Omni Drive

as designed by John Hollis

R1 = 10M	C1 = 0.01uF (10nF)
R2 = 10M	C2 = 0.001uF (1nF)
R3 = 330K	C3 = 0.001uF (1nF)
R4 = 100K	C4 = 0.001uF (1nF)
R5 = 1M	C5 = 0.01uF (10nF)
R6 = 220K	C6 = 47pF
R7 = 220K	C7 = 10uF
R8 = 100K	C8 = 1uF
R9 = 100K	C9 = 0.047uF (47nF)
R10 = 10K	C10 = 0.1uF (100nF)
R11 = 10K	C11 = 1uF
R12 = 10K	C12 = 10uF
R13 = 10K	C13 = 10uF
R14 = 10K	C14 = 10uF
R15 = 100K	U1, U2 = TL072
R16 = 1K	D1,2,3,4 = 1N914
R17 = 1K	GAIN = 470K pot
R18 = 3.9K (3K9)	TONE = 10K Lin pot
R19 = 10K	BLEND = 47K Log pot
R20 = 1K	VOLUME = 100K Log
R21 = 10K	
R22 = 10K	

Miscellaneous:

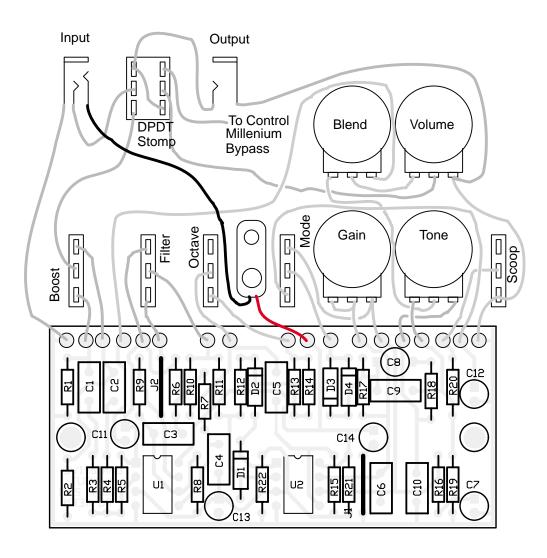SPDT switches for BOOST, FILTER, OCTAVE, MODE, SCOOP.

Use DPDT stomp switches if you want to add LED indicators for the various modes, tying an LED and 4.7K (4K7) resistor from +9V to ground through the extra switch section when the switch is in the indicator position. Bicolor LEDs work for adding two-position switches for BOOST and MODE.

DPDT stomp switch for bypass. Use Millenium Bypass for LED indicator and true bypass with only a DPDT.

You'll also need: Box (Hammond 1590BB works), battery clip, knobs for the pots, stereo 1/4" input jack, mono 1/4" output jack, hookup wire, and so on - the standard "wrapper" that goes on every effect.

*Layout updated 10/21/01; missing trace connecting R2 pad to ground.

Omni Drive
PCB Layout and Wiring

Input

Output

DPDT Stomp

To Control
Millenium
Bypass

Blend

Volume

Mode

Gain

Tone

Boost

Filter

Octave

Scoop

R1 C1 C2 R9 J2 R6 R10 R7 R11 R12 D2 C5 R13 R14 D3 D4 R17 C9 R18 R20 C12

C8

C11 C3 C14

R2 R3 R4 R5 U1 R8 C4 D1 R22 U2 R15 R21 C6 C10 R16 R19 C7

C13 J4

Board is sized to fit inside a Hammond 1590BB, but with five toggle switches and four controls, it's going to be a very tight fit. I recommend the Hammond 1590DD, which has a much larger face, suitable for more controls.

OMNIDRIVE
LAYOUT
COPR 2001
RG KEEN