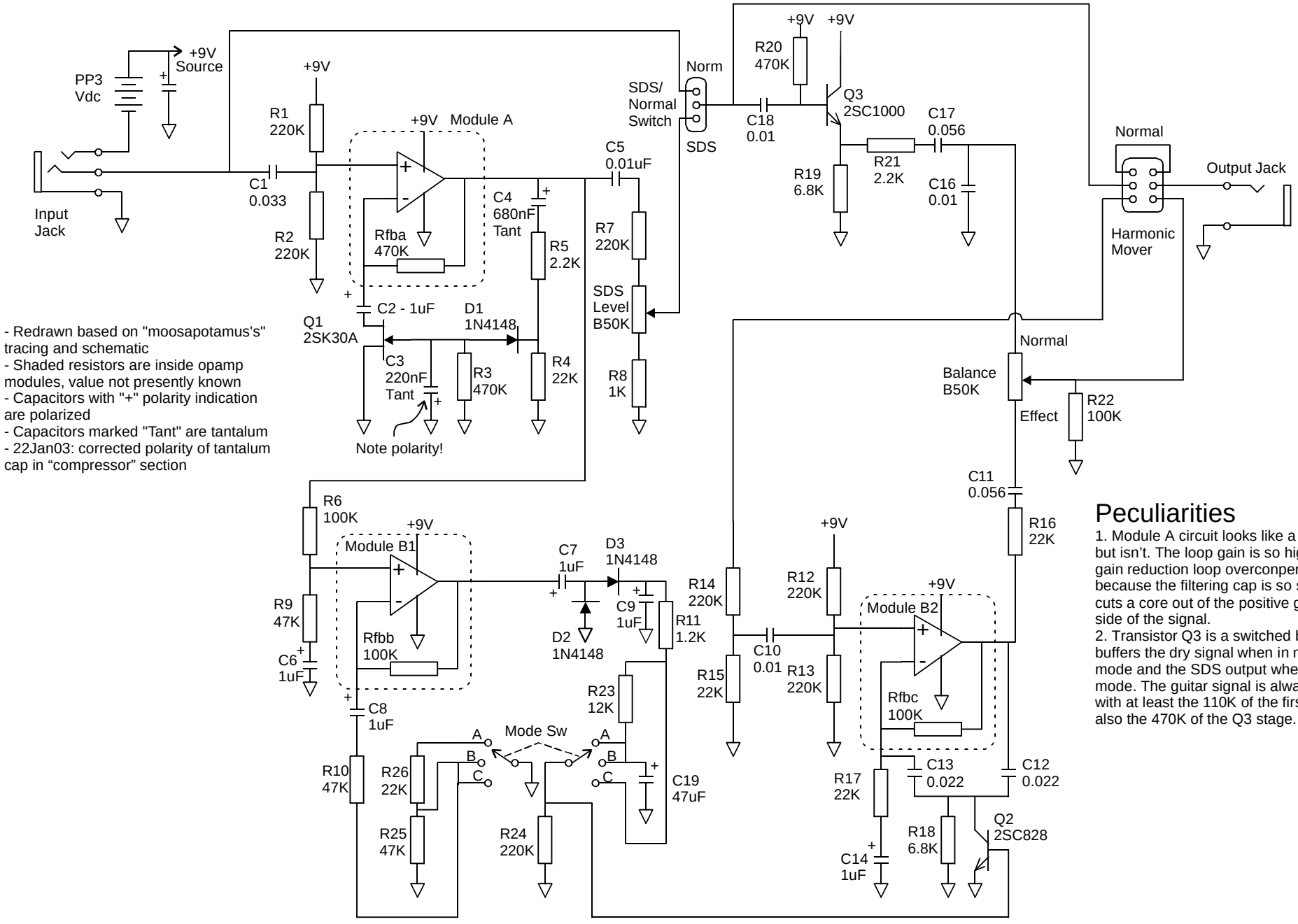
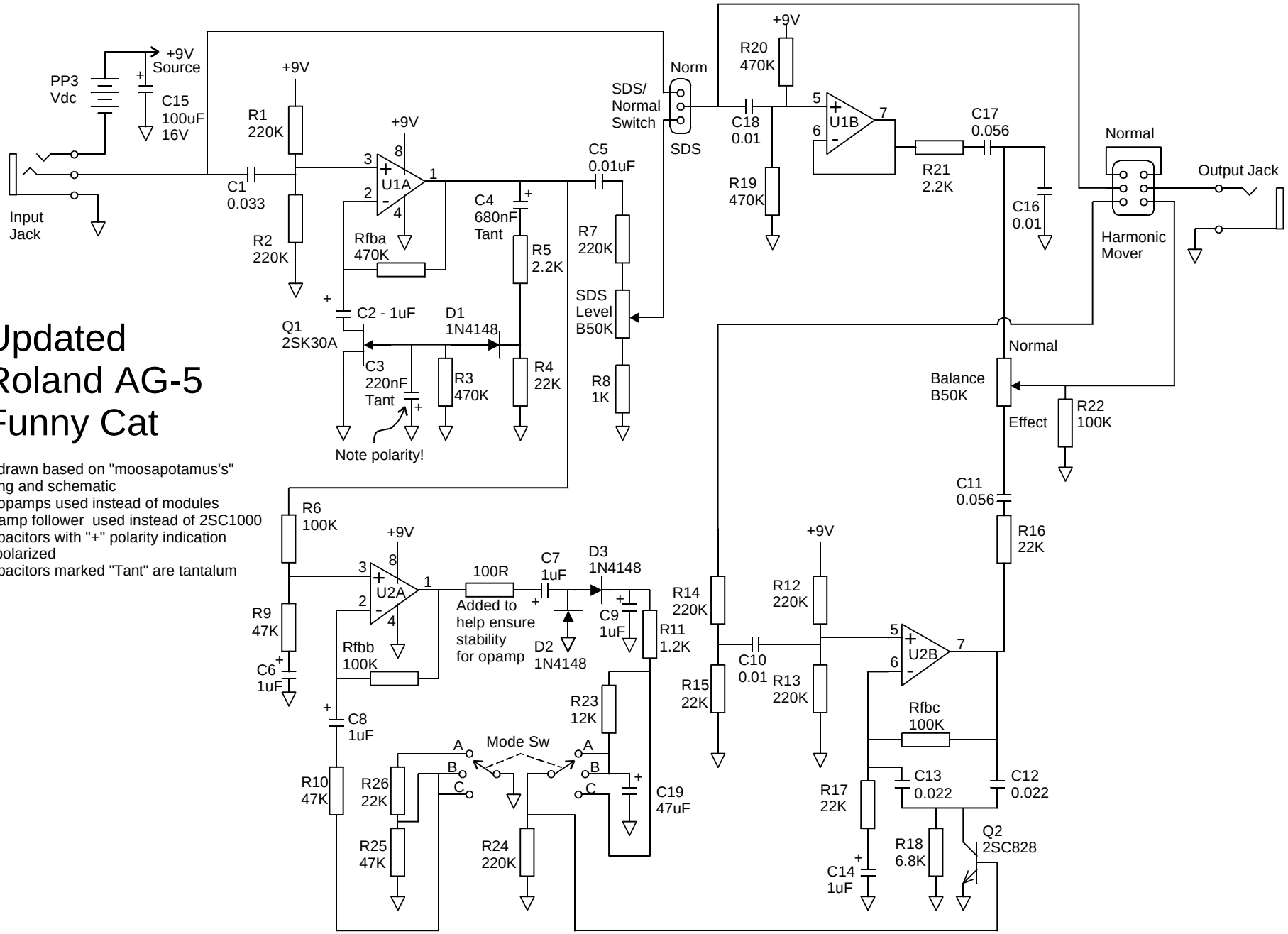
Roland AG-5
Funny Cat



- Redrawn based on "moosapotamus's" tracing and schematic
- Shaded resistors are inside opamp modules, value not presently known
- Capacitors with "+" polarity indication are polarized
- Capacitors marked "Tant" are tantalum
- 22Jan03: corrected polarity of tantalum cap in “compressor” section

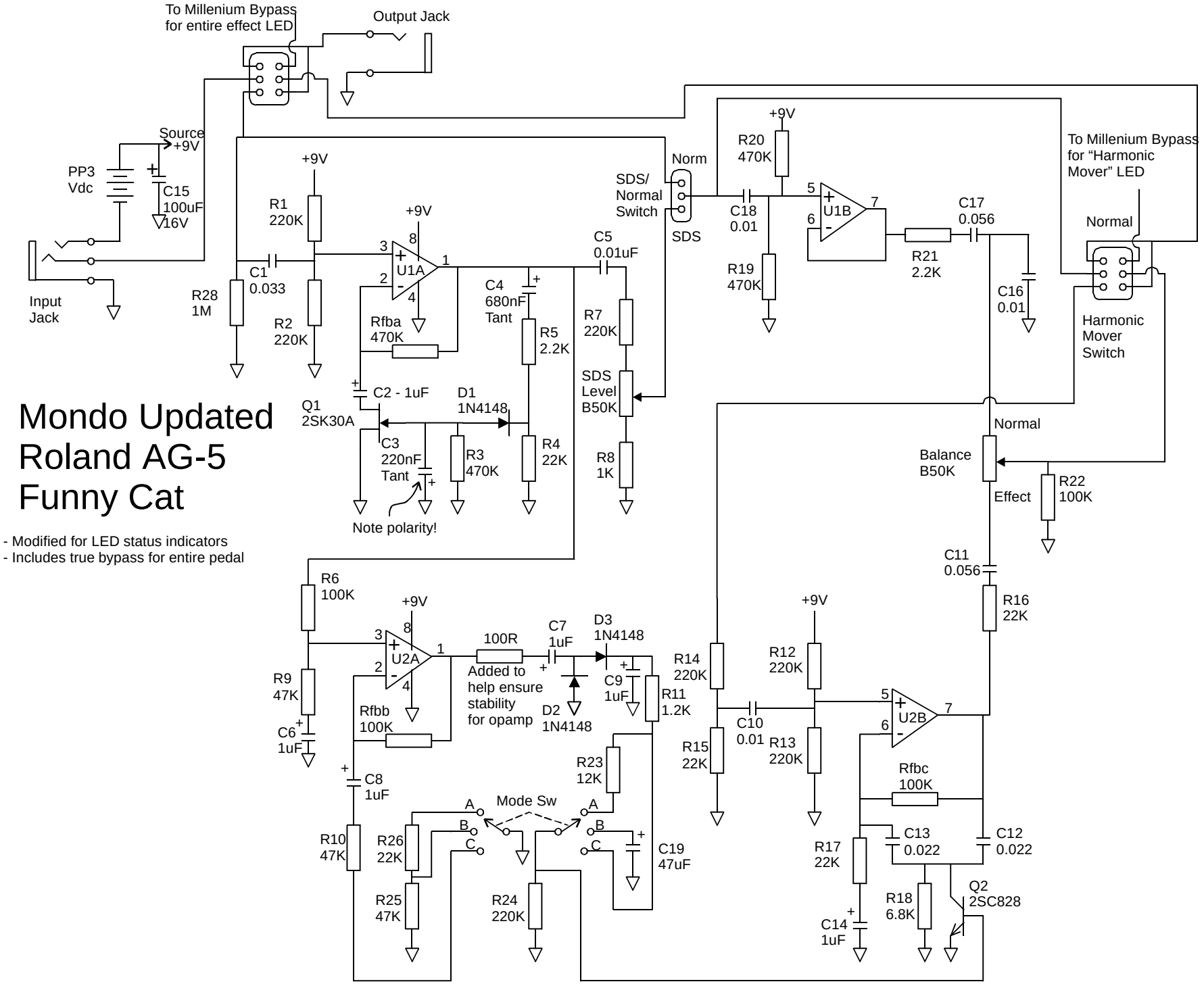
Peculiarities

1. Module A circuit looks like a compressor but isn't. The loop gain is so high that the gain reduction loop overconpensates, and because the filtering cap is so small, it cuts a core out of the positive going side of the signal.
2. Transistor Q3 is a switched buffer. It buffers the dry signal when in non-SDS mode and the SDS output when in SDS mode. The guitar signal is always loaded with at least the 110K of the first stage, and also the 470K of the Q3 stage.



Updated Roland AG-5 Funny Cat

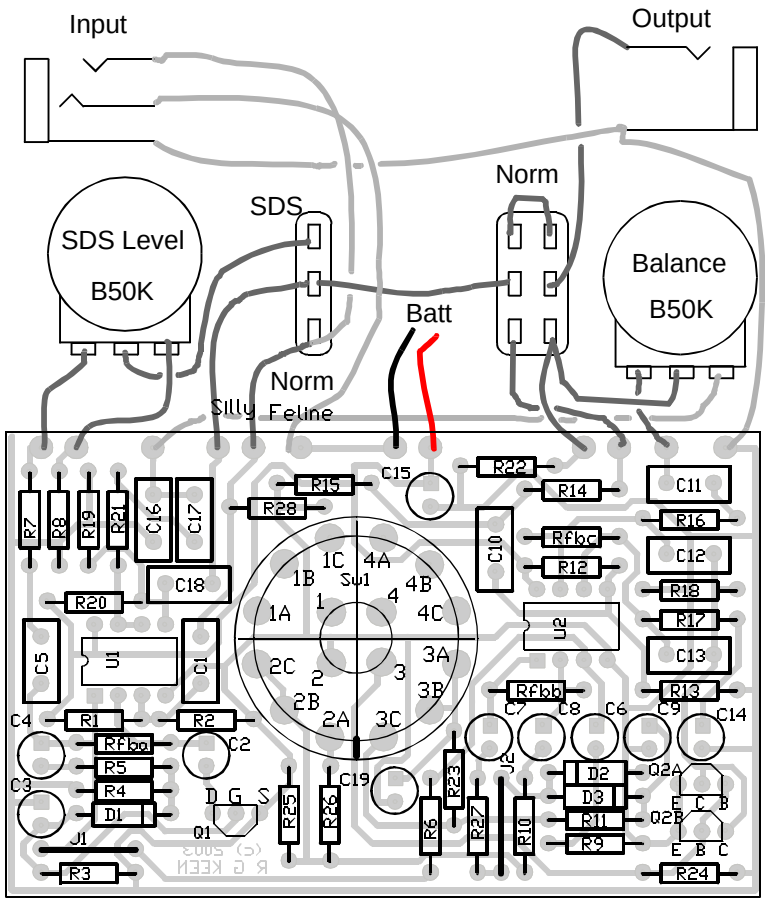
- Redrawn based on "moosapotamus's" tracing and schematic
- IC opamps used instead of modules
- Opamp follower used instead of 2SC1000
- Capacitors with "+" polarity indication are polarized
- Capacitors marked "Tant" are tantalum



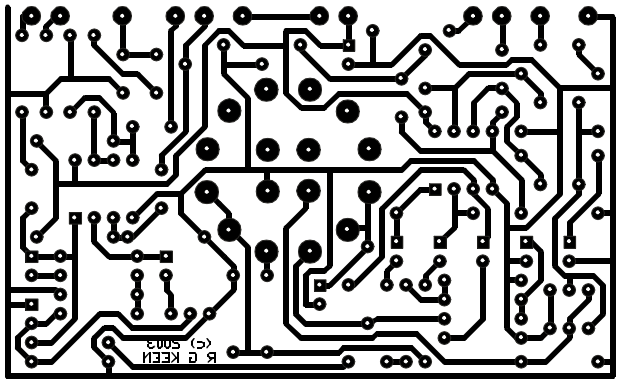
Mondo Updated Roland AG-5 Funny Cat

- Modified for LED status indicators
- Includes true bypass for entire pedal

Silly Feline PCB layout and wiring



Full size toner transfer pattern



The full sized PCB layout is shown at bottom left, and the parts stuffing diagram and wiring diagram is at left. Pots are show viewed from the back.

Note that the original Funny Cat was not a true bypass box. The input impedance of this effect will be in the 50K region, enough to have treble loss when the SDS/Normal switch is in the “Normal” position. A true bypass around the whole thing might be a good addition.

In making the PCB, all holes except off-board wiring pads and the switch pads are drilled out to 0.028” to 0.032”. The off-board wiring pads need to be about 0.040”, and the switch pad holes need to be 0.060” to 0.062” to accommodate the pins of the specified switch.

Notice the square pads. Those are polarity designators. The square pads in the IC layout patterns signify pin 1. In the electrolytic caps, the square pad is the (+) pin. Only Q2A or Q2B are used, not both. Q2A is the original type number with pinout ECB for the Japanese “2SC” types, and Q2B is pinned out EBC for “2N” types. Use whichever type you can get, but put it in the correct footprint.

On the board layout, C6 and R9 are reversed in order from the schematic. This has no effect on the unit’s operation.

R1 220K
R2 220K
R3 470K
R4 22K
R5 2.2K
R6 100K
R7 220K
R8 1K
R9 47K
R10 47K
R11 1.2K
R12 220K
R13 220K
R14 220K
R15 22K
R16 22K
R17 22K
R18 6.8K
R19 470K
R20 470K
R21 2.2K
R22 100K
R23 12K
R24 220K
R25 47K
R26 22K
R27 100
Rfba 470K
Rfbb 100K
Rfbc 100K
R28 1M
C1 0.033
C2 1uF
C3 0.22tant
C4 0.68 tant
C5 0.01
C6 1uF
C7 1uF
C8 1uF
C9 1uF
C10 0.01
C11 0.056
C12 0.022
C13 0.022
C14 1uF
C15 100uF16V
C16 0.01
C17 0.056
C18 0.01
C19 47uF 16V

SDS Level - 50K log
Balance - 50K log
All diodes 1N4148
U1, 2 = dual opamp
Q1 2SK30A
Q2A 2SC828
Q2B 2N3904
Sw1 = 4P3T rotary Mouser # 105-14574
(Lorlin nylon rotary switch #105-14574)

The other usual stuff:
SPDT switch (SDS/N)
DPDT stomp (s)
Input and output jacks
Box
battery clip
knobs
wire
solder
time
attention
money...