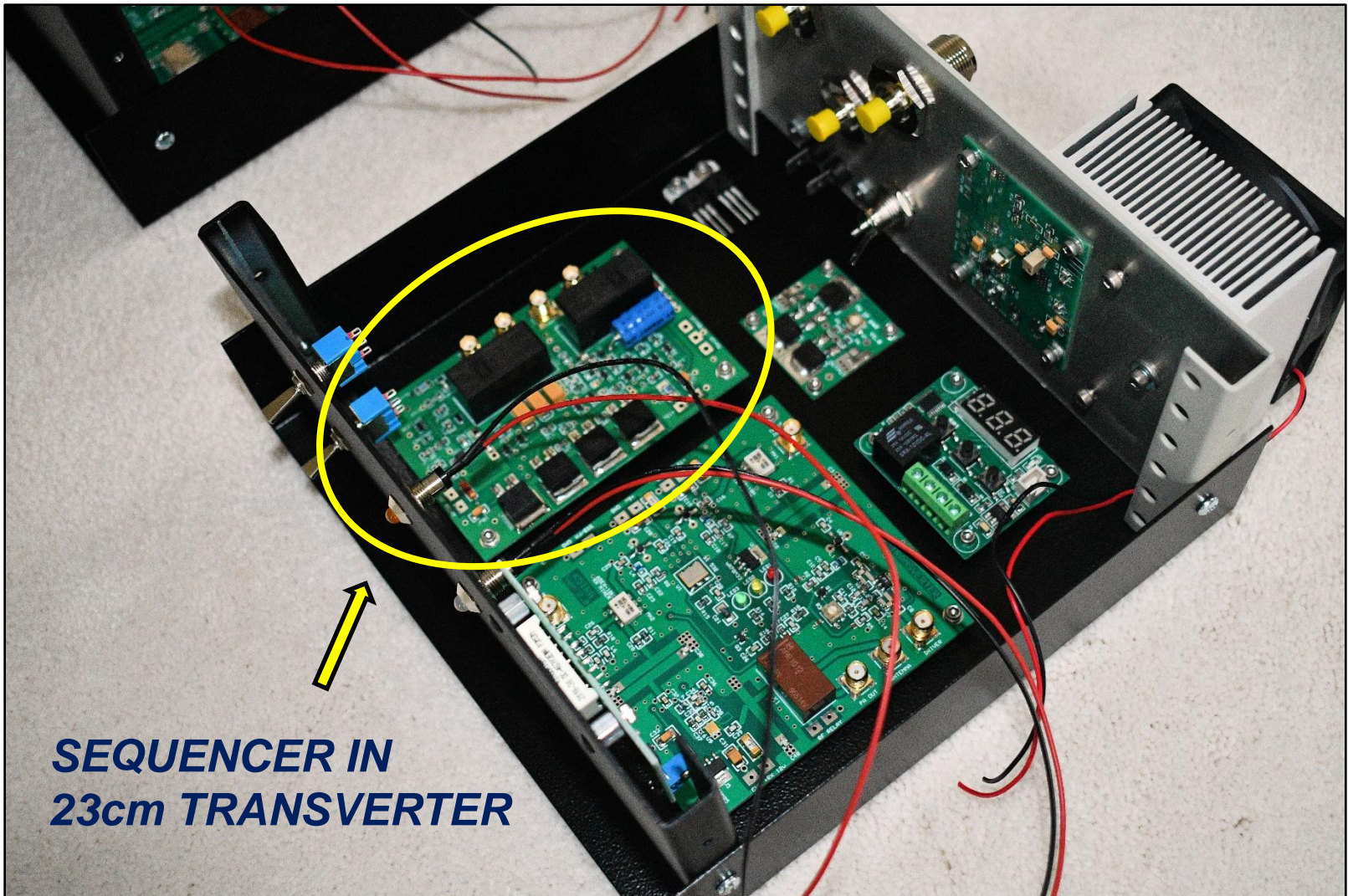


# RF Keyed DC Sequencer

*DESIGN and LAYOUT USED IN  
K5TRA 33cm, 23cm, 13cm and 3cm  
TRANSVERTERS*

# SEQUENCER BOARD IN TRANSVERTER



**SEQUENCER IN  
23cm TRANSVERTER**

# SEQUENCER OVERVIEW

- +12v DC operation
- IF keyed with +10 dBm threshold
- IF bypass to IF antenna when not powered
- TX IF pad switching
- RX IF post-amp with pad
- Three sequenced outputs:
  - RX +12V
  - TX +12V
  - Relay +12V
- Surface mount assembly

# SEQUENCE TIMING

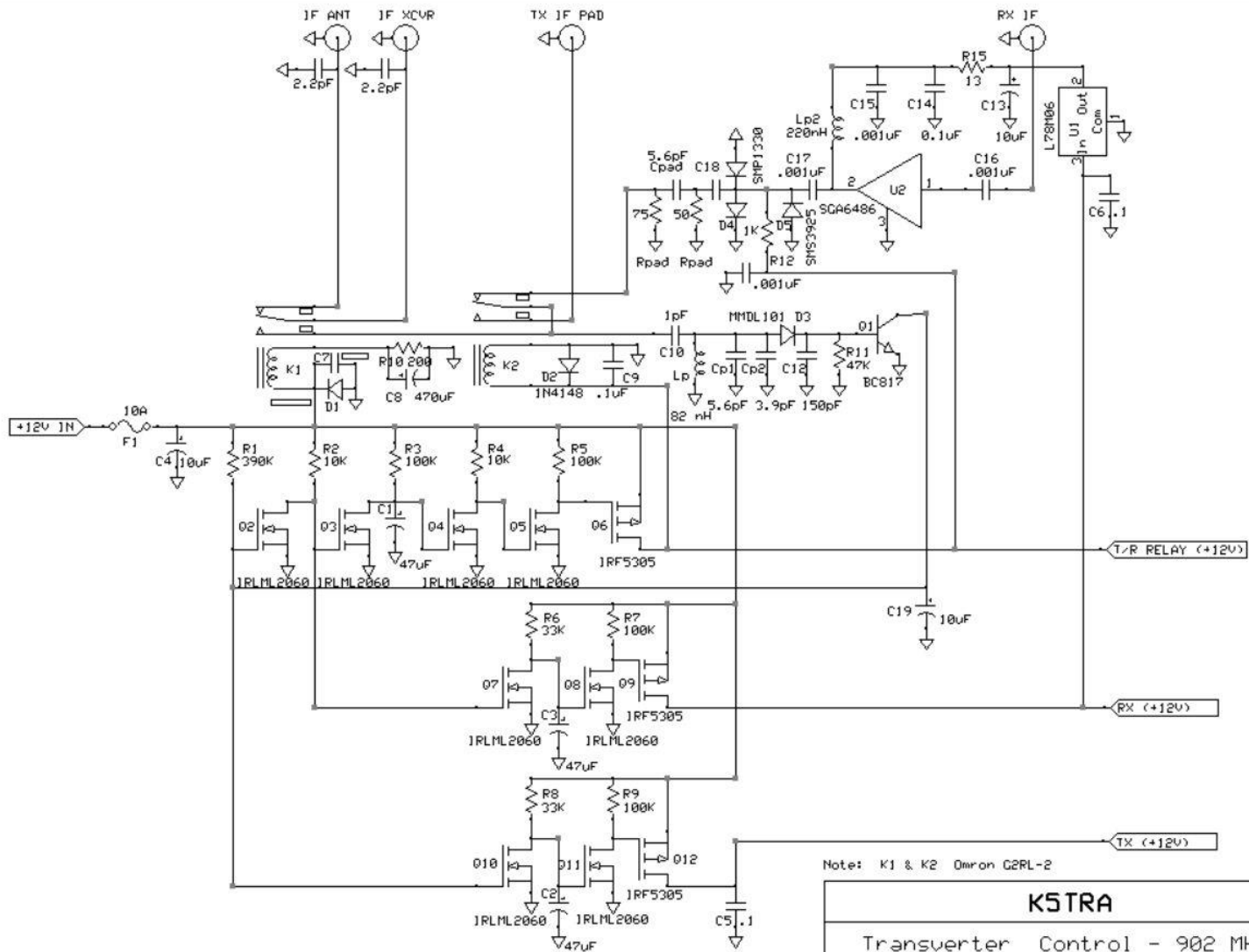
IF EVENT	DETECTOR DELAY (HOLD TIME)	TX DC			RX DC			RELAY DC		
		INITIAL STATE	END STATE	TRANSITION TIME	INITIAL STATE	END STATE	TRANSITION TIME	INITIAL STATE	END STATE	TRANSITION TIME
TX KEY	0 S	0 v	12 v	240 mS	12 v	0 v	80 mS	0 v	12 v	0 S
TX UNKEY	620 mS	12 v	0 v	80 mS	0 v	12 v	240 mS	12 v	0 v	850 mS

- Fast attack switching when IF TX is keyed
  - Relay switched immediately
  - RX IF attenuation increased immediately
  - RX powered off ~ 80mS
  - TX powered on ~ 240 mS
- Detector hold time ~ 620 mS before RX transition
- RX transition
  - TX powered off ~ 80 mS
  - RX powered on ~ 240 mS
  - Relay power off ~ 850 mS

# CIRCUIT SUMMARY

- IF signal detector tuned: +10 dBm threshold
- Lp, Cp1 and Cp2 set detector resonance
- RX IF post-amp and pad ~ 6 dB net gain
- PIN diode provides added protection of post-amp
- TX relay switched transmit IF pad
- RC time constants set control sequence times
- 3.8" x 2.5" FR4 circuit board

# SEQUENCER SCHEMATIC

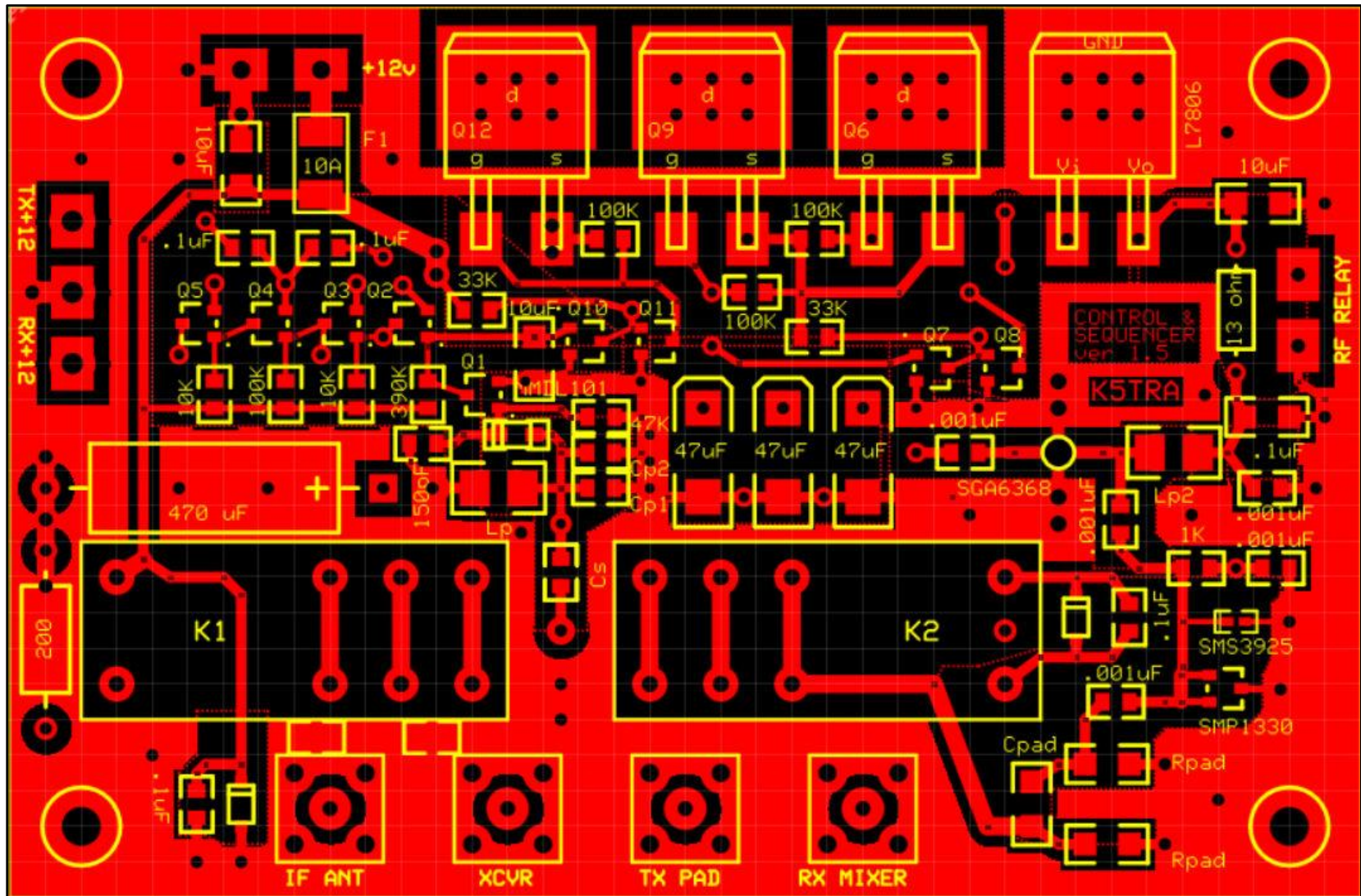


Note: K1 & K2 Omron G2RL-2

<b>K5TRA</b>		
Transverter Control - 902 MHz		
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# SEQUENCER – TOP METAL



# SEQUENCER – BOTTOM METAL

