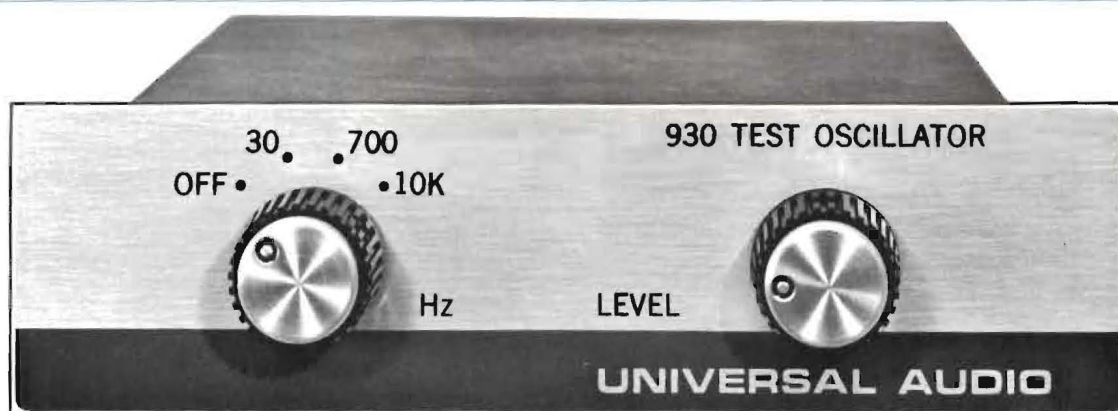


Universal Audio Test Oscillator

MODEL
930



The Universal Audio 930 F.E.T. Amplitude Stabilized Test Oscillator is an ultra-compact source of low distortion sine wave test signals, designed especially for use in recording, broadcasting and motion picture sound facilities. Three frequencies are provided for setting program levels and verifying frequency response of circuits and recorders. The lowest frequency (30 Hz) is also useful in recording consoles for insertion under vocal identifications of magnetic tape and film tracks to permit easy location during high speed rewinding. Among many other applications are: setting levels and checking response of transmission lines from remote broadcast sources; signal source for harmonic distortion analysis of audio amplifiers.

The three frequencies of 30 Hz, 700 Hz and 10 kHz were chosen for the standard model because they are ideal for quick-checking frequency response of recorders and provide adequate verification of the audio spectrum in most applications. However, any other three audio frequencies from 20 Hz to 15 kHz can be substituted on special order, at slight additional cost.

In operation, the rotary switch selects the frequency and also serves to turn the power "off." A bridged-T attenuator permits adjusting the output from -60 dBm to 0 dBm into 600 ohms (unbalanced). Distortion is less than 1% at all frequencies (typically 0.5%). Unique stabilization of the Wien bridge circuitry insures amplitude variation of less than 0.25 dB between frequencies, and permits wide variation of power supply voltage with no change in output. The 930 will function satisfactorily through an ambient temperature range of from well below freezing to over 140° F.

The compact 930 may be operated manually (hand held) with its own self-contained long life batteries (inexpensive Eveready 228 or equivalent) or from an external 20 to 30 vdc source. Current consumption is only 8 mA. It is ideal for inclusion in audio consoles as a source of test tones and "slating" tone, as well as for portable use in trouble-shooting and level checks.

For console installation, the 1/8" front panel may be removed, and the oscillator mounted behind the panel by means of two control shaft bushings, requiring only the drilling of two 3/8" clearance holes. The brushed aluminum escutcheon is adhesive backed, permitting permanent attachment to any smooth, flat surface.



UNITED RECORDING ELECTRONICS INDUSTRIES

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TECHNICAL SPECIFICATIONS

ELECTRICAL:

FREQUENCY SELECTION:	30 Hz, 700 Hz and 10 kHz, by means of front panel rotary switch (Any other three frequencies from 20 Hz to 15 kHz available on special order).
FREQUENCY STABILITY:	$\pm 5\%$
AMPLITUDE STABILITY:	± 0.25 dB between frequencies, and ± 0.5 dB with power supply variation from 20 to 30 volts.
TEMPERATURE STABILITY:	Will operate satisfactorily through ambient temperature range -15° to $+140^{\circ}$ F.
OUTPUT:	Continuously variable from -60 dBm to 0 dBm into 600 ohms, unbalanced.
ACTIVE ELEMENTS:	F.E.T. and Silicon Planar transistors.
POWER REQUIREMENTS:	Internal 12-volt batteries (two Eveready 228 or equivalent), or external 20-30 vdc at 8 mA maximum. Batteries not furnished.

PHYSICAL:

SIZE:	1½" x 5½", 5¼" behind panel.
MOUNTING:	Horizontal or vertical. Self-adhesive escutcheon supplied for horizontal mounting. ⅛" aluminum panel may be removed for permanent installations, and unit mounted by ⅜" control bushings.
FINISH:	Chassis and cover: satin cadmium plated. Front panel: satin etched aluminum. Escutcheon: horizontally brushed aluminum, satin anodized. Lower stripe blue epoxy. Nomenclature: black epoxy. Knobs: black, with aluminum end inset.
WEIGHT:	24 oz. (without batteries—as supplied).
SHIPPING WEIGHT:	26 oz.