

Circuit Ideas

Pitch to voltage converter

This phase locked loop circuit was designed to provide a voltage proportional to the pitch of a signal from an electric guitar or microphone. It also generates sine, square and triangle waveforms, phase locked to the input signal. An uncompensated 709 op-amp is used to amplify and limit the input to a 7400 connected as an exclusive-OR phase comparator. The control voltage is filtered and amplified, and controls

the frequency determining circuitry in an 8038 function generator.

In use the free-run frequency is adjusted so that the v.c.o. oscillates above 20kHz. When a signal is applied it jumps into lock and becomes audible. Other possible uses include slow scan tv demodulation, or as the p.l.f. in a chord generator of a synthesizer.

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