INSTRUCTION MANUAL

MODEL 72-505

AUDIO GENERATOR

858 E. CONGRESS PARK DR.
CENTERVILLE, OHIO 45459

TENMA®

The RC Oscillators is completely portable, low distortion sine-wave signal, 46 step of selected frequency for use by technicians, serviceman, students, and hobbyists who required an instrument that is accurate, reliable, and always ready for use. It is powered by a standard 9V transistor radio type battery, providing 50 operating hours, depending upon the type of battery and usage. It has rugged structure design, good feeling held in operatior's hand and convenient use:

1. Features

* Wide frequency range, 20Hz to 150kHz, with flat output response.
* Low distortion sine-wave output.
* Clean-Cut square wave for transient response testing.
* Synchronization output for scope or frequency counter or output low distortion sine-wave signal than output terminals.
* 46 step of selected frequency.

The oscillator method used in the instrument is a "Second-order differential equation" oscillator and supplementary circuit for amplitude control which providos a low distortion sine-wave signal and flatness response from all frequency range. It addition the low battery indication. If low battery is indicated, operator should replace the used battery with a new one.

2. Specifications

The following specifications assume a 1-year calibration cycle and an operating temperature of 10°C to 30°C (50°F to 86°F) at relative humidity up to 80% unless otherwise noted.

2.1 General

Frequency Range: x 1 range 20Hz to 1.5kHz
x100 range 2kHz to 150kHz
with 23 step of selected frequency both.

Accurary: 20Hz to 100kHz (±3% or less)
100kHz to 150 kHz (±5% or less)

Output Control: 0dB, −20dB, and fine adjuster.

Output Impedance: 600Ω ±10%

2.2 Sine Wave Characteristics

Output Voltage: 1.2V rms maximum (no load).

Output Flatness: 20Hz to 150kHz ± 0.5dB (reference frequency 1kHz).

Distortion: 200Hz to 15kHz 0.05% (THD) or less.
50Hz to 30kHz 0.1% (THD) or less.
20Hz to 100kHz 0.3% (THD) or less.

2.3 Square Wave Characteristics

Output Voltage: 8Vp-p maximum (when on load).

Rise & Fall Time: less than 0.5μs.

Sag: less than 5% at 20Hz.

Over Shoot: less than 2% at maximum output.

Duty Ratio: 50% ±5%

2.4 Synchronization Characteristics

Output Voltage: 1.2V rms (When no load).

Output Impedance: 1KΩ±5%

About other specifications which same of sine wave.

2.5 General Information

Operating Temperature: 0°C to +50°C; specification apply from 10°C to 30°C.

Storage Temperature: −20°C to +60°C, battery removed.

Power Requirements: 9V battery, NEDA 1604.

Battery Life: Up to 50 hours typical with Alkaline. Up to 30 hours typical with Zinc carbon.

Battery Indicator: LED lamp indicates when approximately 20% of battery life remains.

Dimensions: 15cm L x 8.2cm W x 2.1cm H, (6"L x 3.3"W x 0.9" H) approx.

Weight: 7 ounces (200 grams) including battery.

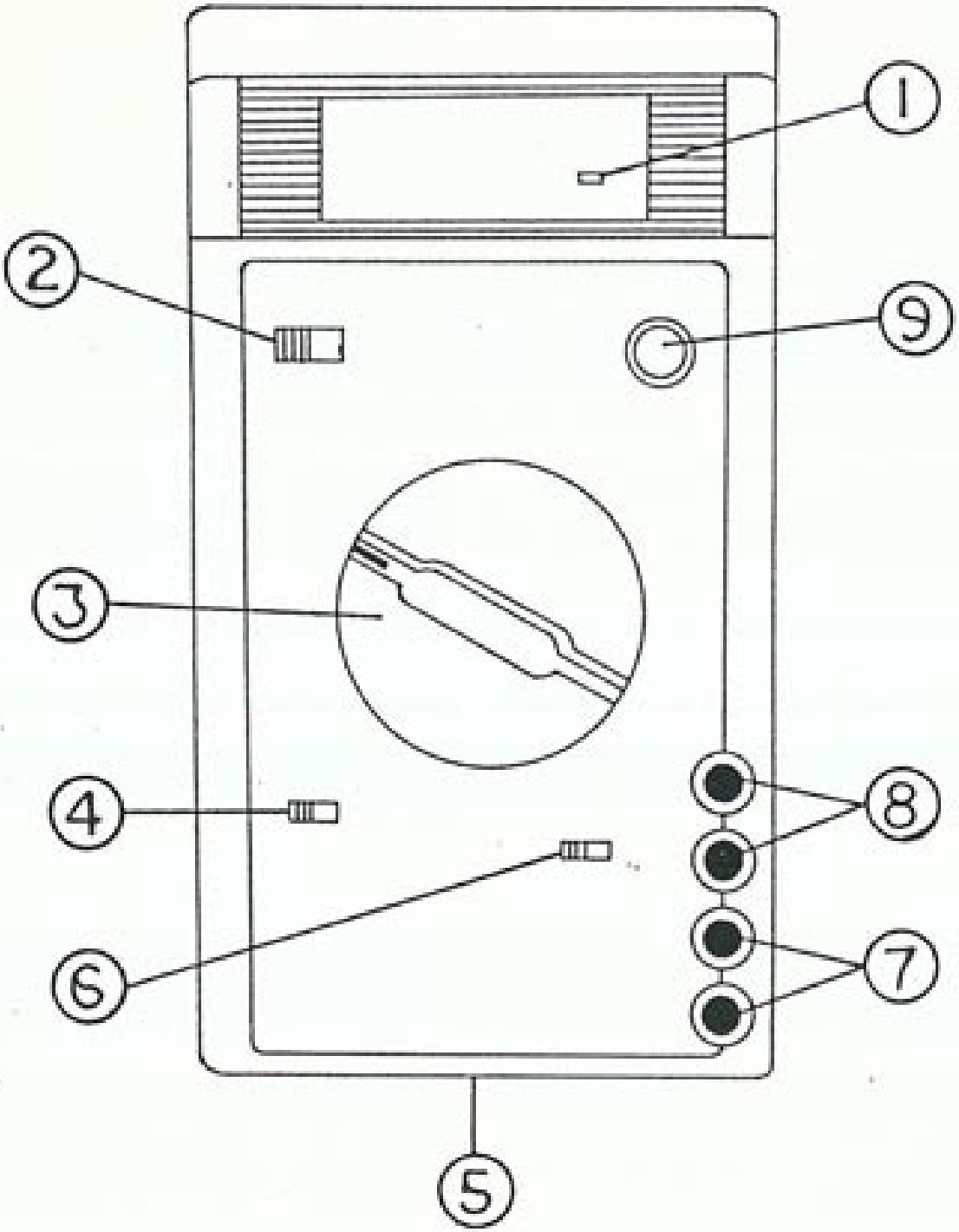
2.6 Accessories

User's manual

Test leads

9V battery — Zinc-carbon battery

3. Operation And Recalibration



1. LO BAT: LED lamp lights indicator low battery.
2. FREQ. RANGE: A slide switch used to set the range multiplier for dial markings.
3. FREQUENCY: A rotary switch set the desired frequency with in the range of the FREQ. RANGE slide switch.
4. WAVEFORM: A slide swith used to selects the type of output signals, sine wave and square wave.
5. BATTERY COVER : Cover for the 9V battery. The cover is removed by pushing it away from the case screw.
6. ATTEN: A slide switch used to set the output in 20dB steps.
7. OUT: Output terminals; black at down is the low potential side of the output; red is the high potential side of the output.
8. SYNC: Synchronization output terminals; control of external equipment.
9. AMPLITUDE: For fine adjustment of the output between the 20dB steps.