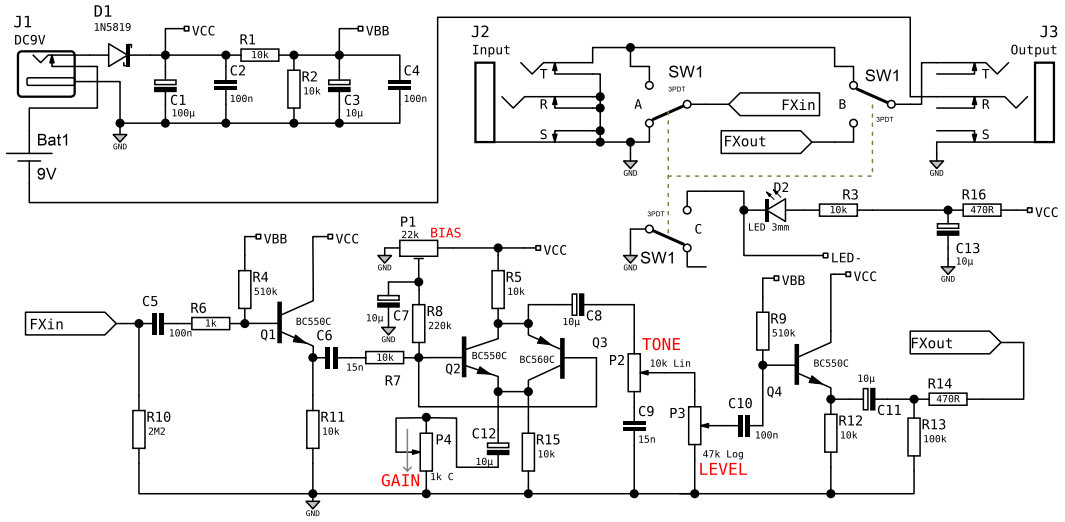
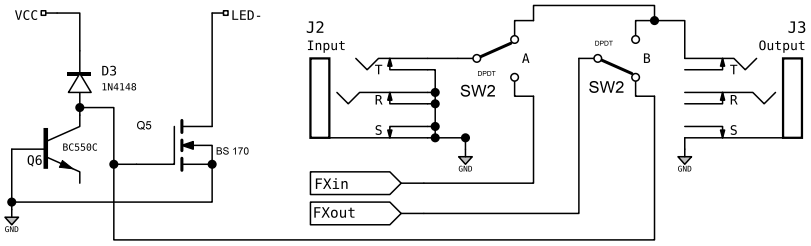
NIGHT TRAIN overdrive

Night Train Overdrive
Low to mid gain warm sounding overdrive. Based on the NPN-PNP "antiparallel" pair developed and first used in stompbox by Arsenio Novo, idea presented on rec.music.makers.guitar newsgroup.
After playing with different versions of the circuit i added the following feratures:
- input buffer
- gain control
- simple lowpass tone control
- output buffer





Optional Millenium Bypass system
by R.G. Keen www.geofex.com

Bias setting: Tweak it until it sounds good!

Bat = 9V

C1 = 100µ (25V RM2.5/6.3)
C2 = 100n (50V Ceramic)
C3 = 10µ (50V RM2/5)
C4 = 100n (50V Ceramic)
C5 = 100n (MKT 63V RM5mm)
C6 = 15n (MKT 63V RM5mm)
C7 = 10µ (50V RM2/5)
C8 = 10µ (50V RM2/5)
C9 = 15n (MKT 63V RM5mm)
C10 = 100n (MKT 63V RM5mm)
C11 = 10µ (50V RM2/5)
C12 = 10µ (50V RM2/5)
C13 = 10µ (50V RM2/5)

D1 = 1N5819 (Schottky diode)
D2 = LED 3mm ultrabright
D3 = 1N4148

J1 = DC9V (DC Jack 5.5/2.1mm)
J2 = Input (Jack TRS switched)
J3 = Output (Jack TRS switched)

P1 = 22k (PT10 trimpot)
P2 = 10k Lin (ALPHA 16mm)
P3 = 47k Log (ALPHA 16mm)
P4 = 1k C (ALPHA 16mm)

Q1 = BC550C (TO92 CBE)
Q2 = BC550C (TO92 CBE)
Q3 = BC560C (TO92 CBE)
Q4 = BC550C (TO92 CBE)
Q5 = BS170 (TO92 DGS)
Q6 = BC550C (TO92 CBE)

R1 = 10k
R2 = 10k
R3 = 10k
R4 = 510k
R5 = 10k
R6 = 1k
R7 = 10k
R8 = 220k
R9 = 510k
R10 = 2M2
R11 = 10k
R12 = 10k
R13 = 100k
R14 = 470R
R15 = 10k
R16 = 470R

SW1 = 3PDT
SW2 = DPDT (DPDT switch)

Install only when using MILLENIUM BYPASS

This is the main NPN/PNP pair responsible for the overdrive sound. Feel free to experiment with different types.

Watch out the pinout!