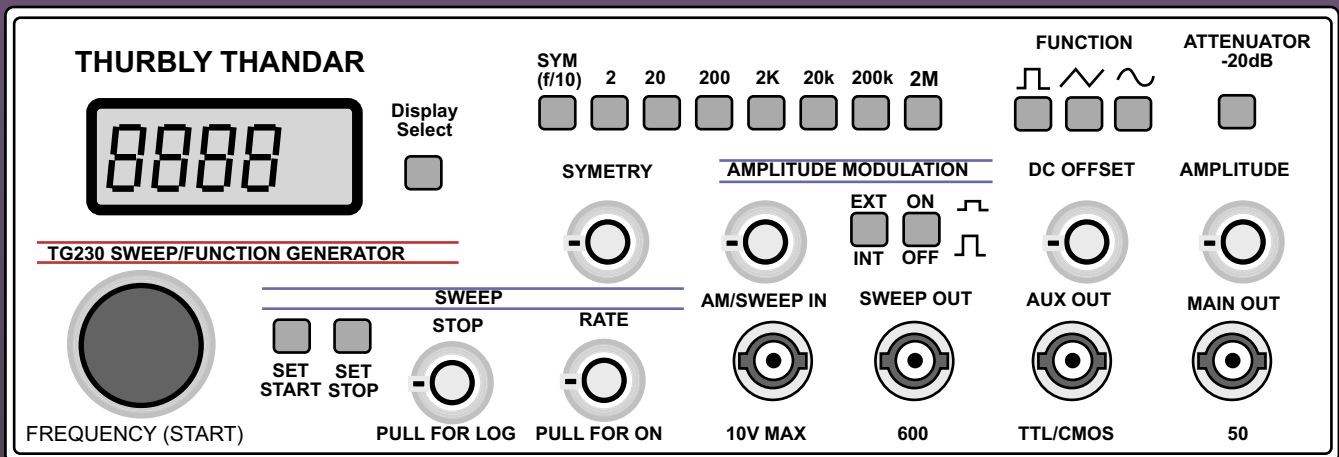


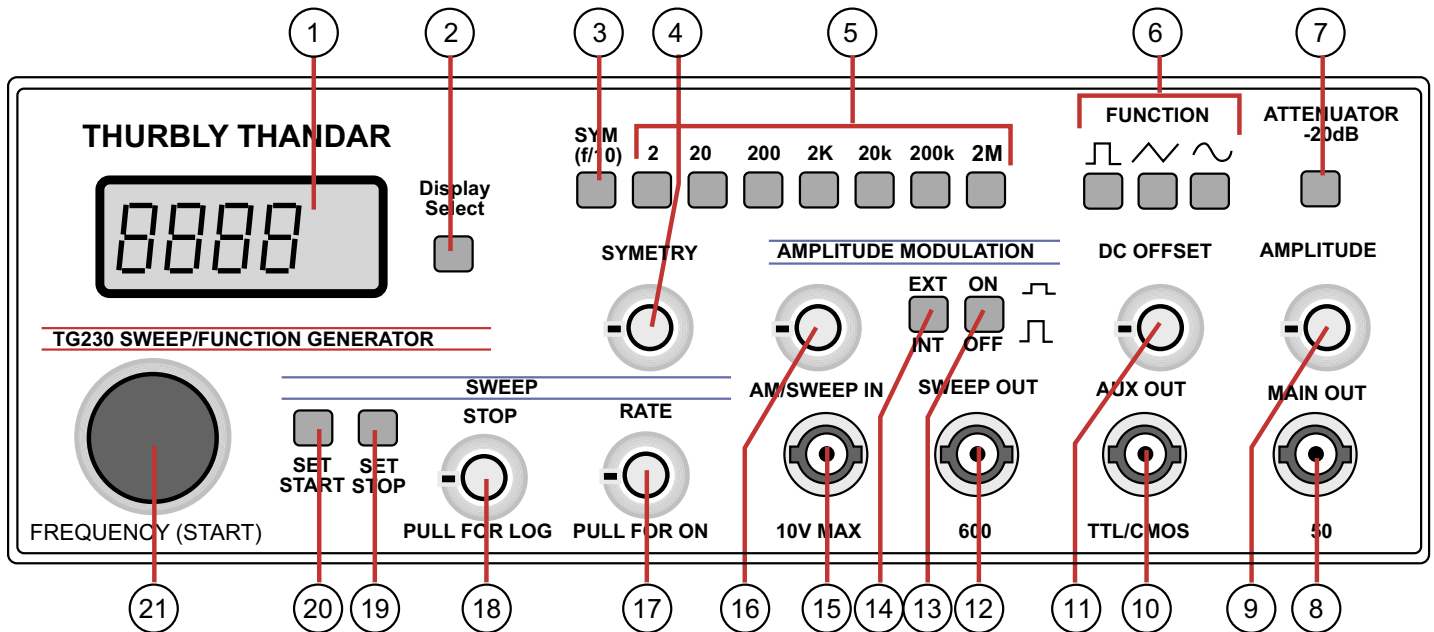
Self Help Guides



TG230 Function Generator

Produced by John Wilmot

TG230 2MHZ SWEEP/FUNCTION GENERATOR



CONTROLS

(2) DISPLAY SELECT

Switches between frequency, output voltage and DC offset shown by kHz, Vp-p and DC respectively on the display (1).

(3) SYM (F/10)

When pushed in allows the symmetry/duty cycle of the output to be set. This divides the frequency by a function of 10.

(4) SYMETRY

Adjusts the symmetry/dutycycle of the output.

(5) FREQUENCY RANGE

The 7 push buttons select the range in decade steps between 2 Hz and 2MHz.

(6) FUNCTION

Selects sinusoidal, square and triangle output waveforms.

(7) ATTENUATOR

When pushed in attenuates the output by 20dB

(8) MAIN OUT

The main output of the function generator.

(9) AMPLITUDE

Adjust the amplitude of the output on Main Out.

(10) AUX OUT TTL/CMOS

Provides a square wave output regardless of the waveform set by the function switch. The level is 5V and suitable for driving TTL and CMOS logic.

(11) DC OFFSET

Adds a DC offset to the output signal.

(12) SWEEP OUT

Output voltage corresponding to the sweep voltage. This output only appears when the rate control is pulled out.

(13) ON/OFF

Turns the AM on and off.

(14) EXT/INT

Selects either internal or external source.

(15) AM/SWEEP IN

This is the input for the signal which will be used to modulate the output or used to sweep the frequency.

(16) MAX

Adjusts the amplitude of the modulation or sweep.

(17) RATE

Sets the frequency of the sweep. The sweep function is only operative when the rate switch is pulled out.

(18) STOP

Used in conjunction with the Set Start(19) and Set Stop (20) buttons.

(19) SET STOP

Holding in the button allows the stop frequency to be set, as shown on the LCD display.

For logarithmic sweep, pull out the knob.

(20) SET START

Holding in the button allows the starting frequency to be set, as shown on the LCD display.

FREQUENCY COVERAGE & FREQUENCY ACCURACY

<0.02Hz to 2MHz in 7 decade switched ranges with variable control calibrated from 0.2 to 2.0 accuracy.

±5% of full scale. TG303 has a frequency counter.

VOLTAGE CONTROLLED FREQUENCY (EXTERNAL SWEEP)

Frequency is variable to top limit on each range over >1000:1 ratio (>100:1 on lowest range) by applying 10V p-p to VCF input. Input impedance 12k.

Max. input 60V rms. Max. slew rate 0.2V/us.

MAIN OUTPUT WAVEFORMS

Sine, square, triangle, pulse and ramp with duty ratio variable 1:15/15:1 by adjustment of the

variable DUTY control and the INVERT switch.

MAIN OUTPUT AMPLITUDE

<20mV/20V p-p from 50ohm ±1% source. <10mV/10V across 50ohm load. Adjusted by variable control and switched attenuator. The attenuator reduces both the signal and DC offset by -26dB +0.2dB.

The output is protected against continuous short circuit. Rise time is <150ns on square wave.

DC OFFSET Variable up to ±10V source superimposed on the main output with DC offset plus signal peaks limited to ±10V (±5V into 50ohm).

TTL OUTPUT (or SYNC for Oscilloscope)

Fixed amplitude square wave or pulse capable of driving up to 20 TTL loads (i.e. to sink 32mA at <0.4V, source 0.8mA at >2.4V). Rise time <30ns.

CMOS OUTPUT (TG303 only)

A pulse of variable amplitude from 5V to 10V can be switch selected in place of the TTL output.

FREQUENCY STABILITY

<±0.02% change at 10kHz for ±10 on 240V supply.

SINE WAVE AMPLITUDE VARIATION

<±0.1dB variation with frequency change from 0.2Hz to 200kHz and <to. ±0.5dB above 200kHz.

SINE WAVE DISTORTION

<1% 0.2Hz to 200kHz. Harmonics <4% above 200kHz.

FREQUENCY COUNTER (TG303 only)

Measures 0.1Hz to 10MHz. Accurate to.002% ±1 count.

6 digit 0.3" LED display. 20mV/200mV sensitivity and INT/EXT switches. Resolution 0.1/1/10/100Hz.

Input impedance 1M. Maximum input 150V rms.

TEMPERATURE

The above specification applies over 18°C/28°C but only minor divergencies occur over 5°C/40°C.

TEST LEADS SUPPLIED

Two LEVELL type TL4 8NC to croc. clips, 1m long.

POWER SUPPLY

110V, 220V or 240V ±10% set internally. 50/60Hz.

Power requirement 10VA. Fuse fitted internally.

SIZE & WEIGHT

85mm high x 235mm wide x 280mm deep. 2.0kg.

2.1 AC VOLTAGE SELECTION & FUSE REPLACEMENT

These instruments operate on line voltages of 110V, 220V, or 240V AC SO/60Hz. Instruments are wired for 240V unless order specifies otherwise.