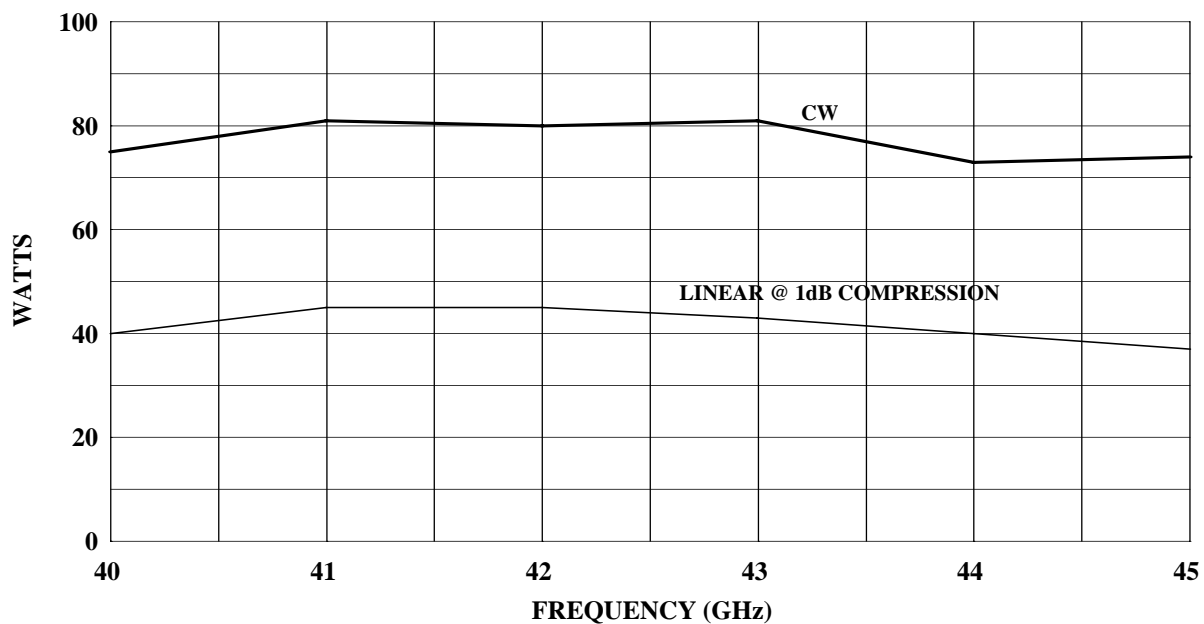
The Model 70T40G45 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable TWT subsystem provides a conservative 70 watts minimum at the amplifier 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, VSWR protection, gain control, forward and reflected 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, the unit is designed for benchtop use but can be removed from the cabinet for rack mounting. The Model 70T40G45 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. This sub-octave amplifier features moderate harmonic content.

See Model Configurations for package alternatives and special features.

70T40G45 TYPICAL POWER OUTPUT



SPECIFICATIONS, 70T40G45

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal 85 watts
 Minimum 70 watts
 Linear @ 1 dB Compression 17 watts minimum

FLATNESS ± 5 dB maximum

FREQUENCY RESPONSE 40 - 45 GHz instantaneously

INPUT FOR RATED OUTPUT 1.0 milliwatt maximum

GAIN (at maximum setting) 48 dB minimum

GAIN ADJUSTMENT (continuous range) 35 dB minimum

INPUT IMPEDANCE 50 ohms, VSWR 2.0:1 typical

OUTPUT IMPEDANCE 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE Output isolator used to offer excellent mismatch tolerance up to reflected power of 70 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 70 dBm/Hz (maximum)
 Minus 75 dBm/Hz (typical)

HARMONIC DISTORTION Minus 20 dBc typical

PRIMARY POWER 190-260 VAC
 50/60 Hz single phase
 1.0 kVA maximum

CONNECTORS

RF input Type 2.4 mm female on rear panel
 RF output Type WR-22 waveguide flange on rear panel
 RF output sample ports Type 2.4 mm female on rear panel
 GPIB IEEE-488 on rear panel
 Interlock DB-15 female on rear panel

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

WEIGHT (approximate) 41 kg, 120 lbs

SIZE (W x H x D) 50.3 x 25.4 x 68.6 cm, 19.8 x 10 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 22.3 (5U) x 68.6 cm, 19 x 8.75 (5U) x 27 in. Subtract approximately 14 kg, 30 lbs, for removal of outer enclosure.

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

E3H Handles: Front handles installed.

S Special feature: May select a special feature from the following [S1F]

S1F Front panel connectors: Input, forward and reflected power sample ports connectors on front panel, not on rear panel.

MODEL NUMBERS FOR 70T40G45

Model Number	Features		Model Number	Features	
	E	S		E	S
70T40G45	Base model		M6	-	S1F
M1	E1C		M7	E1C	S1F
M2	E3H		M8	E3H	S1F
M3	E1C & E3H		M9	E1C & E3H	S1F
M4	E1C & E2S		M10	E1C & E2S	S1F
M5	E1C & E2S & E3H		M11	E1C & E2S & E3H	S1F

Model number example: Model 70T40G45M2 would have option E3H front handles installed.