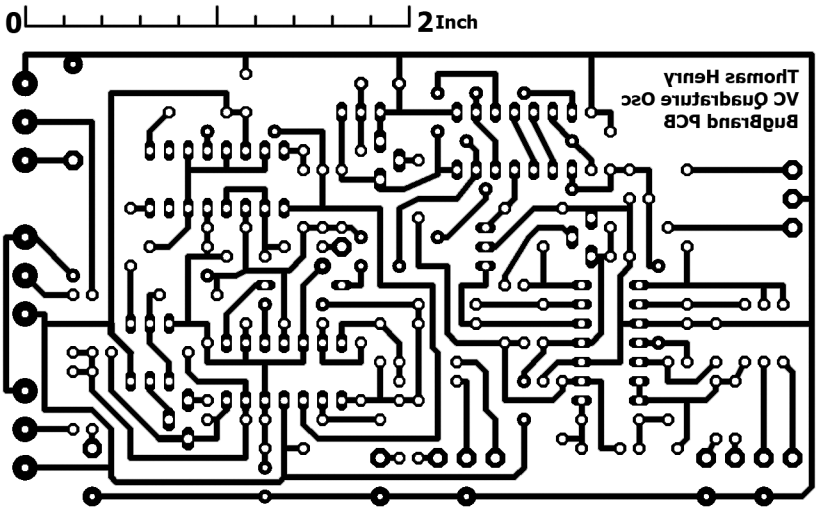
Thomas Henry Quadrature Function Generator
BugBrand Press'n'peel layout
Oct 2007

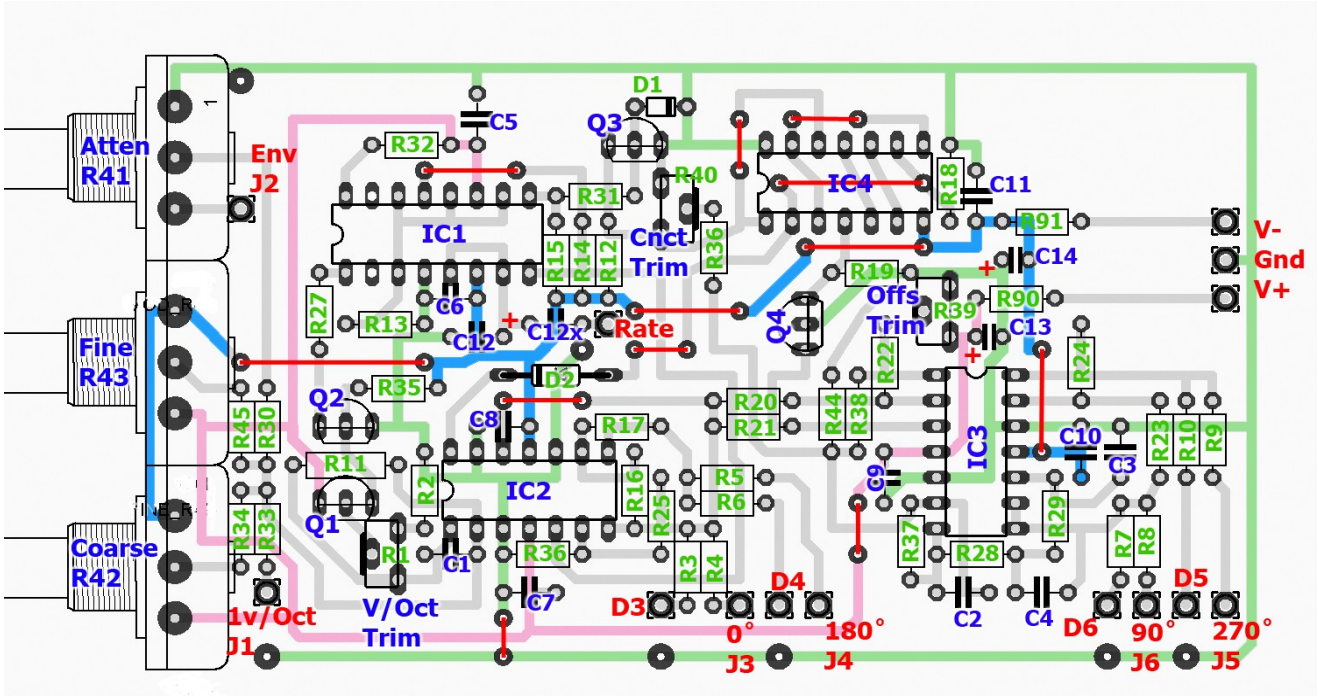
Another great Thomas Henry design. Read all about it on Scott Stites' site:
http://mypeoplepc.com/members/scottnoanh/birthofasynth/id29.html

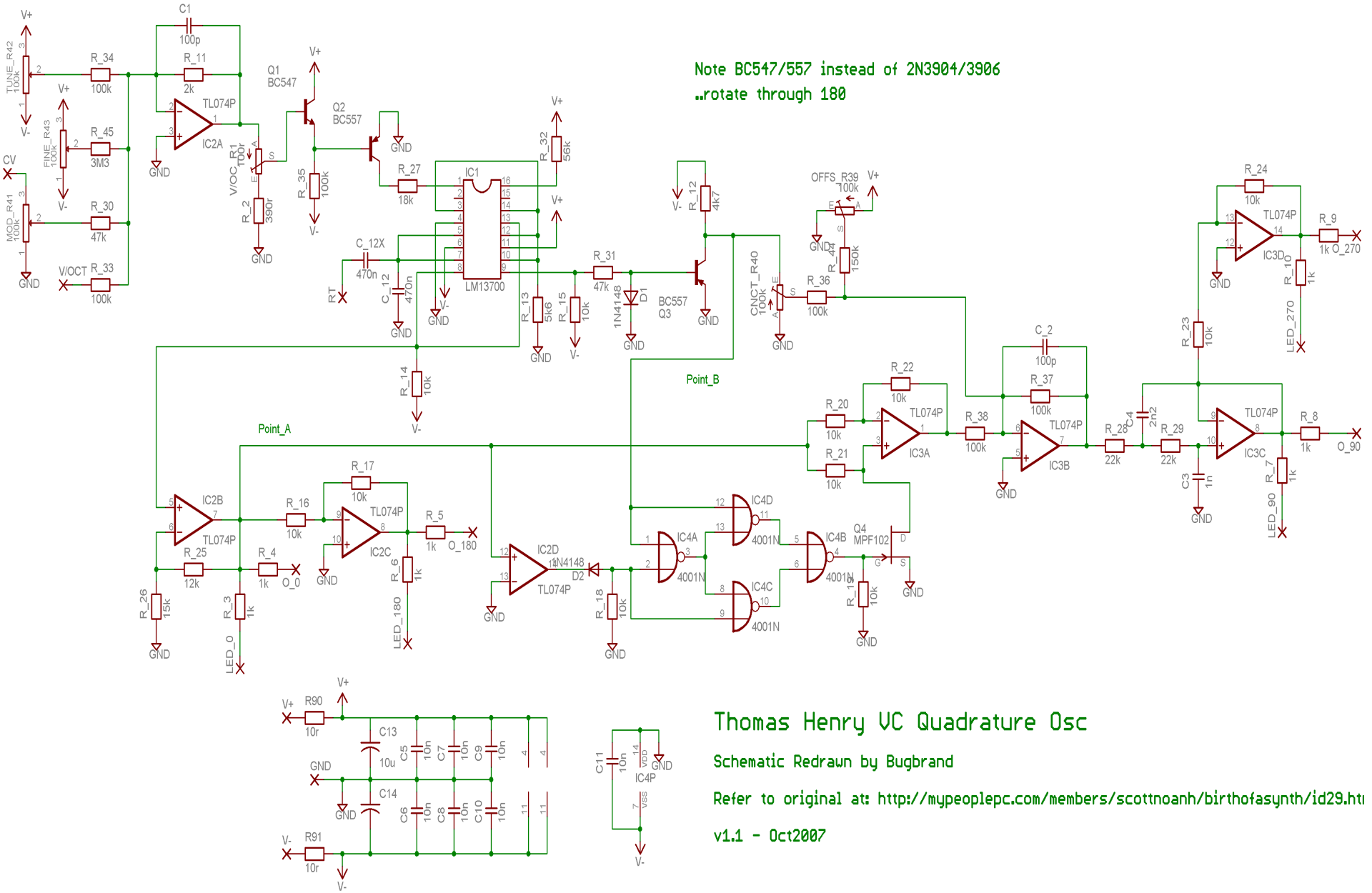
Build notes:

- there are 12 wire links (marked in red) including one beneath IC4
- my layout uses BC547/557 as opposed to the original 2N3904/3906 so take care with transistor orientation – if using 2N3904/6 simply rotate through 180°
- R11 can be a 2k tempco or standard 2k resistor (no temp compensation but works fine). You can add a dab of epoxy glue around Q1/Q2/R11 to improve temperature stability.
- The layout is for 16mm Alpha pots – these are spaced by 0.8" (approx 2cm). You could also wire other sized pots from these pads if you prefer.
- C12_x has been added so you can have two different range settings – use an SPST switch between the Rate point and ground (there's a pad next to the Rate pad). Experiment for cap values – perhaps 220n for C12 and 2u2 for C12_x
- R90 and R91 can be ferrite beads / 10r or 22r resistors / wire-links – this is the standard Ken Stone uses...

If you spot any errors please email tom@bugbrand.co.uk
Big thanks to Thomas Henry and Scott Stites for this project!






Note BC547/557 instead of 2N3904/3906
..rotate through 180
Thomas Henry VC Quadrature Osc
Schematic Redrawn by Bugbrand
Refer to original at: http://mypeoplepc.com/members/scottnoanh/birthofasynth/id29.htı
v1.1 - Oct2007
Point_A
Point_B
IC1
LM13700
IC2A
IC2B
IC2C
IC2D
IC3A
IC3B
IC3C
IC3D
IC4A
IC4B
IC4C
IC4D
IC4P
TL074P
4001N
Q1 BC547
Q2 BC557
Q3 BC557
Q4 MPF102
D1 1N4148
D2 1N4148
TUNE_R42 100k
FINE_R43 100k
MOD_R41 100k
CV
V/OCT
R_34 100k
R_45 3M3
R_30 47k
R_33 100k
C1 100p
R_11 2k
R_1 TDR
R_2 390r
R_35 100k
R_27 18k
R_32 56k
C_12X 470n
C_12 470n
R_13 5k6
R_15 10k
R_31 47k
R_12 4k7
R_14 10k
OFFS_R39 100k
R_44 150k
CNCT_R40 100k
R_36 100k
R_22 10k
R_20 10k
R_21 10k
C_2 100p
R_37 100k
R_38 100k
R_28 22k
C_4 2n2
R_29 22k
C3 1n
R_24 10k
R_9 1k O_270
R_10 1k
LED_270
R_23 10k
R_8 1k O_90
R_7 1k
LED_90
R_17 10k
R_16 10k
R_5 1k O_180
R_6 1k
LED_180
R_25 12k
R_4 1k O_0
R_26 15k
R_3 1k
LED_0
R_18 10k
R_19 10k
R90 10r
R91 10r
C13 10u
C14
C5 10n
C6 10n
C7 10n
C8 10n
C9 10n
C10 10n
C11 10n
V+
V-
GND
RT