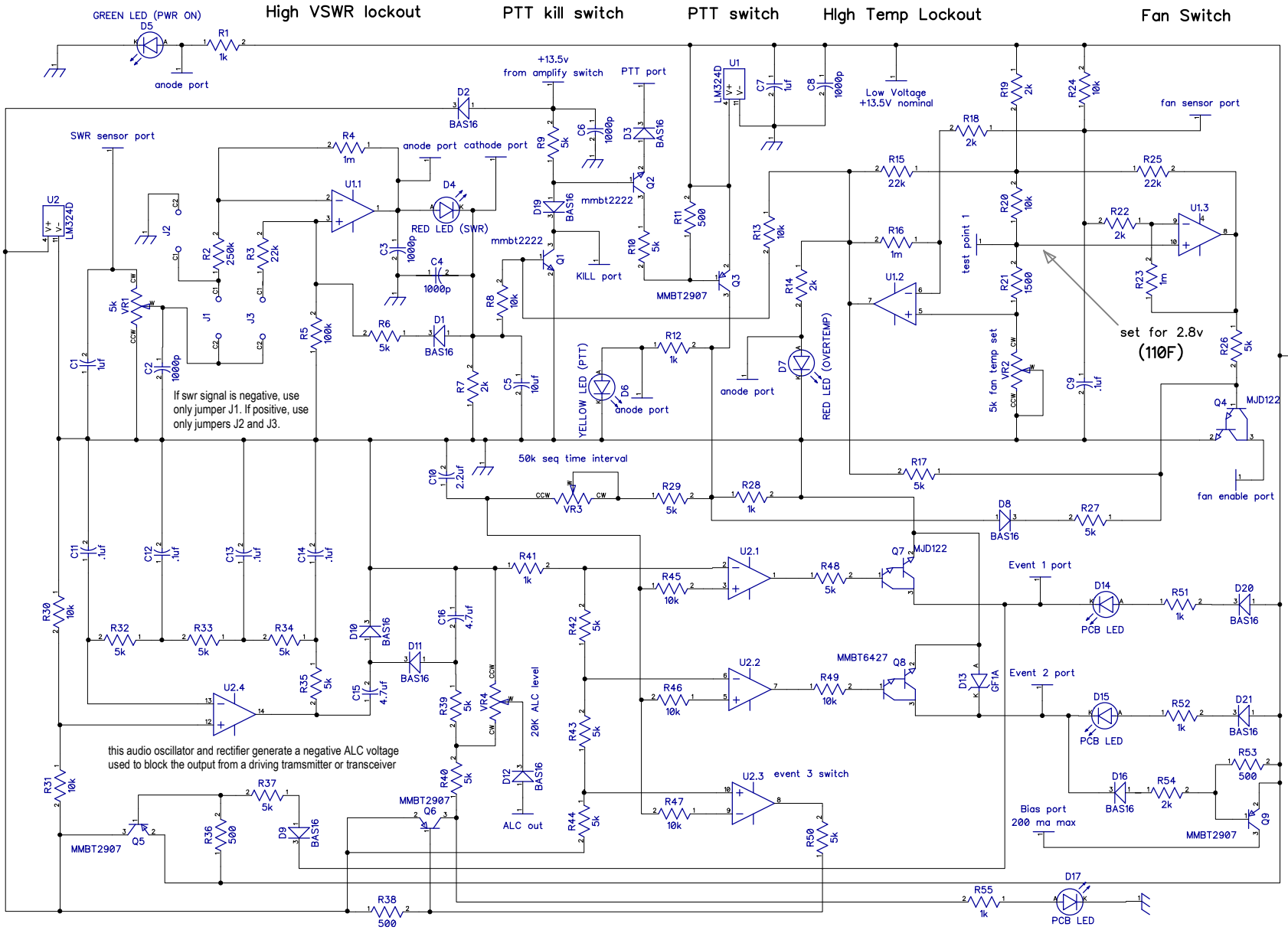
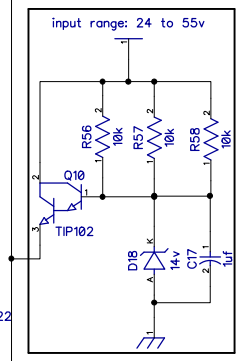
The Ultimate Amplifier Control Board (v6.3)

W6PQL - 9/2017





Optional Voltage Reducer

Thi is just a simple Zener diode regulator with a current amplifier (Q10) designed to provide 13.5v from the 24 to 55v rail. If you plan to use this accessory, always use a current limiting resistor in series with the power feed to Q10 to protect against accidental shorts on the 12v rail. Without this current limiting, a short on the low voltage rail will short Q10 and open the Zener, placing 24 to 50v on the 13.5v rail. A 25 ohm 25w resistor is recommended for 50v feeds.

Event 1 is normally used to switch antenna relays. Designed to pull the relay return line to ground (up to 100v @ 3 amps max)

Event 2 is normally used to switch on amplifier bias (12v bias port provided) and can simultaneously operate other devices, such as a high current FET power switch (used to gate VDD to the amplifier). Designed to pull a control line to ground (up to 28v @ 300 ma max)

Event 3 is used by the control board to block RF from the driving radio at critial times (when antenna relays are switching state). It does this by gating a blocking voltage on the ALC port (normally routed to the ALC input to the driving radio).

Q5 prevents hot-switching antenna relays in the case where the operator might switch the amplifier into bypass mode while still transmitting with the driver. It does this by maintaining suppy voltage to the blocking circuit between events 3 and 1, blocking driver output until after event 1 releases the relays.

Q6 is a block release switch. It removes the ALC blocking voltage when triggered by event 3 of the sequencer