

# BAND EXPANDER MODIFICATION KIT OF TR-7500

## INSTRUCTION MANUAL

This kit form is designed for additional band 144.000 to 144.975MHz of 2m FM transceiver TR-7500.

You can install this kit as follows:

Before you start to assembly the kit, read completely on the description and step-by-step assembly.

### 1) Parts list each 1 piece

- a) Switch
- b) Crystal
- c) Trimmer 20pF
- d) Capacitor 5pF
- e) Capacitor  $0.01\mu$  (103Z)
- f) Inductor  $150\mu$ H (151)
- g) Mode knob
- h) Diode
- i) Wire insulated plus pin 12cm  
strip 10cm
- j) Insulator tube 10cm

### 2) Tools needed

- a) Iron solder
- b) Screw drivers
- c) 3mm nut driver
- d) Radio plier and nipper

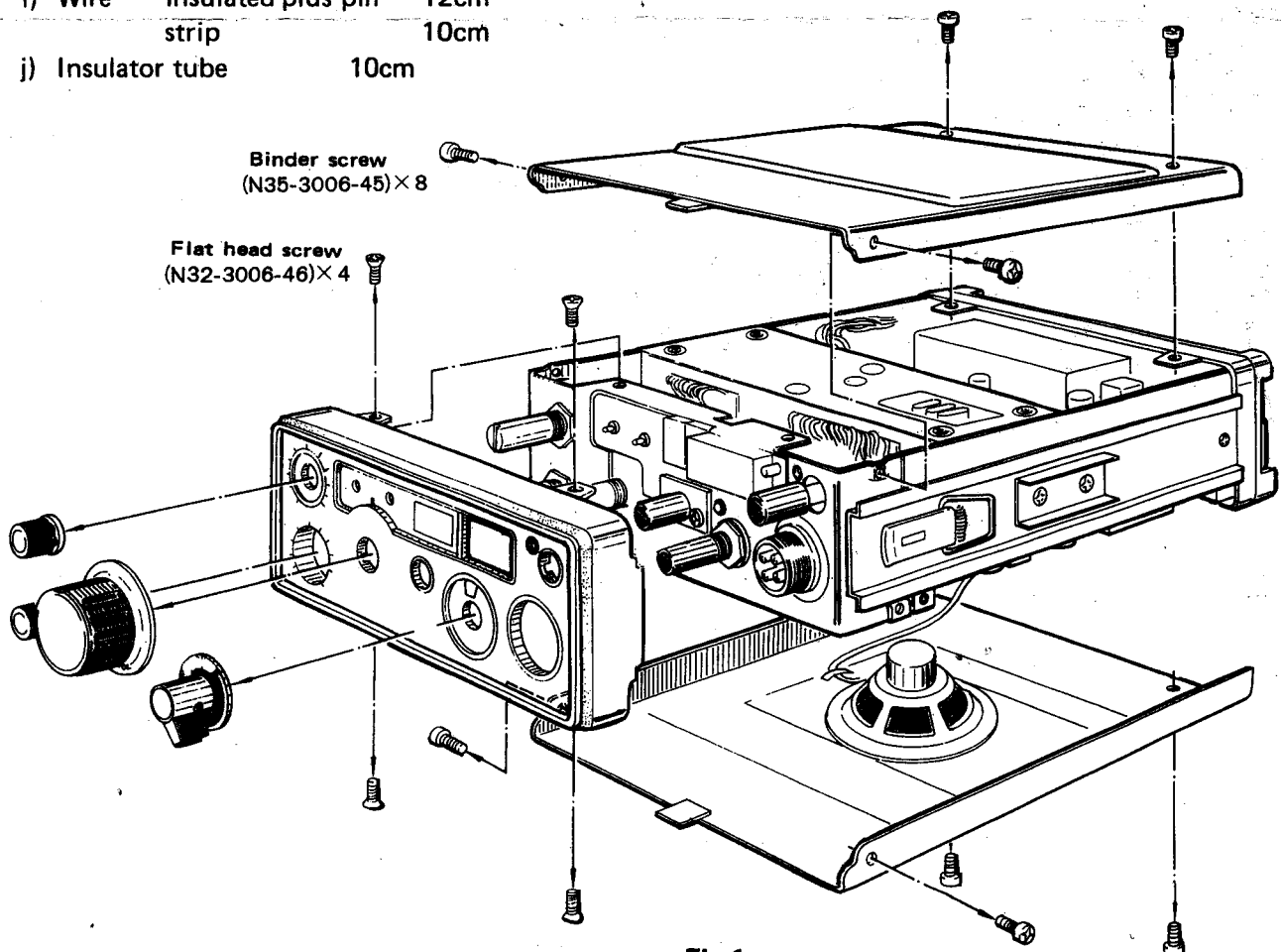


Fig.1

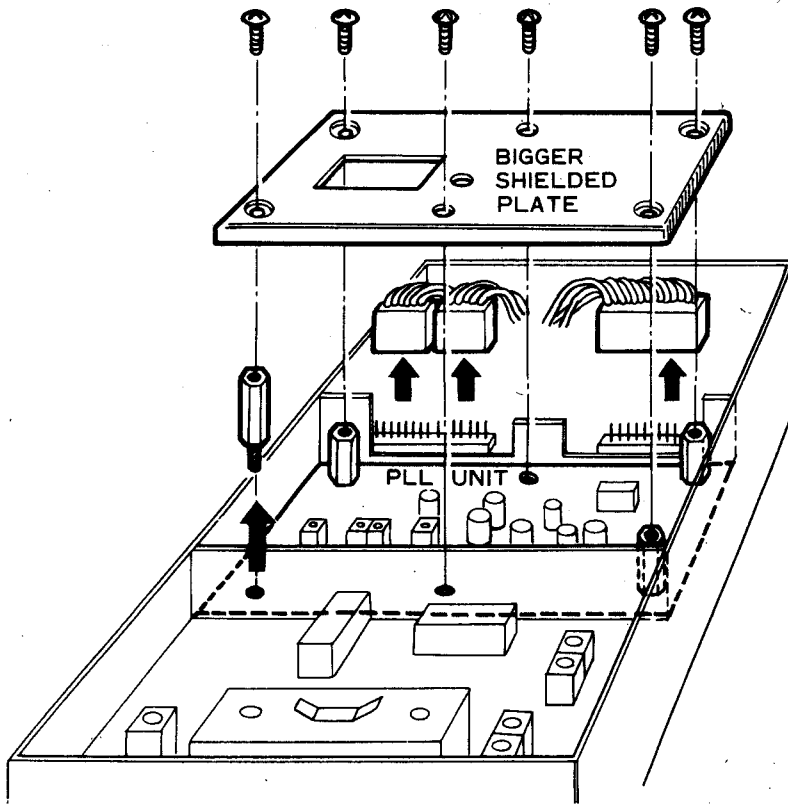


Fig. 2

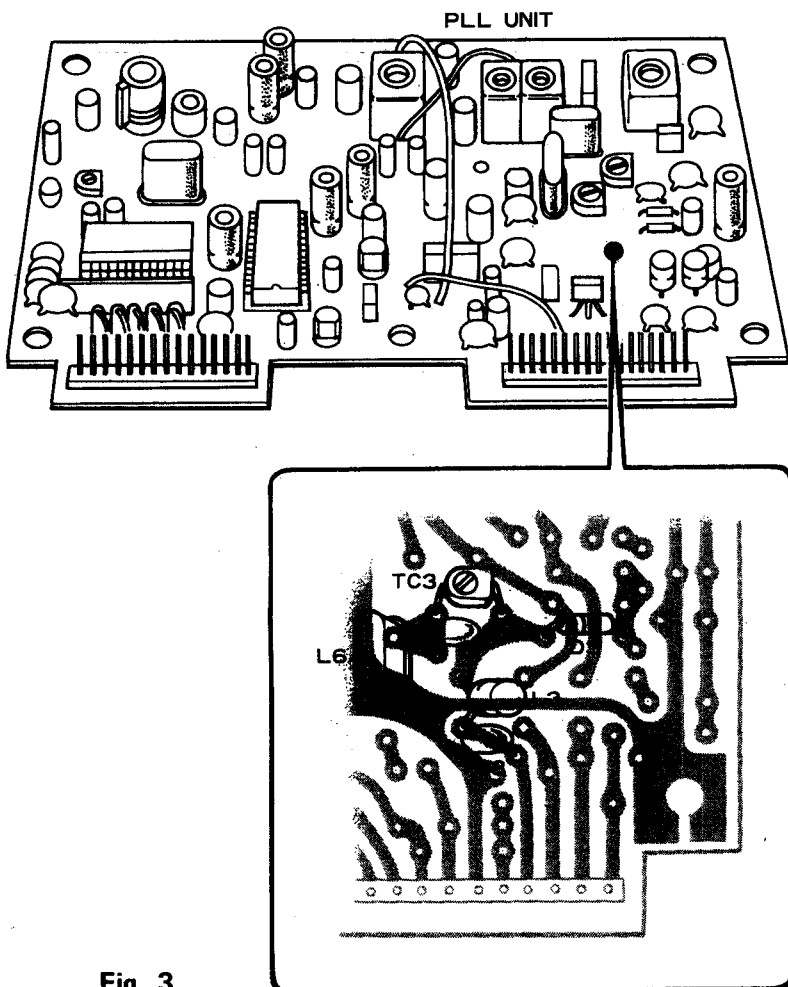


Fig. 3

### 3) Assembly

- a) Remove case, 4knobs, and front panel.  
See Fig.-1
- b) Remove bigger shielded plate and PLL unit (X50-1430-61) from upper side.  
See Fig.-2
- c) Solder following parts on PLL printed board. See Fig.-3
 

* C3	capacitor	0.01 $\mu$ F
* C6	capacitor	5pF
* TC3	trimmer	20pF
* L3	inductor	150 $\mu$ H(151)
* L6	crystal	
* D3	diode	
- d) PLL unit and shielded plate restore to the original position.
- e) Insert the pin with green wire to PLL unit connector (pin number X3).  
See Fig.-4
- f) Remove tone unit (X52-1100-60) and MODE switch.  
See Fig.-5
- g) Cut off all wires from terminals of MODE switch.
- h) Solder those wires to new switch as illustrated.  
See Fig.-6

- i) New MODE switch and tone unit restore to the original position.
- j) Front panel and case restore to the original position.
- k) Mount 4knobs. New MODE knob must be indicated "R" at Maximum clock wise.

**4) Mode knob indication**

- 4: 144.000(0)..... 25kHz spacing.....  
144.975MHz(39) ( ) channels
- 5: 145.000(0)..... 25kHz spacing.....  
145.975MHz(39)

N: Repeater normal shift  
R: Repeater reverse shift

**WIRE COLORS**

LANGUAGE	ENGLISH	GERMAN	FRENCH
COLOR			
PNK	PINK	ROSA	ROSE
WHT	WHITE	WEIß	BLANC
GRY	GRAY	GRAU	GRIS
BRN	BROWN	BRAUN	BRUN
GRN	GREEN	GRÜN	VERT
BLU	BLUE	BLAU	BLEU
RED	RED	ROT	ROUGE
YEL	YELLOW	GELB	JAUNE

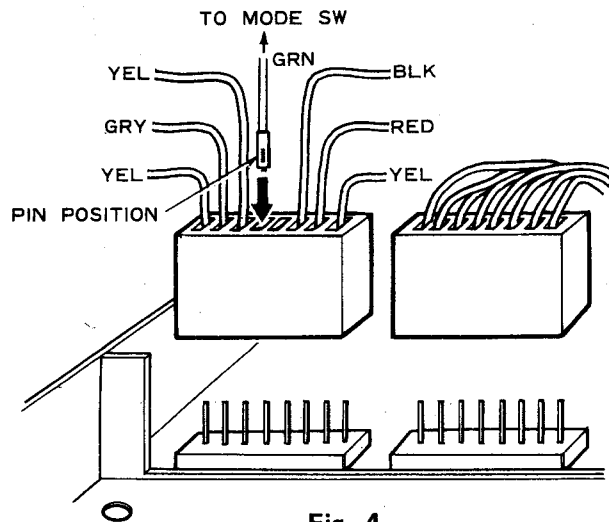


Fig. 4

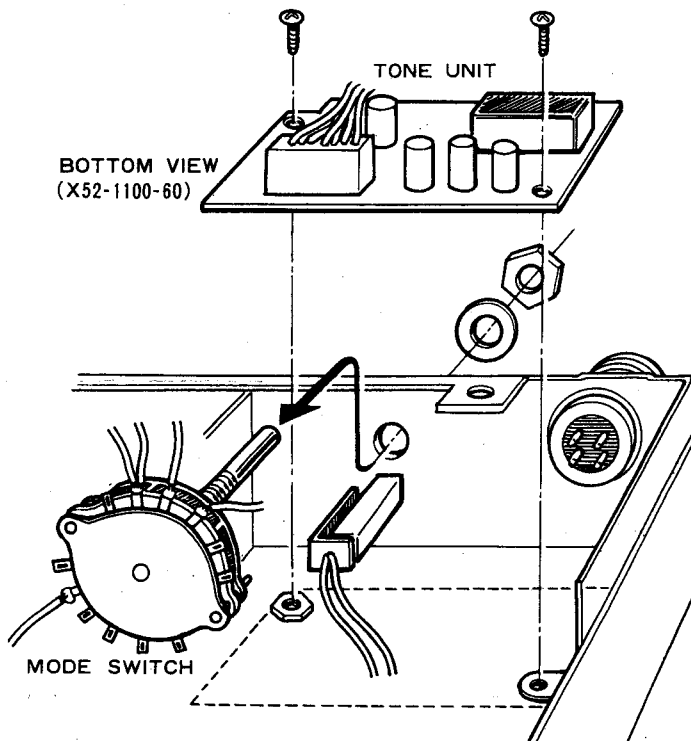


Fig. 5

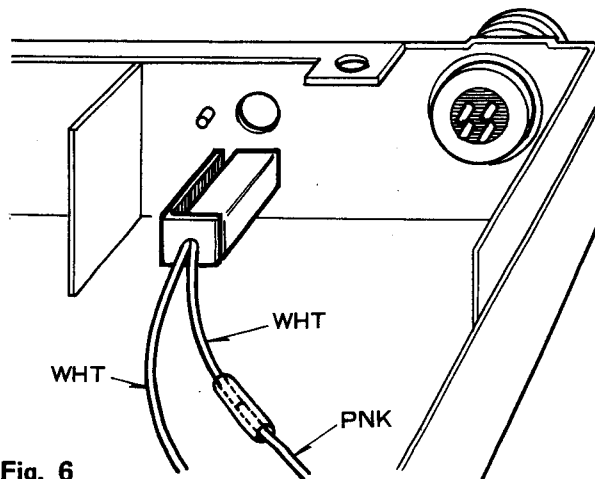
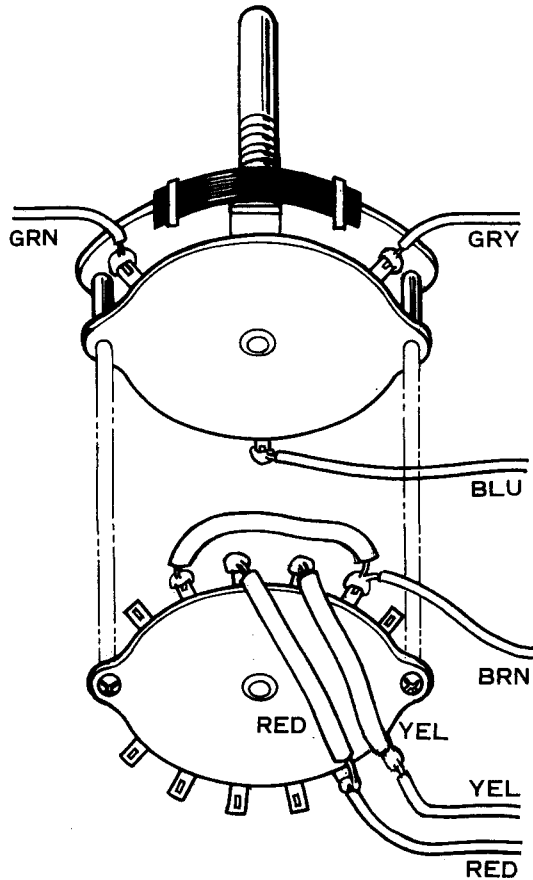
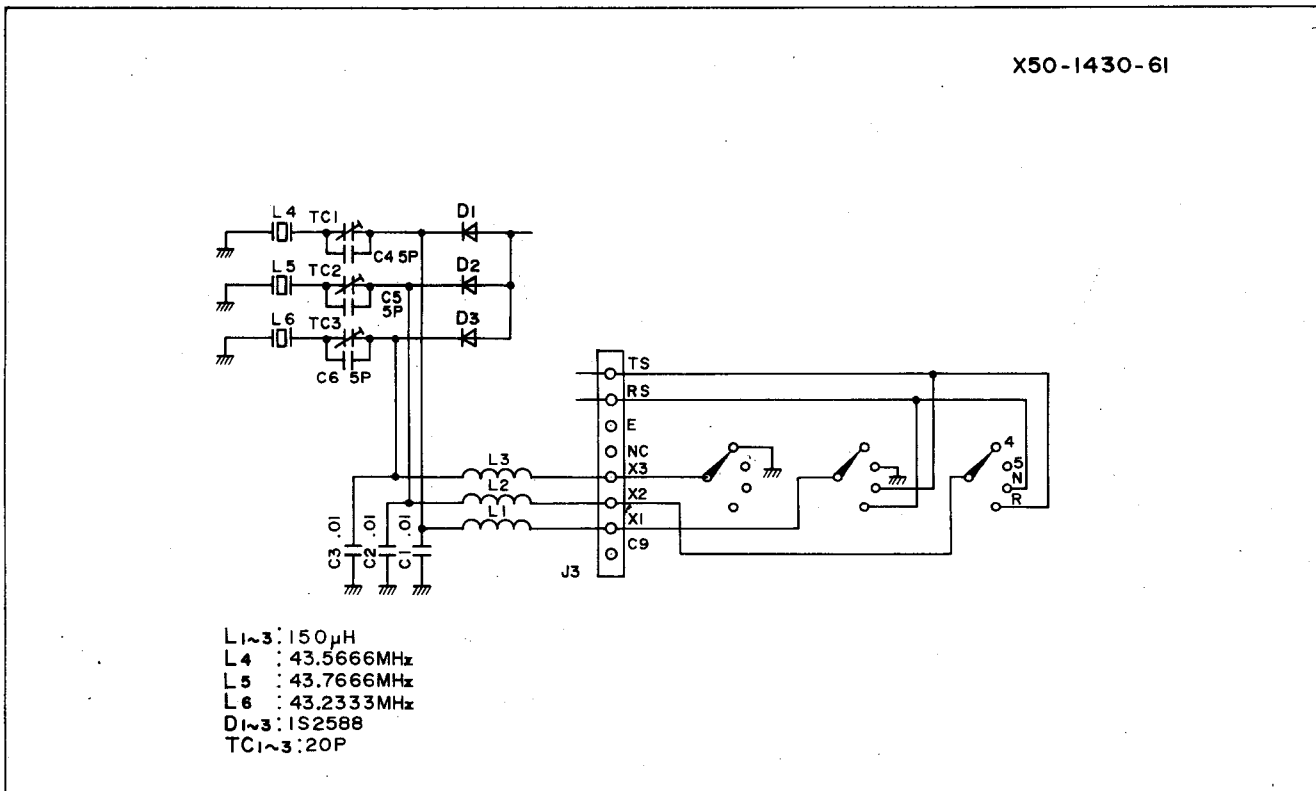


Fig. 6

### 5) Schematic diagram



### 6) Frequency table

CHAN- NEL	4	5	R		N	
			RX	TX	RX	TX
0	144.000	145.000	145.600	145.000	145.000	145.600
1	144.025	145.025	145.625	145.025	145.025	145.625
2	144.050	145.050	145.650	145.050	145.050	145.650
3	144.075	145.075	145.675	145.075	145.075	145.675
4	144.100	145.100	145.700	145.100	145.100	145.700
5	144.125	145.125	145.725	145.125	145.125	145.725
6	144.150	145.150	145.750	145.150	145.150	145.750
7	144.175	145.175	145.775	145.175	145.175	145.775
8	144.200	145.200	145.800	145.200	145.200	145.800
9	144.225	145.225	145.825	145.225	145.225	145.825
10	144.250	145.250				
11	144.275	145.275				
12	144.300	145.300				
13	144.325	145.325				
14	144.350	145.350				
15	144.375	145.375				
16	144.400	145.400				
17	144.425	145.425				
18	144.450	145.450				
19	144.475	145.475				

CHAN- NEL	4	5
20	144.500	145.500
21	144.525	145.525
22	144.550	145.550
23	144.575	145.575
24	144.600	145.600
25	144.625	145.625
26	144.650	145.650
27	144.675	145.675
28	144.700	145.700
29	144.725	145.725
30	144.750	145.750
31	144.775	145.775
32	144.800	145.800
33	144.825	145.825
34	144.850	145.850
35	144.875	145.875
36	144.900	145.900
37	144.925	145.925
38	144.950	145.950
39	144.975	145.975

A product of  
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