K2 RIT-SPLIT LED Indicator Mod

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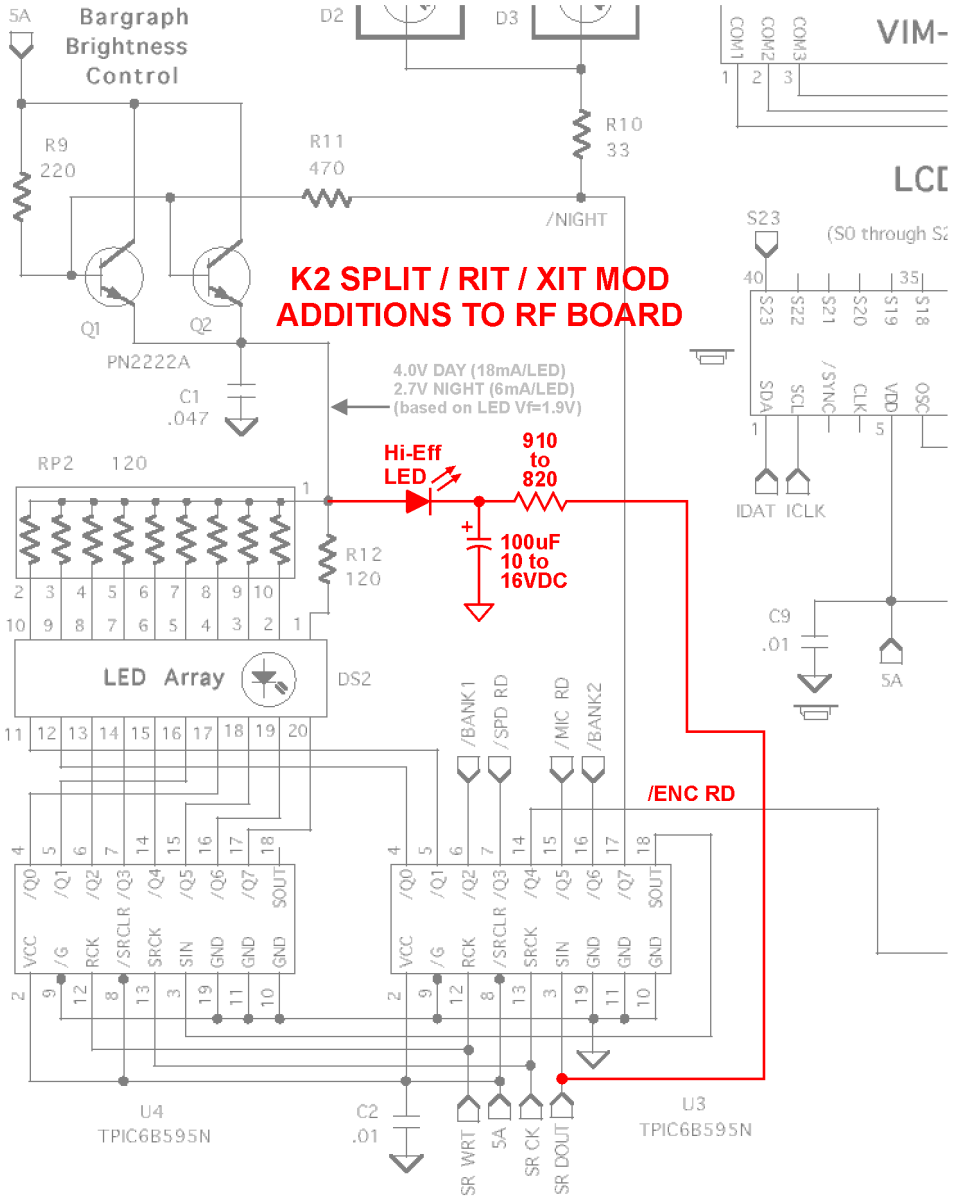
Implementation by: Tom Hammond, NØSS
18 October 2003

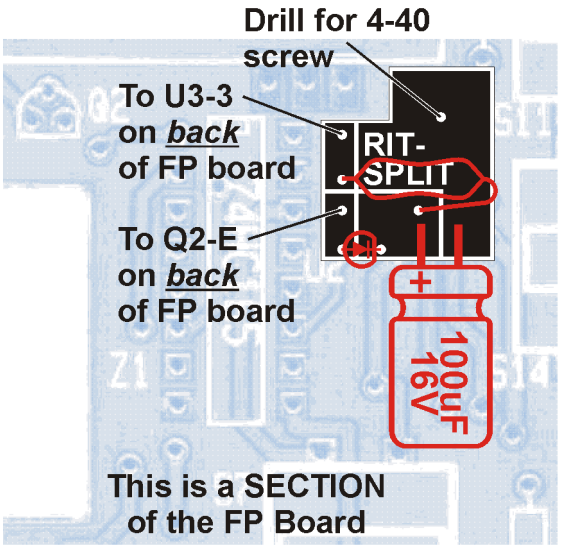


The LED in this mod is driven from the SIN line of U3 and the LED *must be limited* to drawing a maximum of 2 to 3mA of current. As a result, you must select a Hi-Efficiency LED which will provide acceptable output while only drawing 2-3mA of current. TEST the LED before you install it to ensure that it will provide adequate light output.

Drilling the hole in the front panel of your K2 is a precision operation. You will not have much 'wiggle room' for adjusting the position on the LED, so you must get things right the first time.

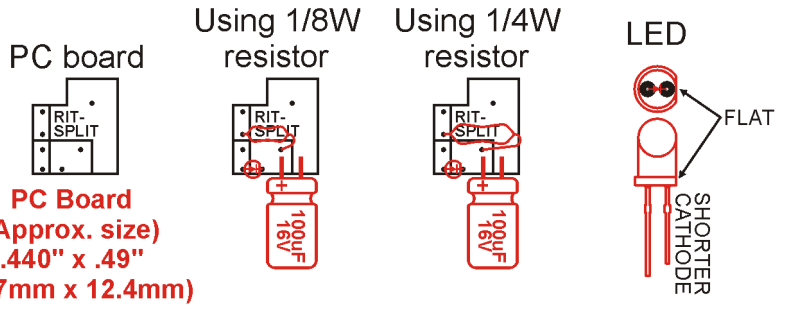
DO NOT INSTALL the LED until all other components have been mounted and the LED hole in the front cover has been drilled and thinned (see page 3). Clip the LED leads so the base of the LED will stand about 3/8" (10mm) above the foil side of the PC board and the leads extend out the back side of the board. Spread the leads out so they will exert pressure against the PC board holes and hold the LED in place as they are inserted into the board. Install the LED into the PC board, but DO NOT solder at this time. Install the PC board and replace the front cover of the K2, adjusting the position of the LED until it fits into the hole in the front cover. CAREFULLY remove the front cover so you do not move the LED, and solder the LED leads to the PC board. Trim all excess lead length from the back side of the PC board. Once the PC board and LED have been properly positioned and installed, proceed to connect the wires to the back side of the Front Panel PC board (see page 3).

ELECRAFT K2 SPLIT/RIT/XIT LED INDICATOR MOD

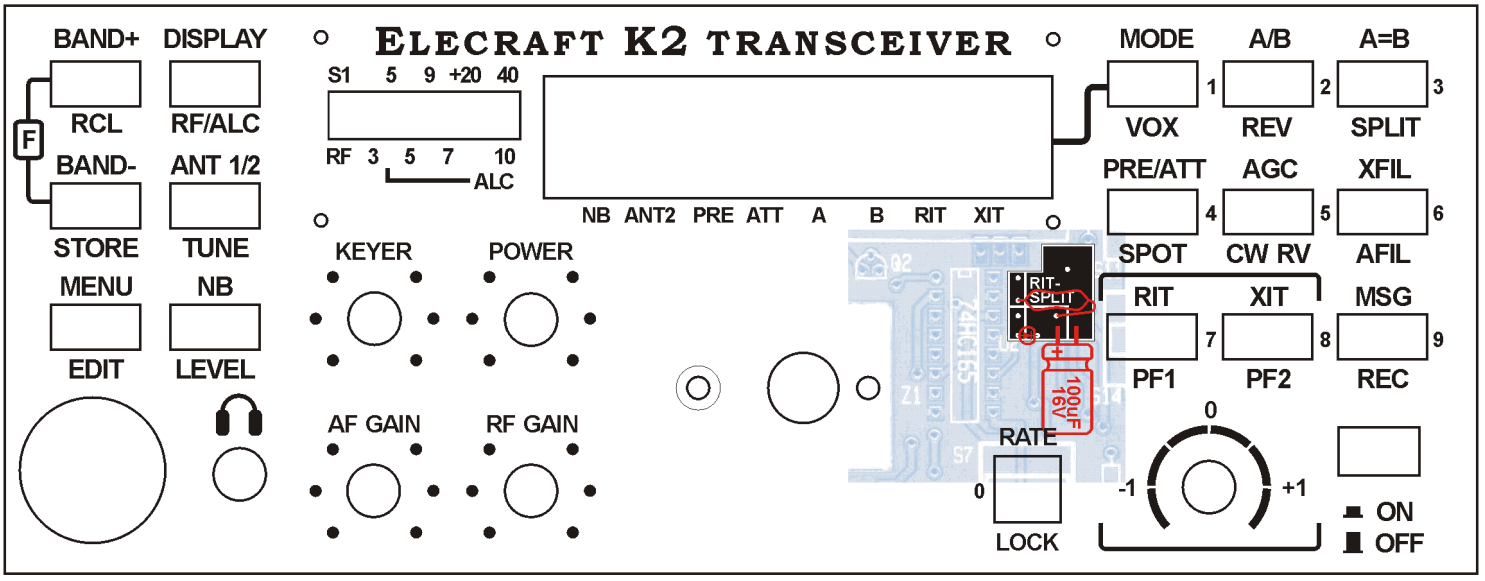


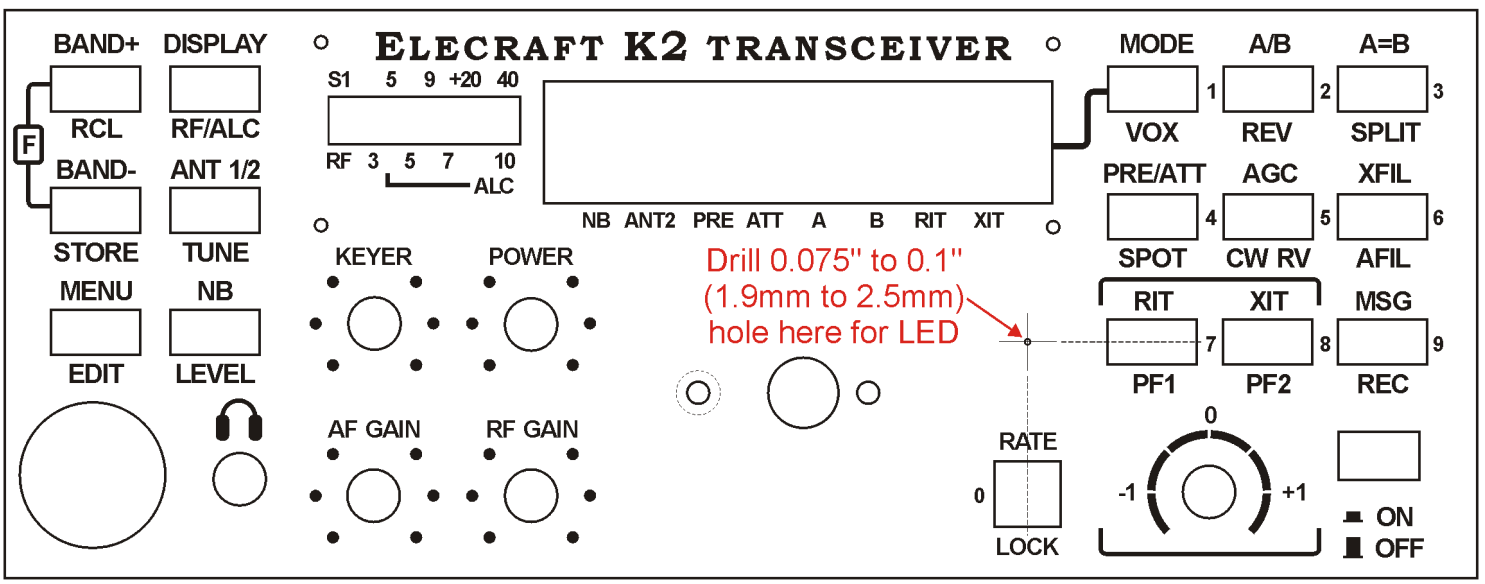
The PC board shown is installed with the FOIL side facing *away* from the FP board and the components mounted on the FOIL side of the board. Leads must be pre-trimmed to fit INTO the PC board hole, but to NOT extend out past the non-foil side (flush-trimmed). The large PCB land is drilled to accept a 4-40 mounting screw at that location. The electrolytic cap leads solder directly to the foil, no holes.

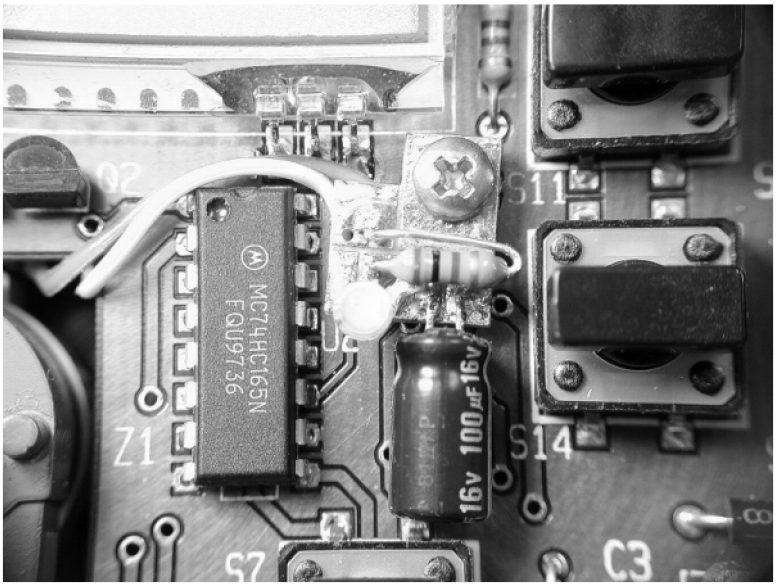
Component Placement



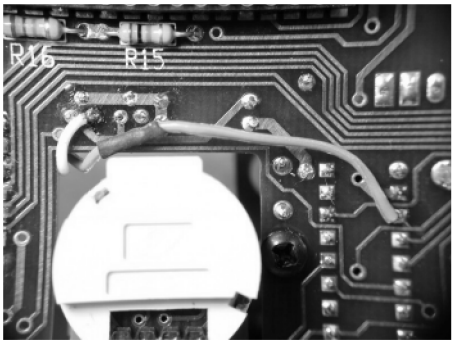
LED = Hi-Eff or Ultra-Brite (10mA) T-1 (3mm) Resistor = 870Ω 1/8W (or 1/4W) Capacitor = 100uF 10V



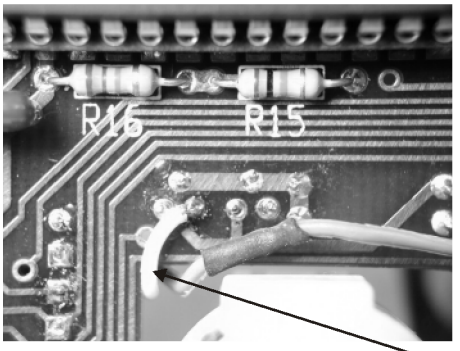




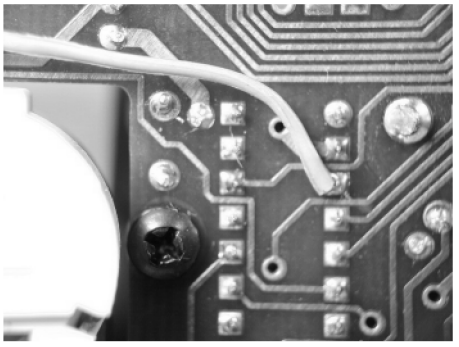
K2 RIT-SPLIT LED Mod PC board Installed. The ground connection is achieved via the mounting screw.



Rear of FP board, showing the two connection points for the wires from the LED mod PC board.

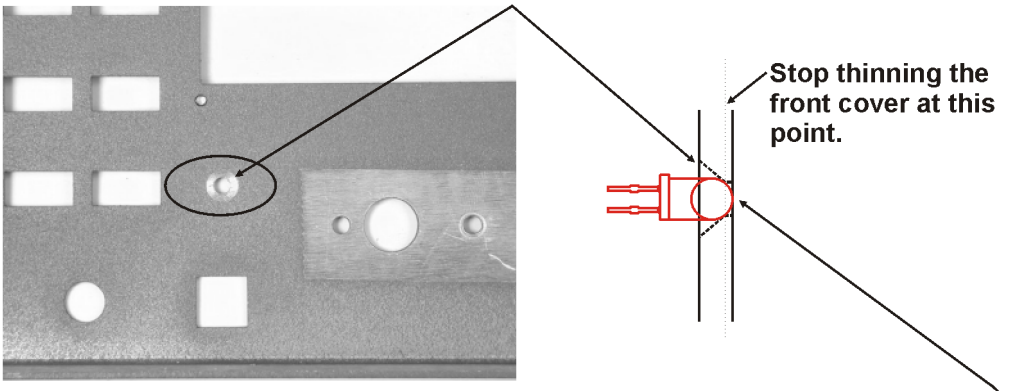


Close-up of rear of FP board showing connection point for the RP2 pin 1 lead from LED mod PC board (white wire).



Close-up of rear of FP board showing connection point for the U3 pin 3 lead from LED mod PC board (grey wire).

Drill a .075" to 0.1" (1.9mm to 2.5mm) diameter hole for the LED. Then, using a much larger drill bit, countersink the back side of the hole to 'thin' the panel thickness so the LED can sit closer to the front surface of the cover. WORK VERY CAREFULLY! It doesn't take much effort to drill through the front panel with the larger bit!



Rear of K2 case front cover, showing the hole drilled for the LED and how a larger drill bit was used to 'thin' the thickness of the panel to allow the tip of the LED to be flush with the front of the panel without having to enlarge the diameter of the mounting hole.