

MODEL 822 SINGLE AND TWO-TONE SEQUENTIAL SYNTHESIZER

PRELIMINARY

FEATURES

- . Four-digit resolution
- . Crystal oscillator accuracy
- . Independent dial-in tone selection
- . Sine wave output
- . Variable intertone delay
- . Variable tone duration
- . Variable tone level
- . Automatic single or dial-tone sequencing
- . External gating for IMTS, MTS operation

GENERAL

The Model 822 generates accurate, single and two-tone sequential signals for testing communications systems which have tone selective signaling. It uses the latest integrated circuit designs and completely eliminates the use of conventional audio oscillators and counters for generating the required tones. The Model 822 will also serve as a general purpose low frequency synthesizer in many applications in the lab because of its low cost and versatility along with low sine distortion and high frequency accuracy.

The Model 822 is a direct digital synthesizer providing single or two-tone sequential outputs. The frequency of each tone can be set to four significant digits in three ranges from 10Hz to 9999Hz. This allows generation of any tones used for selective signaling or paging. The minimum intertone delay is zero.

Output tones from the Model 822 have independent and variable controls for both duration and level. In addition, calibrated delay controls are provided for both initial delay of the tone sequence and intertone delay when two-tone systems are being tested. A single continuous tone can also be generated.

Automatic output sequencing is another feature of the Model 822. A front panel switch provides single sequence (one cycle), continuous sequencing (run cycle), and external gating for IMTS (SELECT), MTS (STEP) interrupt operation.

The output tones of the Model 822 may be used to modulate AM or FM signal generators to simulate radio system transmitter signals. The sinusoidal output waveform has low distortion and provides an accurate test for tone-actuated receivers.

SPECIFICATIONS

Frequency

Ranges 10.00-99.99 in .01-Hz increments
100.0-999.9 in 0.1-Hz increments
1000-9999 Hz in 1-Hz increments
Resolution.... Four significant digits
Accuracy..... $\pm 0.005\%$

Output

Waveform..... Sinusoidal
Distortion..... $\leq 1\%$
Phase Jitter... $< 2^\circ$ P-P
Frequency Response (referred to 1KHz) ± 0.25 dB
Impedance.... 600Ω (single ended)
Level (separately settable for each tone)
0-2.45V rms (+10 dBm) terminated
On/Off Ratio Tone Level - ≥ 55 dB
Connectors.... BNC
Initial Delay (Repeat Delay Sec)
0 (Detent Position) and
0.1 to 5 seconds $\pm 10\%$ of setting
Intertone Delay (Interval Sec)
0 (Detent Position) and
0.1 to 1.3 seconds $\pm 10\%$ of setting
Tone Duration
Separately settable for each tone
Run (detent) position gives continuous
tone, Tone 1 run mode overrides Tone 2.
0.03 to 1 sec, 0.3 to 10 sec Variable.

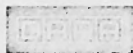
External Gating

Connector..... BNC
Closure Requirements - Closure between connector
conductors of $< 1\Omega$.
Current Sync - 50 mA peak for $< 1\text{ms}$; $< 2\text{mA}$ dc

General

Temperature Range
Operating.... 0°C to 55°C
Storage..... -40°C to $+75^\circ\text{C}$
Power - 115 or 230 Vac $\pm 10\%$, 50-400Hz, 12 W
Weight - 2.9 kg (7 pounds)
Size - 15.2 cm H x 22.9 cm W x 26.7 cm D
(6 in H x 9 in W x 10-1/2 D)

Model 822 - Price \$850. FOB Hillsboro, Oregon. Delivery 2 weeks ARO.



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MODEL 822 DUAL TONE SYNTHESIZER

TONE 1 (Hz)



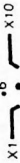
REPEAT DELAY SEC



TONE 2 (Hz)



DURATION SEC



LEVEL



INTERVAL SEC



LEVEL



DURATION SEC



PWR ON



EXT GATE



EXT L SELECT



EXT STEP



EXT BURST CYCLE



EXT CYCLE



EXT CYCLE



MANUAL



OUTPUT

