

R C A DB TUNING METER KIT

MI-17210

for use with

RCA COMMUNICATIONS RECEIVERS AR-88D, and CR-91

1. Purpose

The DB Tuning Meter when assembled on the front panel of the General Purpose Communications Receiver AR-88D or CR-91 provides for critical tuning of stations and for accurate comparative signal strength measurements.

2. Material

The Tuning Meter Kit consists of the following parts and these should be checked against the parts list MI-17210 included with same.

Symbol	Quantity	Description	RCA Referen
(1)	1	Meter, DB above 1 Microvolt	Dwg. K-98949-1
(2)	1	Gasket	" K-99628-1
(3)	1	Meter Plate	" K-98942-1
(4)	3	Flat Head Screw # 6-32 x 1/2"	" K-57466-113
(5)	5	Round Head Screw - # 4-40 x 5/16"	" K-57454-107
(6)	5	Lockwasher # 4	" K-59049-2
(7)	1	Hex. Nut # 4-40	" K-57435-103
(8)	1	Terminal Board	" K-897192-1
(9)	1	Lead, Black, 2 1/2" long, tinned ends	Pch. Spec. P8-528-
(10)	1	Variable Resistor R21	Dwg. K-251402-4
(11)	1	Hex. Nut 3/8-32	" K-59149-106
(12)	1	Lockwasher 3/8	" K-59049-25
(13)	1	Resistor, R20, 100 ohms $\pm 10\%$, 1/2 watt	" K-82283-50
(14)	1	Capacitor, C74, 4700 mmf. $\pm 10\%$	" M-86079-531
(15)	3	Hex. Nut 6-32	" K-57435-104
(16)	3	Lockwasher # 6	" K-59049-3

3. Assembly on Receiver

Numbers in brackets refer to parts supplied in kit.

a. Front Panel.

- i. Take out the four holding screws on the front panel and remove receiver chassis with front panel from case.
- ii. Pull out the plug-in pilot light from its location in the bracket on the rear of the front panel.
- iii. Disconnect the brown-black and black-red leads, by means of their spade terminals, from the stud on the pilot light bracket.
- iv. Take out the four screws and remove the pilot-light bracket and title plate from the back of the front panel.
- v. Mount the gasket (2) and meter plate (3) on front of

the DB tuning meter (1), using the three 6-32 flat head screws (4), nuts (15), and lockwashers (16) for this purpose.

- vi. Assemble the meter, with the gasket and meter plate, on back of front panel, in place of the pilot light bracket previously removed, using the four 4-40 screws (5) and lockwashers (6) for this purpose.

Note - Removal of the covers from the third i-f transformers (T7, T8) will facilitate installation of the bottom screws.

- vii. Connect the brown-black lead with spade terminal, previously disconnected (iii), to the positive marked terminal on back of DB meter.
- viii. Connect the black-red lead with spade terminal, previously disconnected (iii), to the negative terminal on back of DB meter.
- ix. Insert the plug-in pilot light, previously removed (ii), in the hole in the back of the DB meter.

b. Chassis

- i. Mount the variable resistor R21 (10), inserting shaft through hole in back apron of chassis and secure with nut (11) and lockwasher (12) as shown in figure 1.
- ii. Unsolder the brown-black lead from grounded terminal 2 on socket X 13 and solder to terminal 1 on R21 variable resistor (10). See figure 2.
- iii. Attach black ground wire (9) in place as shown in figure 1, soldering to terminal 2 on variable resistor (10) and to grounded terminal 2 on socket X 13.
- iv. Mount the single lug stand-off terminal board (8) in place underneath chassis adjacent to socket X 5 as shown in figure 1. Secure with screw (5), lockwasher (6) and hexagon nut (7).
- v. Unsolder and remove resistor R20 (100 ohms). Install new resistor R20 (10) connecting one end to the stand-off terminal board (8) and the other end to terminal 3 on the first i-f tube socket X 5.
- vi. Unsolder the two brown-black leads from grounded terminal 2 on socket X 5 and attach to lug on terminal board (8).
- vii. Assemble capacitor C74 (14) in place, figure 1, attaching one lead to lug on terminal board (8) and the other to rounded terminal 1 on socket X 9.
- viii. Solder the four leads on the lug on terminal board (8) and the capacitor lead on terminal 1, socket X 9.
- ix. Reassemble chassis in case, replacing the four screws taken out, see paragraph 3.a.iii.

Tuning Meter Adjustment

After assembling the tuning meter on the receiver, set up for reception and make the following adjustment.

- a. Disconnect antenna leads from terminal strip.
- b. Short-circuit the antenna binding posts, and make sure that no signal can be heard.
- c. Connect a 0.10 volt a-c rectifier type meter across the loudspeaker voice coil (terminals 1 and 2 on TB2) then, with the receiver's audio gain control set for maximum gain, adjust the r-f gain control to the position at which 0.5 volt of noise is indicated.
- d. Adjust the variable resistor R21 (10), with a screwdriver, turning shaft at slot in back of case to bring the tuning meter pointer to the extreme left of the scale.
- e. Remove short circuit and external meter then replace the antenna leads.



