

# MODIFICATIONS FOR

SBE CONSOLE V, CONSOLE IV AND NEW MODELS, AND SIDEBANDER II

PAGES A. THRU M.

- 1- Make your TX. work for max. power (30 to 50 pep)
- 2- Make a slider + 12 KC - 10 KC
- 3- Make your clarifier work on TX.
- 4- Change modifications in excess of 60 channels.

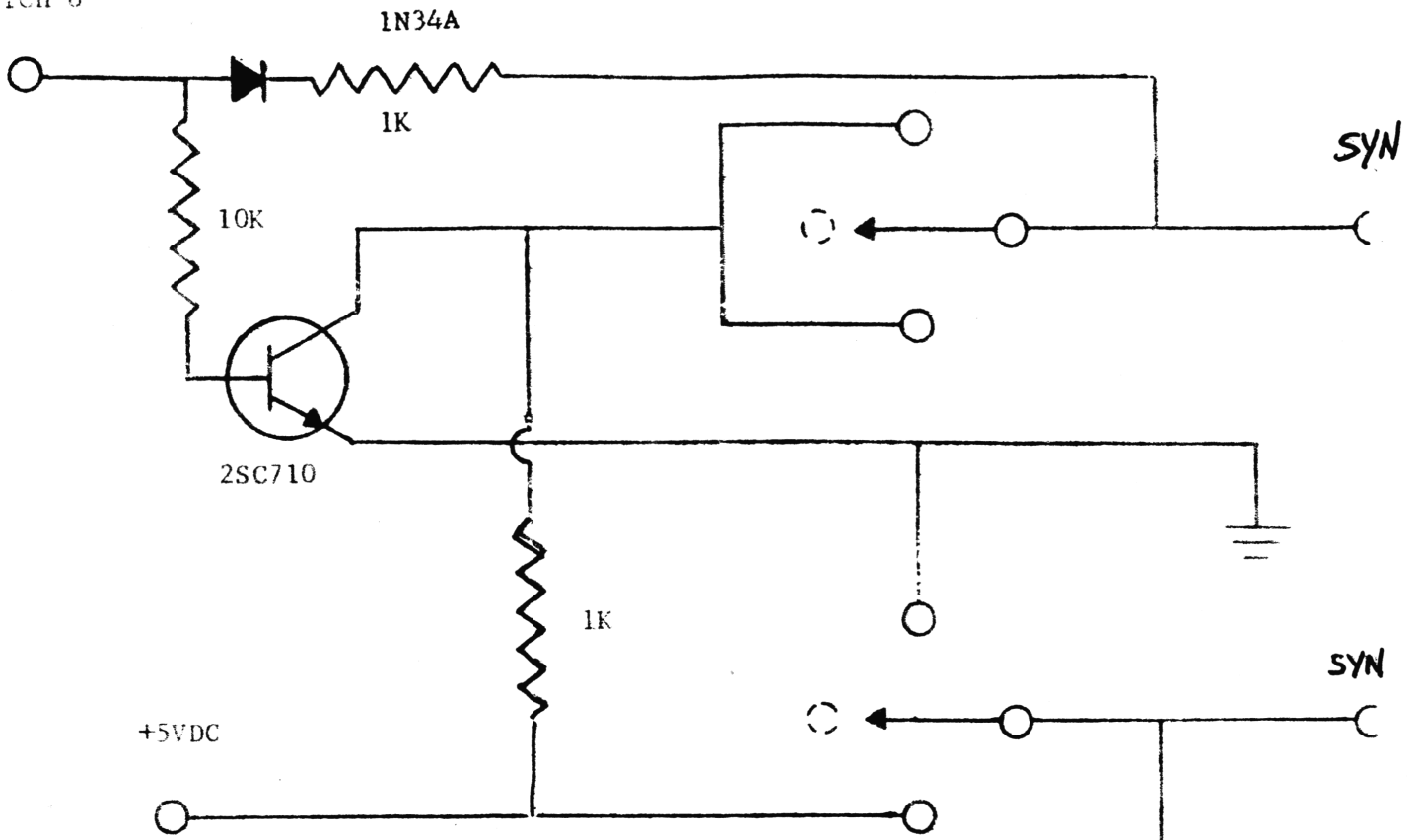
## Parts needed:

Amount	Part
3	1K * $\frac{1}{4}$ watt resistors
1	10K * $\frac{1}{4}$ watt resistors
2	Diode 1N60P or 1N34A
1	Transistor 2SC710 or Equiv.
1	Miniature D.P.-D.T. center off switch
1	8.2 uh Choke
1	470 uh Choke
1	1S2688 Diode

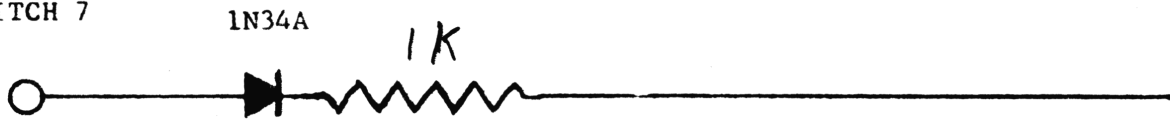
## Caution

Information contained herein is not to be used for illegal modification of transmitters in the United States within the 11 meter band. This information is for AMATEUR and/or EXPORT use only.

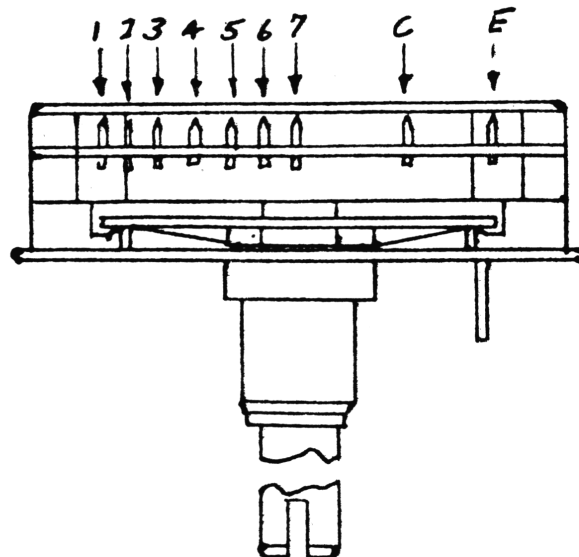
SWITCH 6

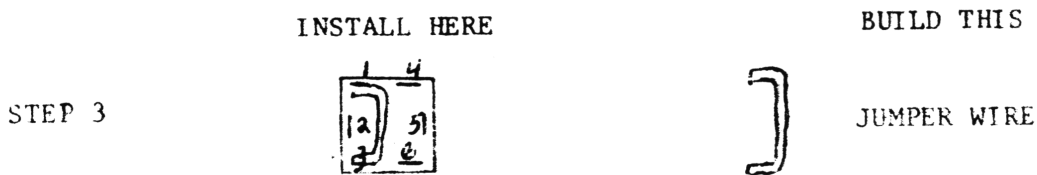
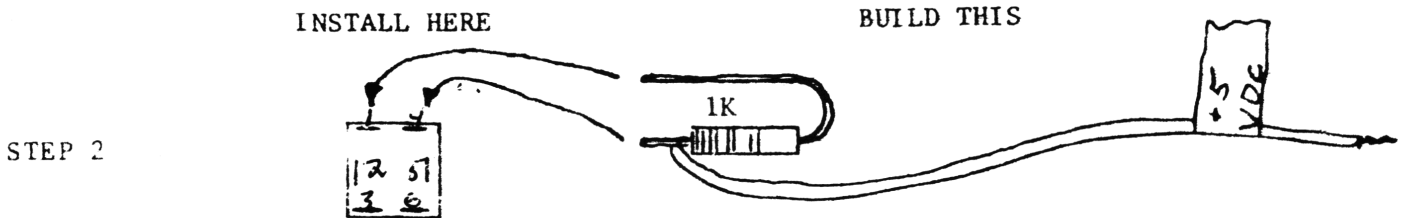
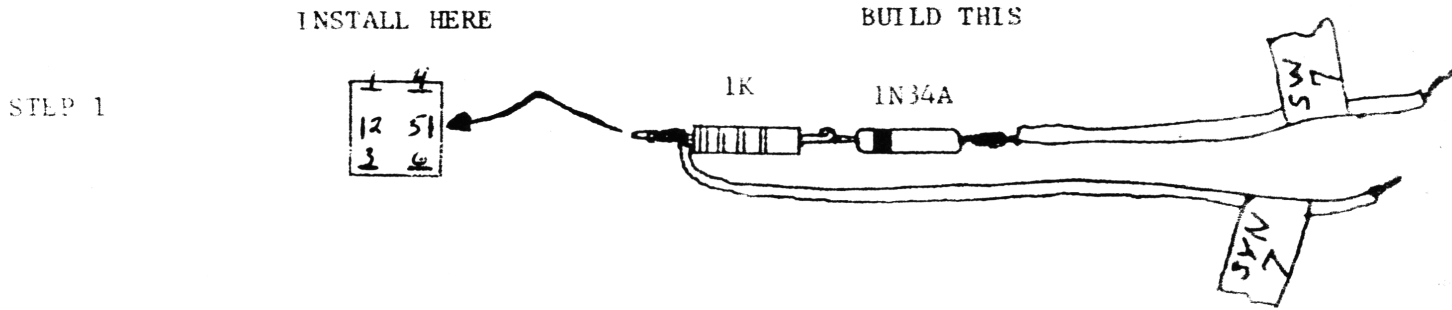
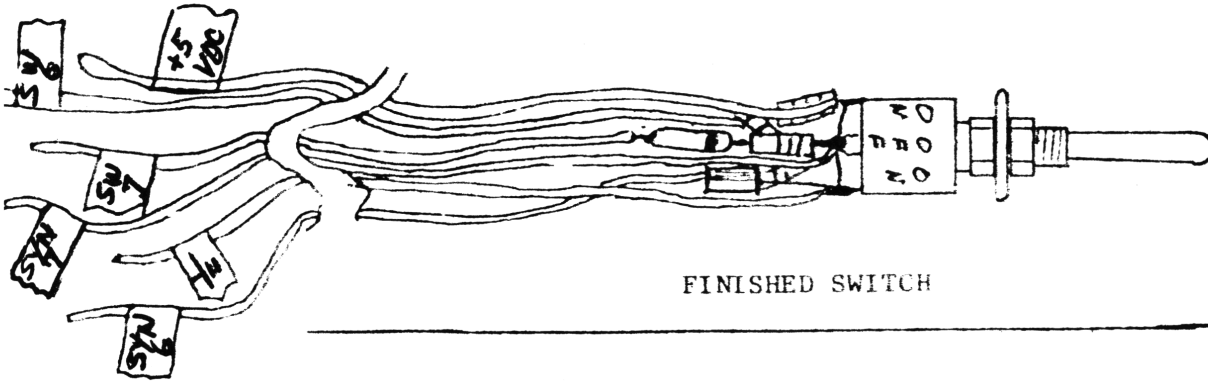
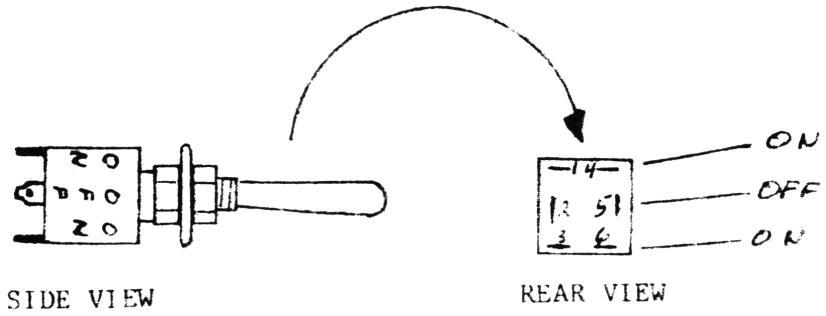


SWITCH 7

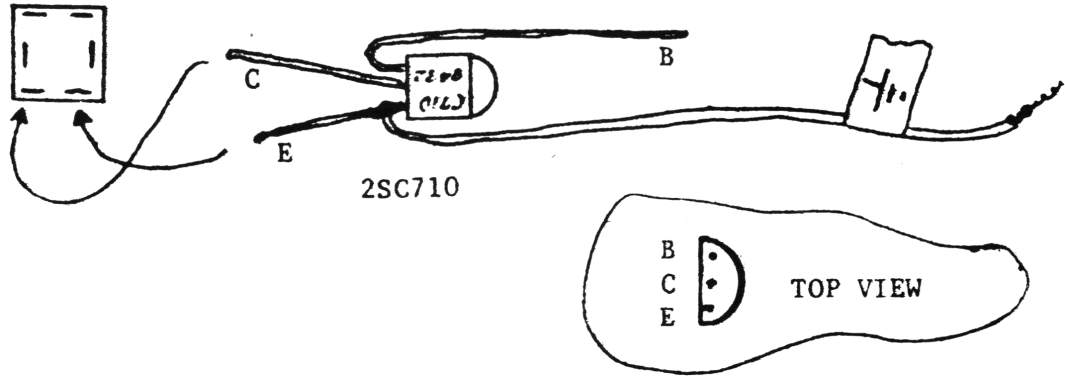


SWITCH SCHEMATIC





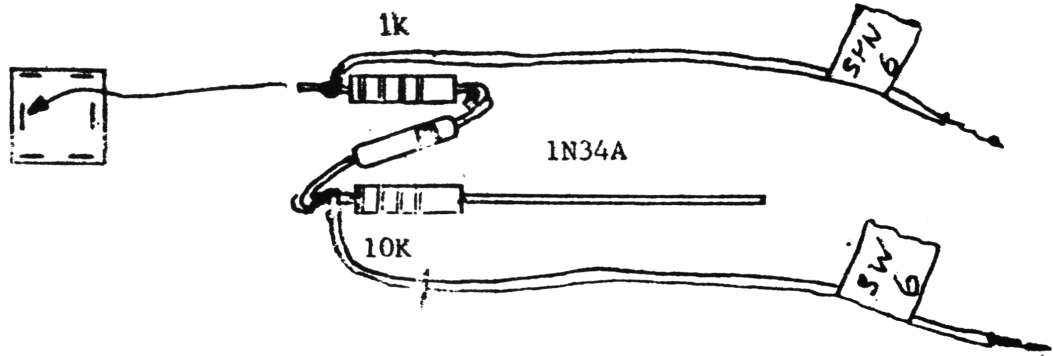
STEP 4



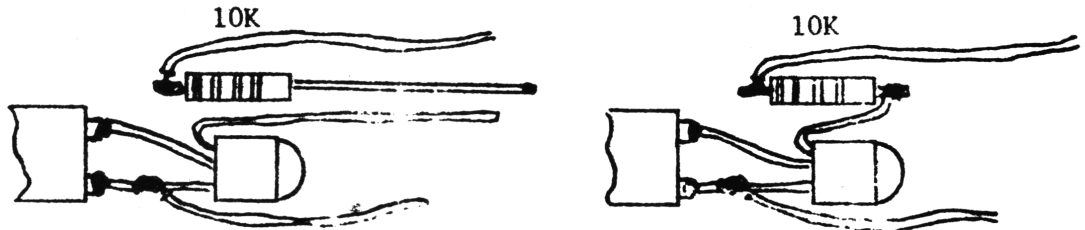
INSTALL HERE

BUILD THIS

STEP 5

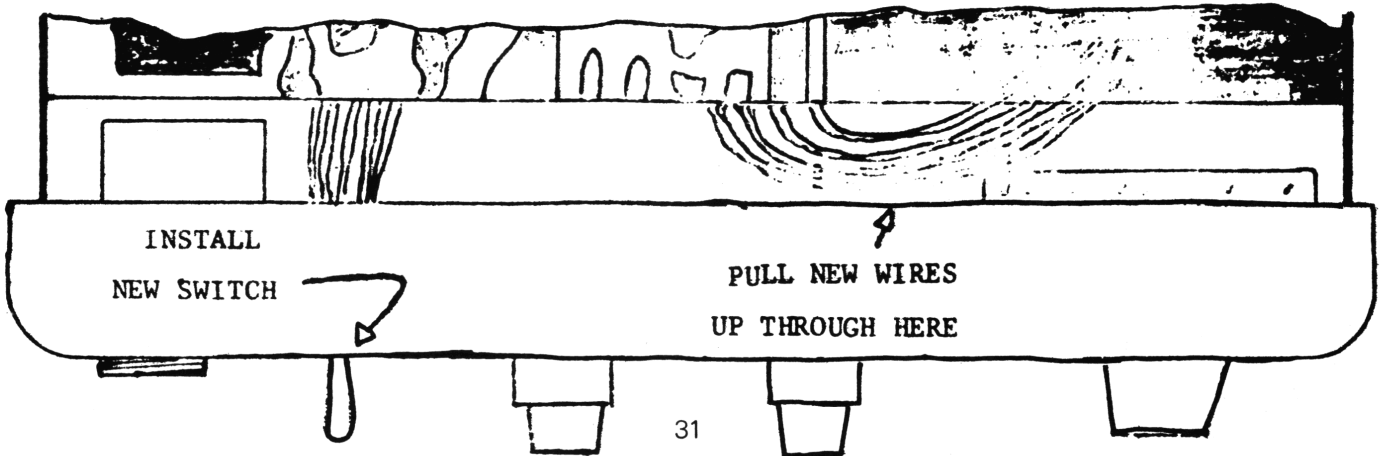


STEP 6

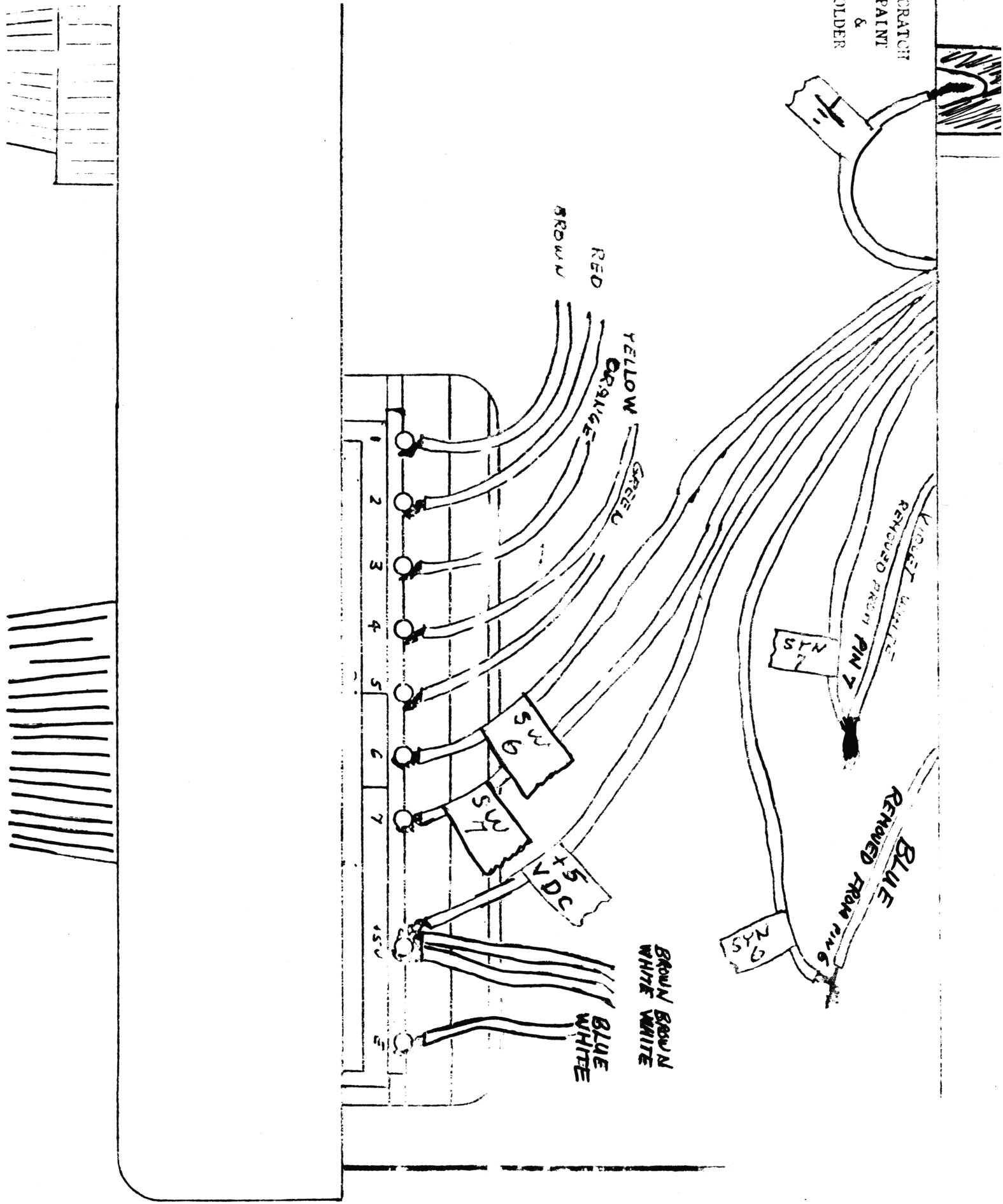


CONNECT 2SC710 BASE TO 10K RESISTOR

SWITCH COMPLETE



CRATCHER  
PAINT  
&  
GLIDER

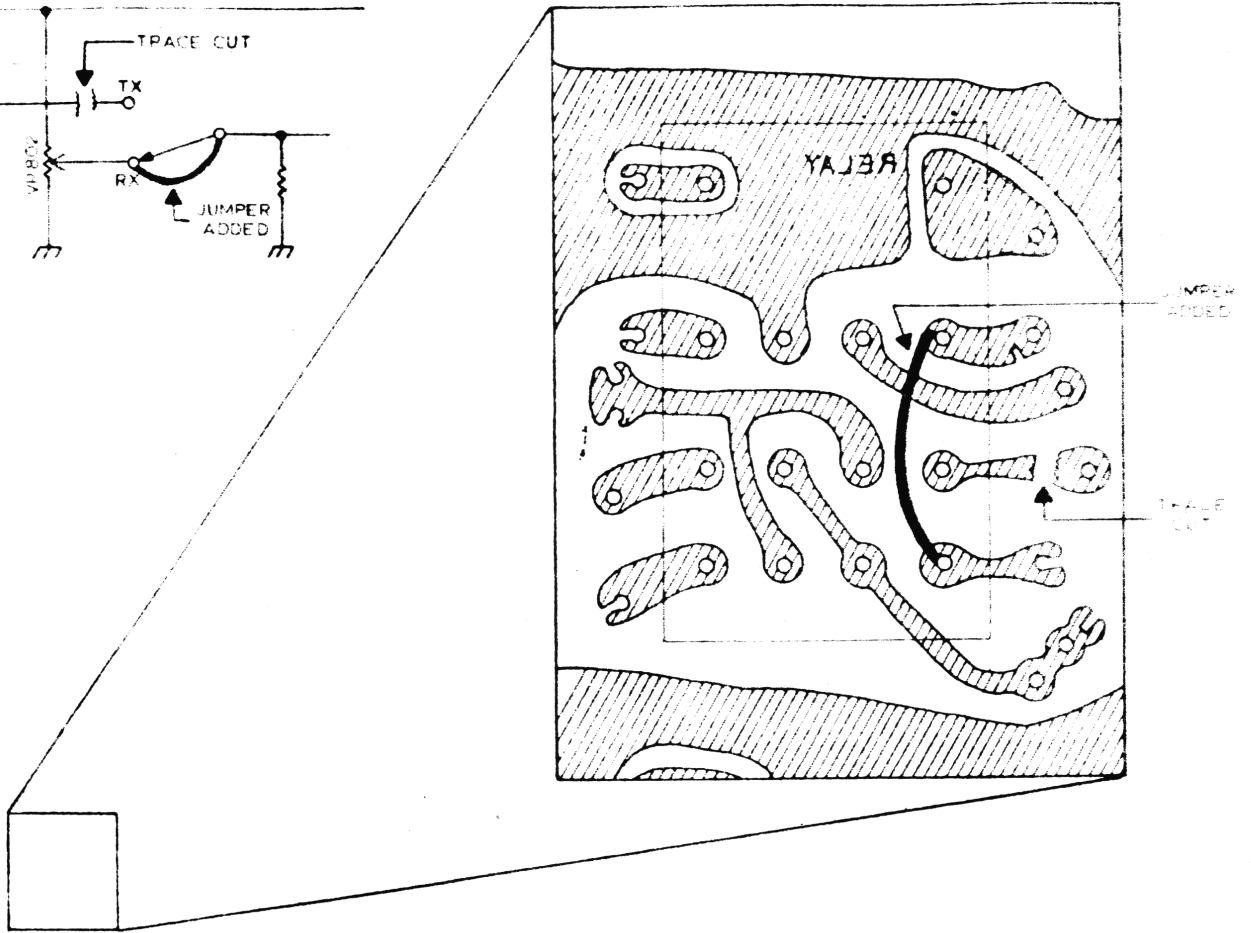
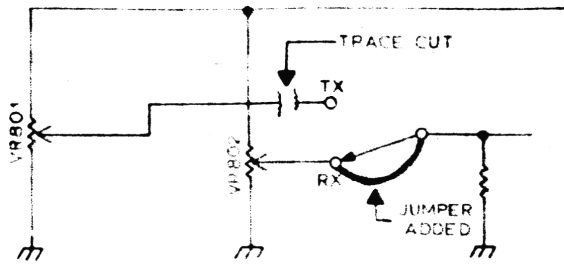


REMOVE WIRES FROM PINS 6 & 7. CONNECT  
PER DRAWING AND TAPE IDENTIFICATIONS

CHANNEL SWITCH	UP	CENTER	DOWN
1	28	1	26.645
2	29	2	26.655
3	30	3	26.665
4	32	4	26.685
5	33	5	26.695
6	34	6	26.705
7	35	7	26.715
8	37	8	26.735
9	38	9	26.745
10	39	10	26.755
11	40	11	26.765
12	27.425	12	26.785
13	27.435	13	26.795
14	27.445	14	26.805
15	27.455	15	26.815
16	27.475	16	26.835
17	27.485	17	26.845
18	27.495	18	26.855
19	27.505	19	26.865
20	27.525	20	26.885
21	27.535	21	26.895
22	27.545	22	26.905
23	27.575	23	26.935
24	27.555	24	26.915
25	27.565	25	26.825
26	27.585	26	26.945
27	27.595	27	26.955
28	27.605	28	1
29	27.615	29	2
30	27.625	30	3
31	27.635	31	3A
32	27.645	32	4
33	27.655	33	5
34	27.665	34	6
35	27.675	35	7
36	27.685	36	7A
37	27.695	37	8
38	27.705	38	9
39	27.715	39	10
40	27.725	40	11

Note: Some units won't stretch below 26.705

1. How to make clarifier work on TX.



2. How to peak TX for maximum output. Refer: Fig. #3. **PAGE J**

Select mode USB or LSB. Do not use AM. Select channel 19. Turn ALC adjustment to maximum clockwise (viewed from radio front). Whistle into microphone or inject 20mV @ 2.4KHz into microphone jack. Peak #1, #2, and #3 for maximum output. Should be between 16 and 25 watts. (32 to 50 watts PEP input). Rotate all adjustments counter clockwise until a 3 to 4 watt decrease is reached.

Note: If all is not adjusted for a 3 to 4 watt decrease, severe SSB distortion will result.

Do not attempt to peak on AM. Low SSB output will result.



## SBE-39CB SIDEBANDER V AND SBE-40CB CONSOLE V

Modification of the Sidebander V/Console V for additional channels is identical to that of the Sidebander IV with the exception of the circuit connection points of the additional switch which is required.

Modification of the Sidebander V/Console V is as follows:

1. Wire switch as shown on pages C - E.
2. Remove PLL shield cover in radio. Remove PLL PC board from shield box.
3. Locate and unsolder the blue and violet wires connected to the main PC board. With the radio facing you, the wires are located on the left end of the M58476 IC on the main PC board. There are seven wires there numbered 1 thru 7.
4. Referring to the switch drawing on page E, the connection labeled SYN6 should be soldered to the blue wire removed in step 3. The wire labeled SYN7 should be soldered to the violet wire removed in step 3.
5. The wire labeled switch 6 should be soldered to the point on the main PC board where the blue wire in step 3 was removed from. The wire labeled switch 7 should be soldered to the point on the main PC board where the violet wire in step 3 was removed from.
6. Locate on main PC board, positive lead of capacitor C818, 47mfd @ 16VDC. This is the 5VDC bus for UP/DOWN unit. Lead from switch marked + 5VDC should be soldered to this point.

This completes modification of the Sidebander V/Console V. Any additional modifications listed for the Sidebander IV also apply to the Sidebander V/Console V.

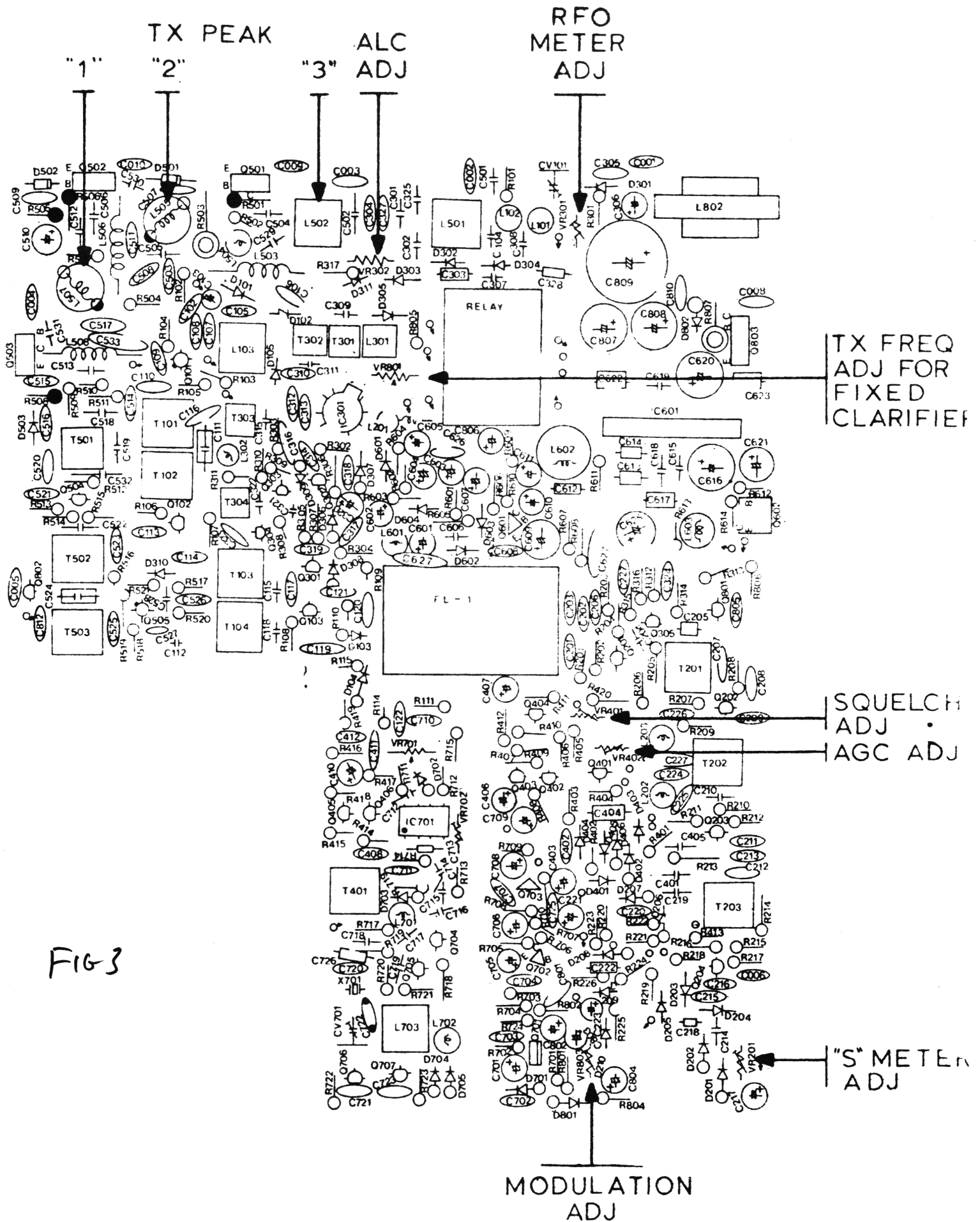
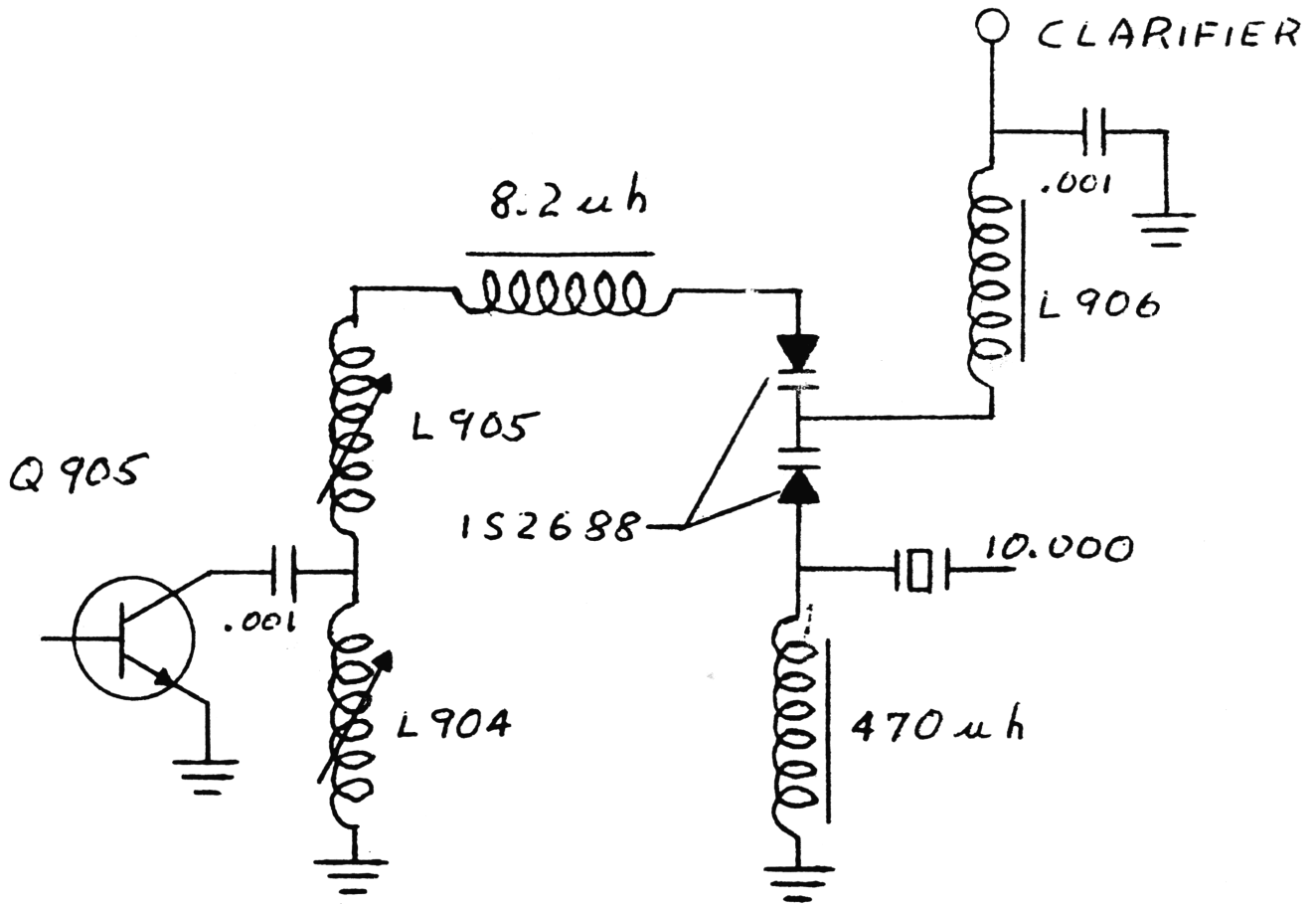


FIG 3

"SLIDER"

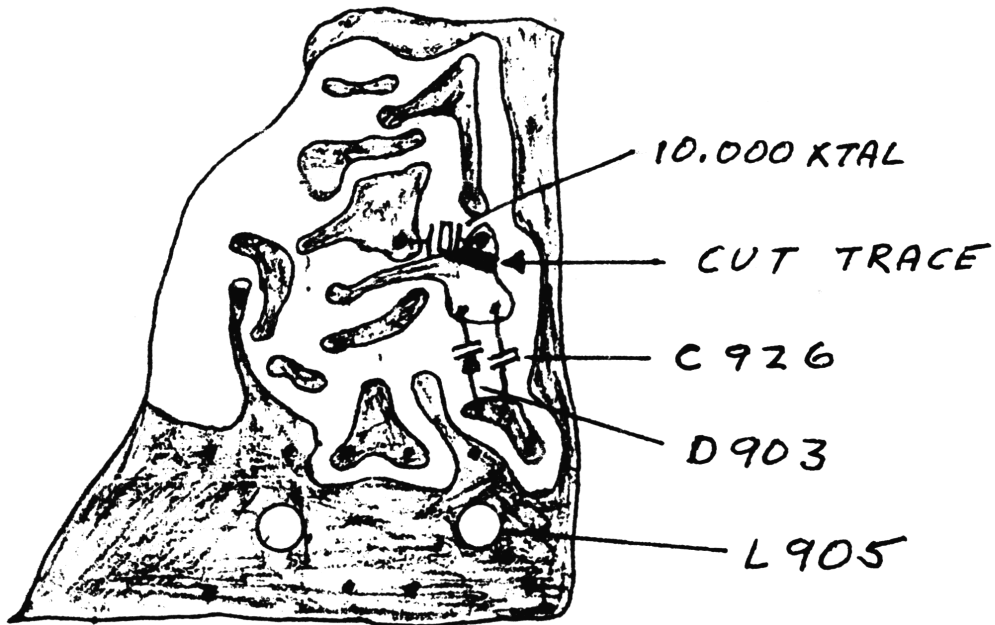


PARTS NEEDED

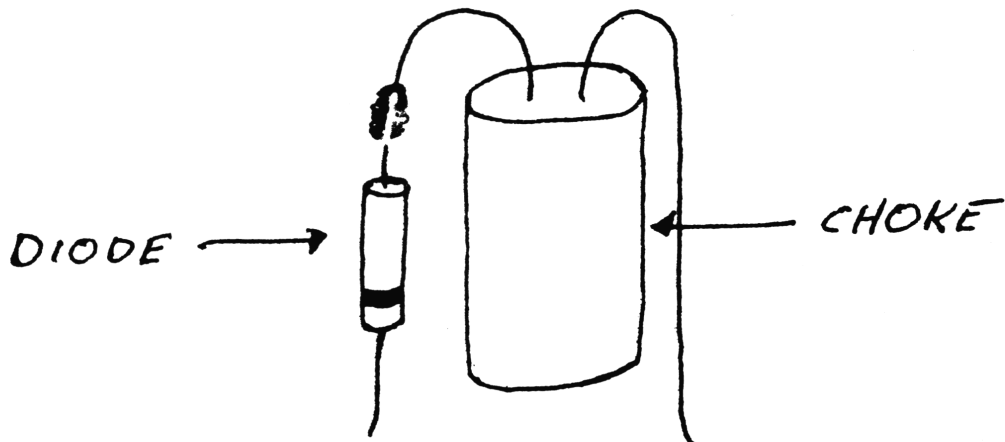
<u>QTY</u>	<u>DESCRIPTION</u>
1	8.2 u h CHOKE
1	470 u h CHOKE
1	1S2688 DIODE

# INSTALLATION INSTRUCTIONS

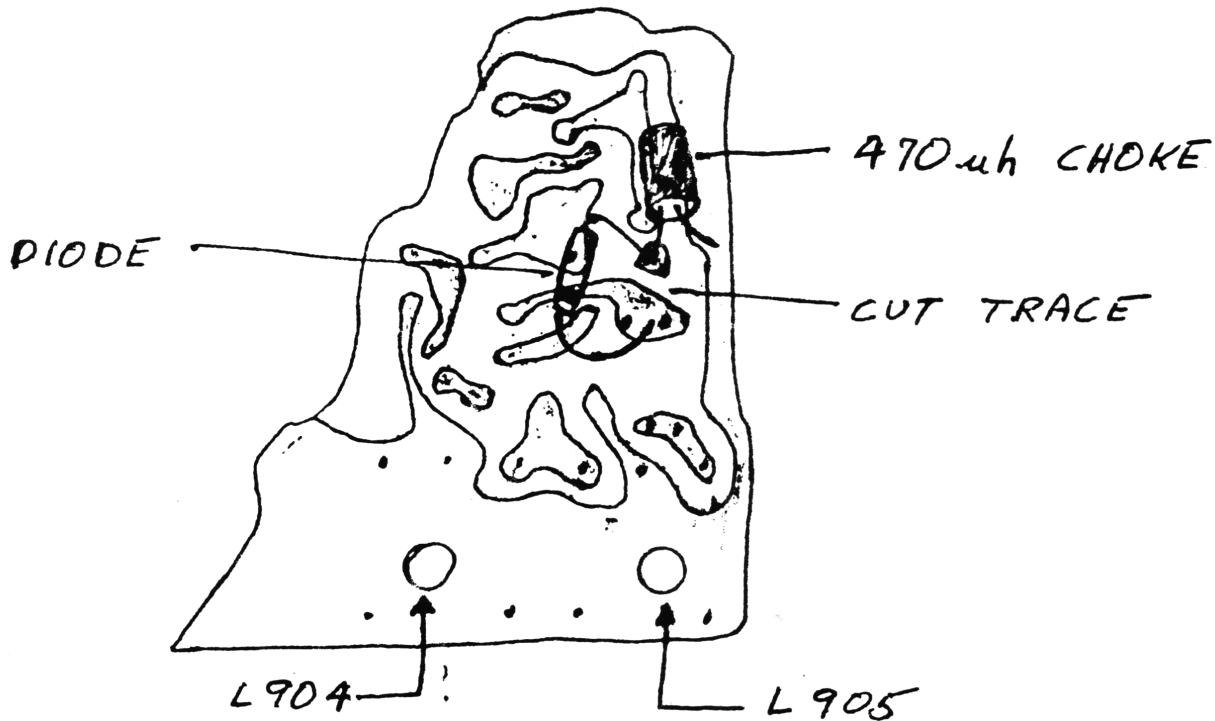
1. REMOVE SPEAKER FOR SYNTHESIZER ACCESS
2. REMOVE SYNTHESIZER COVER
3. LIFT SYNTHESIZER BOARD FOR PARTS SIDE ACCESS
4. REMOVE C 926 22pF AND DISCARD
5. REMOVE D903 1S2688 AND SAVE
6. CUT TRACE NEXT TO XTAL



7. SOLDER ANODE OF D903 TO NEW CHOKE 8.2  $\mu$ h



8. INSTALL CHOKE-DIODE COMBINATION IN C 926 HOLES WITH CHOKE TOWARDS L 905
9. INSTALL NEW 470 $\mu$ h CHOKE ON BOARD SIDE FROM XTAL TO GROUND.



10. INSTALL NEW DIODE 1S2688 FROM XTAL TO CATHODE OF DIODE IN STEPS 7 & 8. NOTE: CATHODE TO CATHODE CLARIFIER CENTER POSITION
11. SET CHANNEL 20 AM, AND TRANSMIT INTO LOAD AND MONITOR COUNTER.
12. TUNE L904 COUNTER CLOCKWISE "FOIL SIDE OF BOARD" UNTIL NO MORE INCREASE IN FREQ. STOP TURNING.
13. TUNE L905 CLOCKWISE "FOIL SIDE OF BOARD" UNTIL FREQ = 27.2050 M HERTZ
- \*\* MODIFICATION COMPLETE. RESULTS SHOULD BE:
- A. CLARIFIER CENTER = CENTER FREQ
  - B. CLARIFIER CLOCKWISE  $\cong$  + 12 K HERTZ
  - C. CLARIFIER COUNTER CLOCKWISE  $\cong$  - 10 K HERTZ