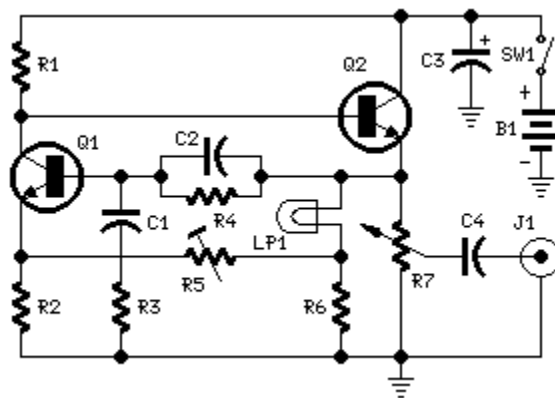


1KHz Sinewave Generator

**Simple circuitry, low distortion, battery operated
Variable, low impedance output up to 1V RMS**

Circuit diagram:



Parts:

R1 _____ 5K6 1/4W Resistor
R2 _____ 1K8 1/4W Resistor
R3,R4 _____ 15K 1/4W Resistors
R5 _____ 500R 1/2W Trimmer Cermet
R6 _____ 330R 1/4W Resistor
R7 _____ 470R Linear Potentiometer

C1,C2 _____ 10nF 63V Polyester Capacitors
C3 _____ 100µF 25V Electrolytic Capacitor
C4 _____ 470nF 63V Polyester Capacitor

Q1,Q2 _____ BC238 25V 100mA NPN Transistors

LP1 _____ 12V 40mA Lamp (See Notes)

J1 _____ Phono chassis Socket

SW1 _____ SPST Slider Switch

B1 _____ 9V PP3

Clip for 9V PP3 Battery

Circuit description:

This circuit generates a good 1KHz sinewave using the inverted Wien bridge configuration (C1-R3 & C2-R4). Features a variable output, low distortion and low output impedance in order to obtain good overload capability. A small filament lamp ensures a stable long term output amplitude waveform. Useful to test the Audio Millivoltmeter, Audio Power Meter and other audio circuits published in this site.

Notes:

- | The lamp must be a low current type (12V 40-50mA or 6V 50mA) in order to obtain good long term stability and low distortion.
 - | Distortion @ 1V RMS output is 0.15% with a 12V 40mA lamp, raising to 0.5% with a 12V 100mA one.
 - | Using a lamp differing from specifications may require a change in R6 value to 220 or 150 Ohms to ensure proper circuit's oscillation.
 - | Set R5 to read 1V RMS on an Audio Millivoltmeter connected to the output with R7 fully clockwise, or to view a sinewave of 2.828V Peak-to-Peak on the oscilloscope.
 - | With C1,C2 = 100nF the frequency generated is 100Hz and with C1,C2 = 1nF frequency is 10KHz but R5 is needing adjustment.
 - | High gain transistors preferred for better performance.
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