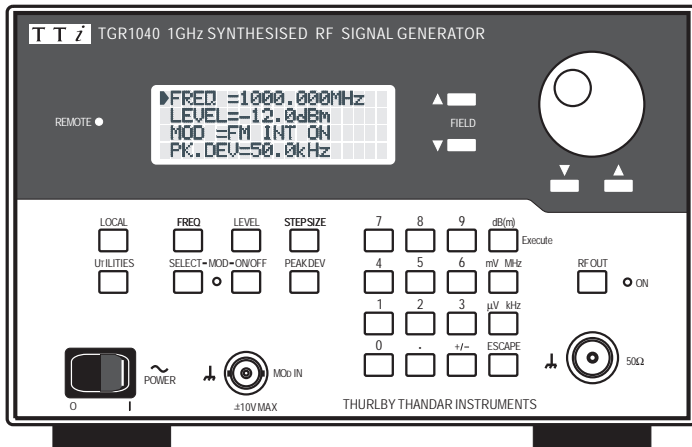


TGR1040 low-cost 1GHz synthesised RF signal generator



- 10MHz to 1000MHz frequency range
- 1kHz setability at any frequency
- ± 2 ppm accuracy over 5°C to 40°C
- -127dBm to +7dBm amplitude range
- Amplitude control in 0.1dB steps
- FM modulation, internal or external
- 80 character back-lit LCD display
- Keyboard and rotary encoder control
- Non-volatile storage for 9 user set-ups
- Full remote control via RS-232 or GPIB
- Outstanding price/performance ratio

Overview

The TGR1040 is a low cost, synthesised RF signal generator which incorporates the essential features required for most development, test and service work - frequency accuracy and stability, wide dynamic range, low phase noise and low leakage.

The generator incorporates both internal and external FM. It is suitable for FM radio receiver sensitivity measurements, system gain measurements, receiver tuning & alignment, oscillator substitutions, EMC/antenna/field strength measurements and as a signal source for many other RF circuit and system development tasks.

The instrument can be operated manually via the front panel or can be remotely controlled via the RS-232 interface (standard) or GPIB interface (optional). Nine memories are provided for user set-ups.

In addition the generator's low cost, it's ease of use and remote control capabilities make it eminently suitable for most production and development applications where a basic, stable signal source is required.

Note: This is a faxable data sheet, a colour brochure is also available.

SPECIFICATIONS

Specifications apply after 30 minute warm-up, ambient 5°C to 40°C

FREQUENCY

Frequency Range: 10MHz to 1000MHz
 Setting Resolution: 1kHz by direct keyboard entry, or in user-set increments of 1kHz to 999.999MHz by rotary control or increment-decrement keys.

Display Resolution: 1kHz
 Accuracy: ± 2 ppm over temperature range 5°C to 40°C.
 Stability: <1ppm/year ageing.
 Phase Noise: -110dBc/Hz at 25kHz offset, 500MHz carrier.
 Residual FM: Equivalent peak deviation for 300Hz to 3.4kHz (FM Off)
 B/W: 8Hz at 100MHz carrier
 17Hz at 500MHz carrier
 62Hz at 1000MHz carrier

OUTPUT LEVEL

Output Level Range: -127dBm to +7dBm (0.1 μ V to 500mV into 50 Ω).
 Setting Resolution: 0.1dB (or 0.01 μ V to 1mV) by direct keyboard entry, or in user-set increments of 0.1dB to 100dB (or 0.01 μ V to 100mV) by rotary control or increment-decrement keys.

Accuracy: Better than ± 2 dBm, except for output levels <-70dBm at 500-1000 MHz, ± 3 dBm.
 Harmonics: Typically <-25dBc, maximum -20dBc, any carrier frequency, output level <0dBm.

Non-Harmonic Spuri: ≤ -60 dBc at ≥ 8 kHz offset.
 Carrier Leakage: <0.5 μ V generated into a 50 Ω load by a 2 turn 25mm loop, at 25mm from the generator with output set to <-10dBm into a 50 Ω sealed load.

Output Impedance: 50 Ω
 Output Connector: TYPE N
 Reverse Protection: 50V DC
 Output Switch: RF OUT on-off switch with LED for ON status.

FM MODULATION

Peak Deviation: 0.5kHz to 100kHz.
 Setting Resolution: 0.5kHz by direct keyboard entry, rotary control or increment-decrement keys.

Modulation Frequency: Internal 1kHz; External 300Hz to 50kHz
 Deviation Accuracy: $\leq \pm 10\%$ of setting ± 0.5 kHz, excl. residual FM, for 1kHz modulation, internal or 1Vrms external.

External Modulation Frequency Response: ± 1 dB from 30Hz to 50kHz relative to 1kHz.
 Distortion: <2% total harmonic distortion at 1kHz mod. frequency, 100kHz deviation and 500MHz carrier.

Input Impedance: 100k Ω
 Input Connector: BNC

INTERFACES

Full remote control facilities are available through the RS232 (standard) or optional GPIB interfaces.

RS232: Variable Baud rate, 19200 Baud maximum, 9-pin D-connector. Compatible with Thurlby Thandar ARC (Addressable RS232 Chain).
 Conforming with IEEE488-1 and IEEE488-2.

IEEE-488:

GENERAL

Display: 20 character x 4 row backlit alphanumeric LCD
 Data Entry: Keyboard selection of frequency, amplitude, etc.; value entry by numeric keys or by rotary control.
 Stored Settings: Up to 9 complete instrument set-ups may be stored in battery-backed memory.

Size: 3U (130mm) height; half-rack (212mm) width; 330mm long.
 Weight: 4.6 kg. (10 lb)
 Power: 230V, 115V or 100V nominal 50/60Hz, adjustable internally; operating range $\pm 14\%$ of nominal; 30VA max. Installation Category II.
 Options: IEEE-488 interface; 19 inch rack mounting kit.

ENVIRONMENTAL & SAFETY

Operating Range: +5°C to 40°C, 20-80% RH.
 Storage Range: -20°C to +60°C.
 Environmental: Indoor use < 2000m, Pollution Degree 1.
 Safety: Complies with EN61010-1.
 EMC: Complies with EN55011 and EN50082-1.

Thurlby Thandar Instruments Ltd. operates a policy of continuous development and reserves the right to alter specifications without prior notice.

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Designed and built in the EEC by:



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