GALAXY 2100 TEN METER EXPANSION

• *JAMES VAUGHAN*

1.ON SOLDER SIDE OF CIRCUIT BOARD , LOCATE PIN 9 OF IC5 (MC145106P). CUT FOIL TRACE TO ISOLATE PIN 9 WITH A RAZOR BLADE OR XACTO KNIFE.

2.BRIDGE ACROSS THE BREAK YOU JUST MADE, WITH A 4.7K OHM RESISTOR.

3.SOLDER A JUMPER WIRE FROM PIN 9 TO PIN B OF S10.(SEE FIGURE ONE)

4.SOLDER A JUMPER WIRE FROM A +8VDC SOURCE TO PIN A OF S10.

5.SOLDER A JUMPER WIRE FROM A GROUND SOURCE TO PIN C OF S10.

NOTE:THE FOIL TRACE YOU CUT AWAY FROM PIN 9 IN STEP 1 IS GROUND.

6.CONNECT A JUMPER FROM PIN C TO PIN D OF S10.

7.LOCATE JUMPER 13 (A WHITE WIRE), AT THE VERY FRONT OF THE CIRCUIT BOARD, JUST ABOUT CENTER. TRACE THE WIRE BACK TO THE HI/LO SWITCH ON THE FRONT OF THE RADIO. UNSOLDER JUMPER 13 FROM THE CIRCUIT BOARD AND SOLDER A NEW JUMPER FROM THAT POINT TO PIN E OF S10. LEAVE HI/LO SWITCH END OF JP13 INTACT.

8.SOLDER THE END OF JUMPER 13 YOU JUST DISCONNECTED FROM THE CIRCUIT BOARD TO PIN F OF S10.

9.MOUNT SWITCH S10 AT A CONVENIENT PLACE ON THE RADIO. KEEP THE LEADS AS SHORT AS POSSIBLE.

WHAT SWITCH S10 DOES

S10A CONTROLS PIN 9 OF IC5. PIN 9 IS THE MOST SIGNIFICANT BIT (MSB) PIN OF IC5. IT IS WIRED LOW,(GND), IN AN UNMODIFIED RADIO. ONE POSITION OF S10A KEEPS PIN 9 IN THAT STATE. THE OTHER POSITION APPLIES +8VDC TO PIN 9 FORCING IT HIGH. THIS CAUSES THE N-CODE TO SHIFT UP BY 264 COUNTS.

THE OTHER HALF OF S10, S10B, CUTS OUT C92 WHICH IS ACROSS TUNING COIL L17 OF THE VCO. THIS LEAVES THE VCO OPERATING AS IF THE BAND SWITCH WERE IN THE "HI" POSITION, EVEN IF THE BAND SWITCH IS IN "LO".

SO, IN THE NORMAL POSITION, PIN 9 OF IC5 IS LOW, AND THE VCO TUNING IS CONTROLLED BY THE HI/LO SWITCH. THE LOOP MIXING CIRCUIT IS ALSO CONTROLLED BY THE HI/LO SWITCH. IN THE TEN METER POSITION, PIN 9 OF IC5 IS HIGH AND THE TEN METER SWITCH S10, HOLDS THE VCO IN THE "HI" POSITION. THE HI/LO BAND SWITCH ONLY CONTROLS WHICH LOOP MIXING CIRCUIT IS USED.

HOWTOUSES10

1.PUT THE BAND SWITCH IN D/A.

2.PUT THE HI/LO SWITCH ON "LO". WITH UNIT ON CHANNEL ONE, FREQUENCY COUNTER SHOULD READ 25.615MHz.

3.SWITCH S10 FROM NORMAL TO THE TEN METER POSITION. FREQUENCY COUNTER SHOULD NOW READ 28.175MHz.

YOU NOW HAVE THE FOLLOWING CAPABILITIES:

LO - ¦BAND A = 28.175-28.615
¦BAND B = 28.625-29.065
¦BAND C = 29.075-29.515

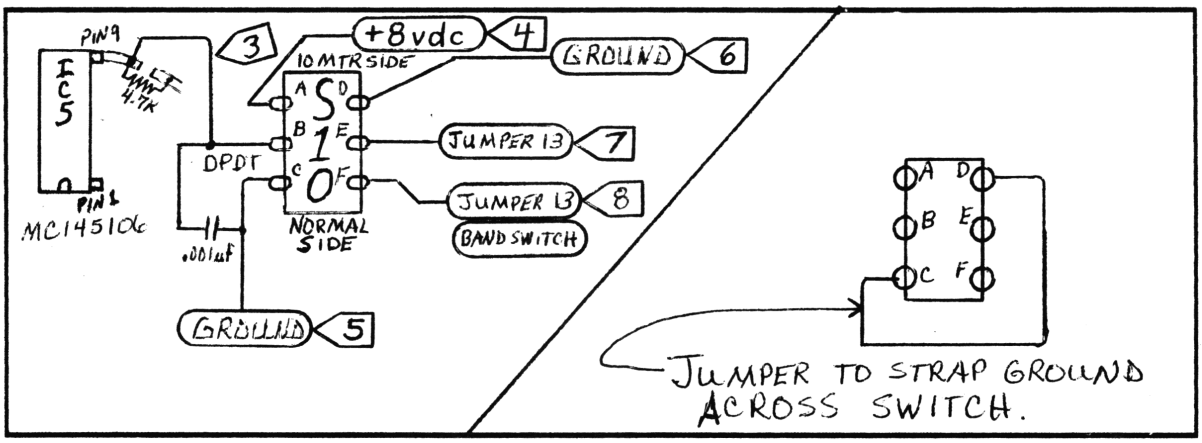

FIGURE 1. GALAXY 2100

¦BAND D = 29.525-29.965
HI - ¦BAND E = 29.975-30.000,(USUALLY QUITS ABOUT 30.065)

NOTE: THE TX POWER STARTS RUNNING OUT OF STEAM AROUND 29.000MHz. MUST BE RETUNED IF YOU WANT AN EVEN POWER SPREAD MUCH ABOVE THAT.

GALAXY 2100 ROGER BEEP

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HOWITWORKS

TR33, THE ROGER BEEP AUDIO OSCILLATOR IS POWERED BY THE +8VDC TX (B+) SOURCE TR38. PRESSING THE MIKE KEY CAUSES 2 DIODES (D81 & D82) TO CONDUCT. D82 GROUNDS OUT THE TR33 ROGER BEEP TONE (IT WOULD NORMALLY PASS THROUGH R179 TO THE MIKE AMP, IC4). D81 CHARGES A TIMING CIRCUIT CONSISTING OF C134, R174 AND A SECTION OF IC4. RELEASING THE MIKE KEY SIMUTANEOUSLY