



## W-30 EL34 PP Integrated

Comments (internal)

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drawn by dld

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1/ This circuit represents an existing A-34 amplifier stage with some details (delay circuit & balance resistors on B+ caps) from the A-348, A88 (triode switch), A-534 (headphone circuit). The delay will dramatically improve tube life & the balancing resistors will ensure longer capacitor reliability. Bias circuit from A-348 for greater reliability

2/ Preamp completely changed -- uses same number of tubes & 1 extra R/channel

3/ some improvements/features have been added.

- a) B+ has a small input cap to prevent hammering of the transformer, increasing life and reducing noise
- b) small resistor between small C & stacked capacitors gives a tie in point for choke upgrade
- c) snubber caps added to bridge rectifiers & soft-recovery diodes specified for less power supply noise.
- d) triode mode switch added for the benefit of triode lovers

4/ Existing circuit has some optimization that will need doing on production prototype -- a 1st run mule is currently on the bench based on existing A34 & a Forenaco preamp we have built up, more complete specification before unit hits preproduction prototype.

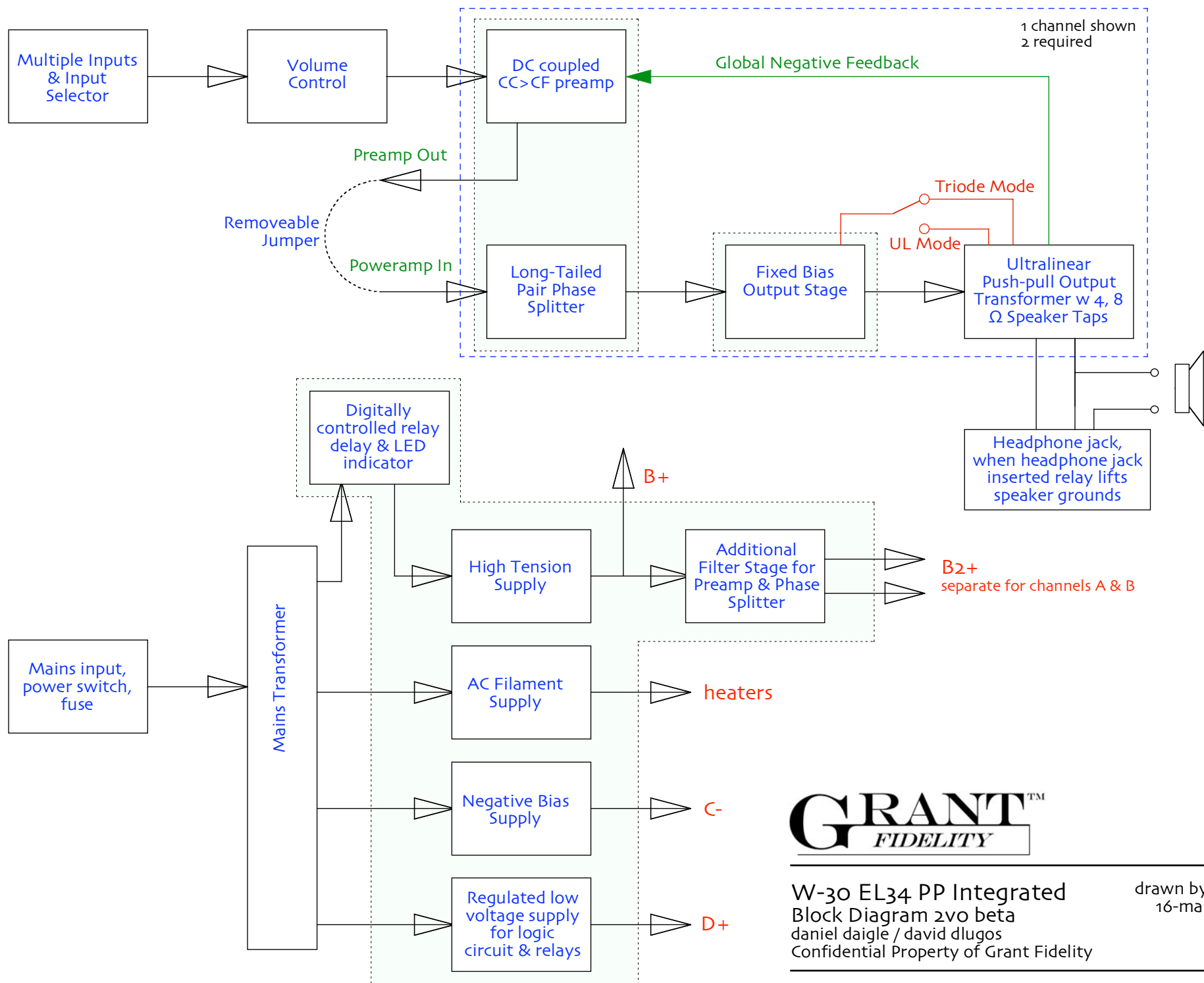
- a) Better balance and performance for phase splitter. Hot rod will be a solid state CCS (constant current source)
- b) fine tune pre-amp stage
- c) detail the power supply upgrades already indicated
- d) detail the feedback network (and possibly created an adjustment of amount when in triode mode)
- e) all specified component values are subject to change

3/ Ideally the assembly would consist of separate L&R PreAmp/Phase Splitter boards & Output Stage boards. Power supply would be separate and in an A-348 style chassis, would sit in a full-depth version of the side-pod the transformer currently sits on. (ie 4 boards for the amplifier & 1 for the power supply). This would make mono-bloks easy, and would help in diagnosis & repair. A PP pre-production prototype might be acceptable.

5/ IEC input, fuse an integrated unit

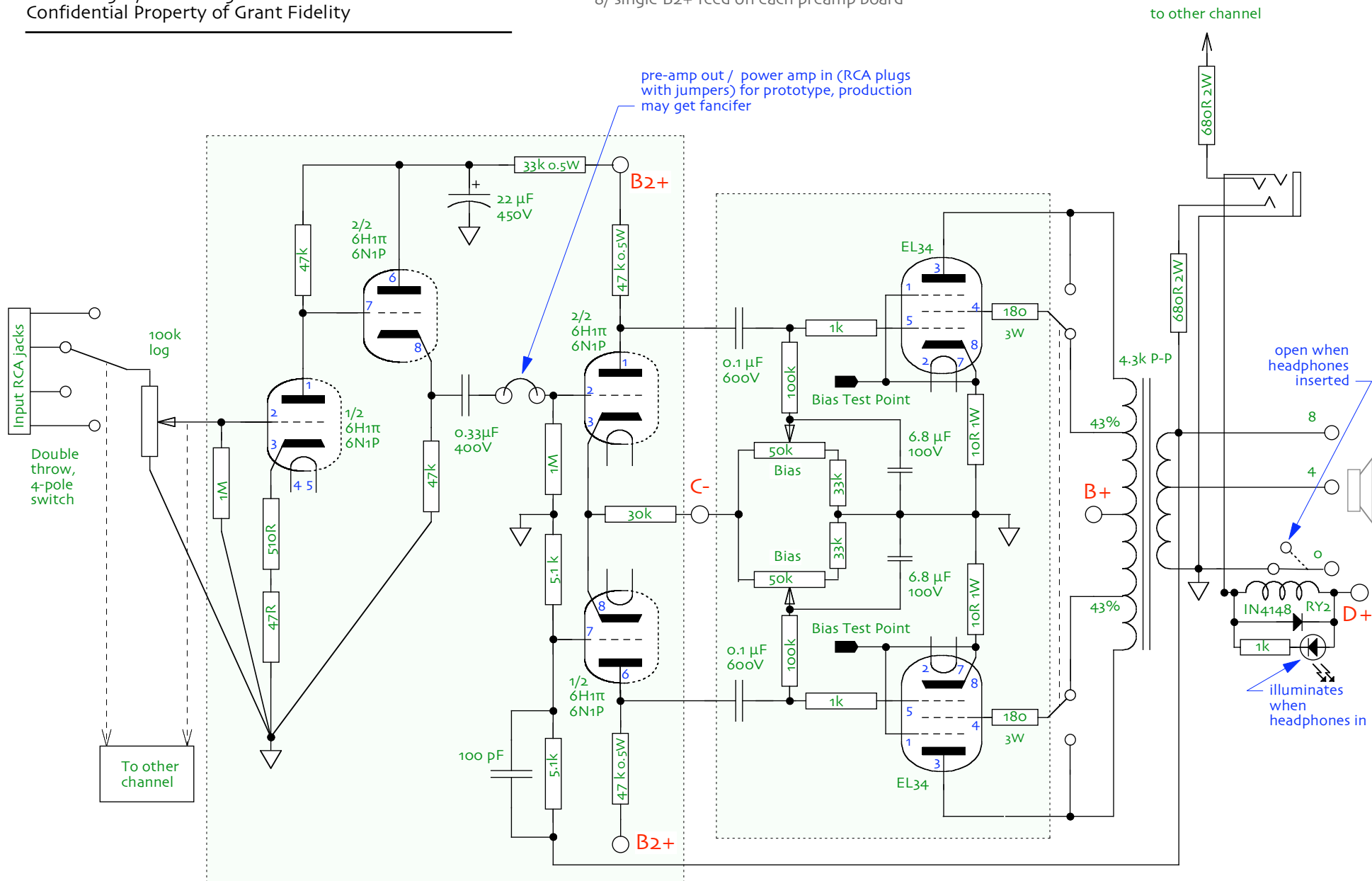
3d-1/ The specification for separate pre & power amps gives some difficulty and the prototype as built should work fine as a preamp, or an integrated amp, but the power amplifier will more accurately be described as a power follower -- as configured for use as W3, there may be insufficient gain. We have a secret black box in the works (a GF unique feature, perhaps actually made & installed in Canada -- or made at a different factory and installed in Canada)

3d-2/ further to this, the front end may end up with 2 12AU7s (designed for 12BH7 hot-rod) in the preamp (ie less gain) and 12AT7 in the diff pair (more gain) -- depends on how well we can make the black box work (this would also reduce load on the transformer (primarily filament current, so might reduce cost) -- this possible tube change is the rationale for the specification of the tube mounting as in Note 6 on the Schematic



Notes:

- 1/ pin 9 (inter-triode screen) is connected to ground on 6H1π
- 2/ 1 channel shown
- 3/ all non-polar caps are poly
- 4/ 1/4W resistors unless otherwise shown
- 5/ dotted green area indicate circuit boards
- 6/ sockets not soldered to board, leads from sockets to boards
- 7/ heater wiring is point-point (not part of board layout)
- 8/ single B2+ feed on each preamp board



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power supply 0v95

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