



Add Fuzz TO YOUR ELECTRIC GUITAR OR BASS

BY JAMES BARBARELLO

*Solid-state fuzz box
for interesting
sound effects.*

ELECTRIC guitarists often use special circuits to alter the sounds their instruments produce. One of the oldest but still most popular of these signal modifiers is the "fuzz box." A solid-state circuit, the fuzz box generates a sound like that produced by early, low-cost vacuum-tube power amplifiers. When one of these amps was overdriven, a distorted, but pleasing sound resulted. The fuzz box, when controlled by a foot pedal, allowed the guitarist to introduce some "fuzz" without interrupting his performance to turn up the amp's gain.

Many different fuzz box designs have appeared over the years. The project presented here, is a somewhat different sine-to-square-wave converter. It produces a substantial output signal, even when used with inexpensive instruments. Its "fuzz" effect is as prominent in the bass as in the midrange and treble. In addition to the standard distortion effects, the circuit can produce a raspier, but at the same time mellower, voicing. The circuit's wide range of available output levels allows the user to preset different levels for the rhythm and lead modes. The project is especially useful with electric bass guitars because it can generate many of the effects called for in today's music without sacrificing the bass's characteristic deep tones.

The circuit is simple, uses a small number of readily available components, and can be built for about \$10.

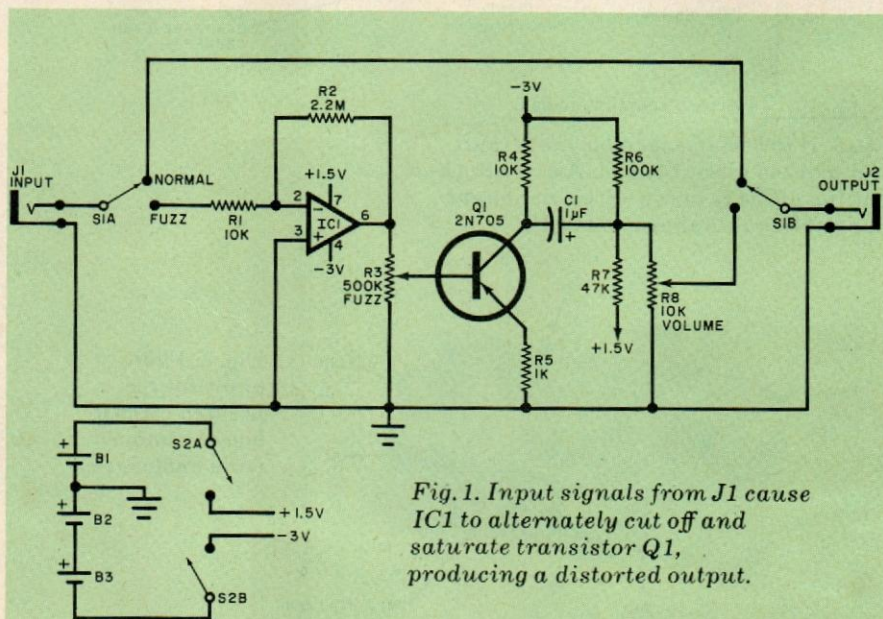


Fig. 1. Input signals from J1 cause IC1 to alternately cut off and saturate transistor Q1, producing a distorted output.

PARTS LIST

B1, B2, B3—1.5-volt AA, A, C or D cells
C1—1- μ F, 16-V radial-lead electrolytic
IC1—741CV operational amplifier (Radio Shack 276-007 or equivalent)
J1, J2— $\frac{1}{4}$ -inch open-circuit phone jacks
Q1—General-purpose, high-beta pnp switching or audio transistor (2N705, Radio Shack RS-2005 or similar)

The following are $\frac{1}{4}$ -watt, 10% tolerance fixed resistors:

R1, R4—10,000 ohms
R2—2.2 megohms
R5—1000 ohms
R6—100,000 ohms
R7—47,000 ohms

R3—500,000-ohm linear-taper potentiometer
R8—10,000-ohm linear-taper potentiometer
S1—Dpdt switch
S2—Dpdt switch

Misc.—Printed circuit board, battery holders, hookup wire, suitable enclosure, knobs, pc board spacers, machine hardware, solder, etc.

Note—The following are available from BNB Kits, RD1, Box 241H, Tennent Rd., Englishtown, NJ 07726: etched and drilled pc board, #F-PC at \$3.25; complete kit of parts including etched and drilled pc board, electronic components, jacks and switches, #F-E at \$12.50. NJ residents add 5% sales tax.