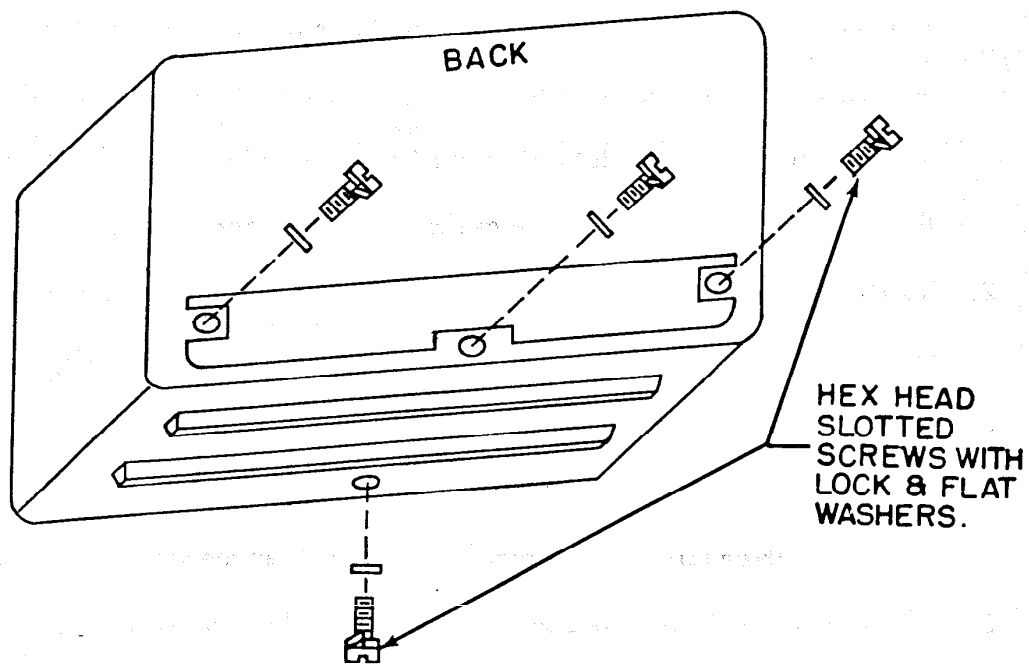
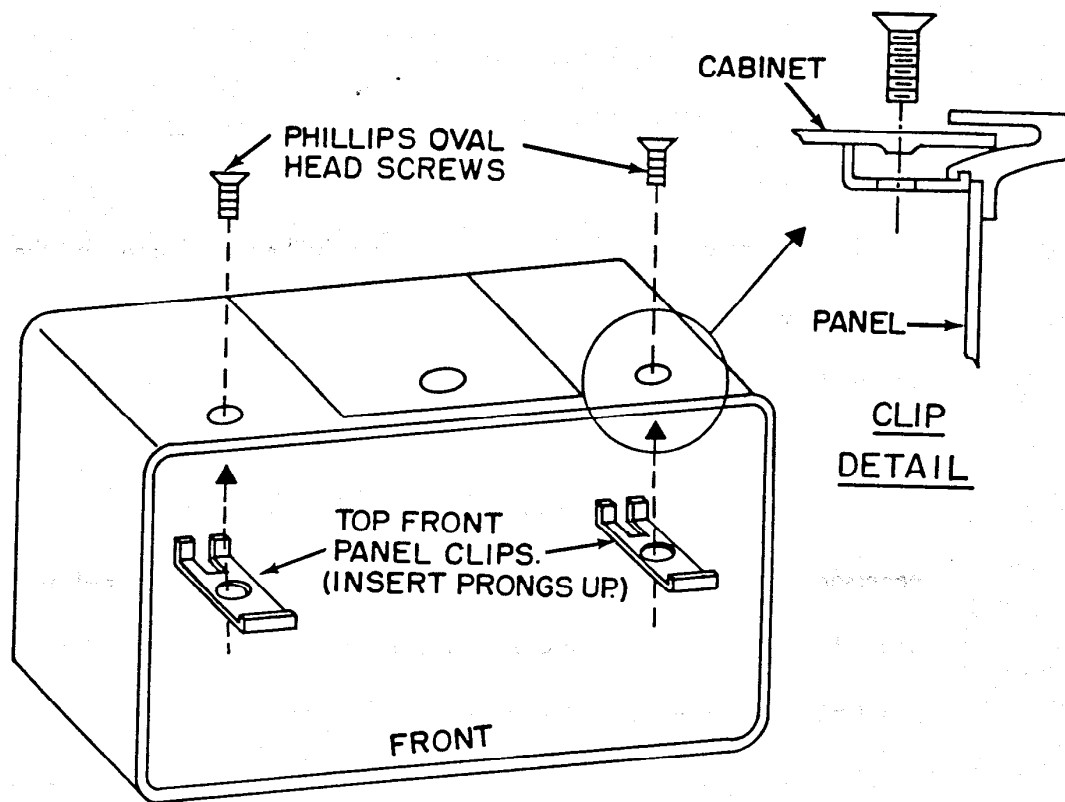




HARDWARE TO FASTEN CHASSIS TO
CABINET

Removal of the Front Panel from the Chassis

Refer to the diagrams for the locations and identification of all parts.

Step 1. Remove all knobs except those of the clock and dial calibration. Turn all capacitors so that their plates are fully meshed.

Step 2. Remove the following:

Nuts from the controls shown on the diagram.

Nut and lock washer from the headphone jack.

Screws and lock washers from the capacitors. Pry off the two red pointers; be careful not to bend them.

Step 3. On the back of the front panel, remove the following:

Large nuts and fiber washers.

Dial calibration drive discs.

"S" meter lamp assembly.

Unsolder the two wires to the meter, and the three wires on the clock.

Pull off the other two lamp assemblies for working convenience in later steps.

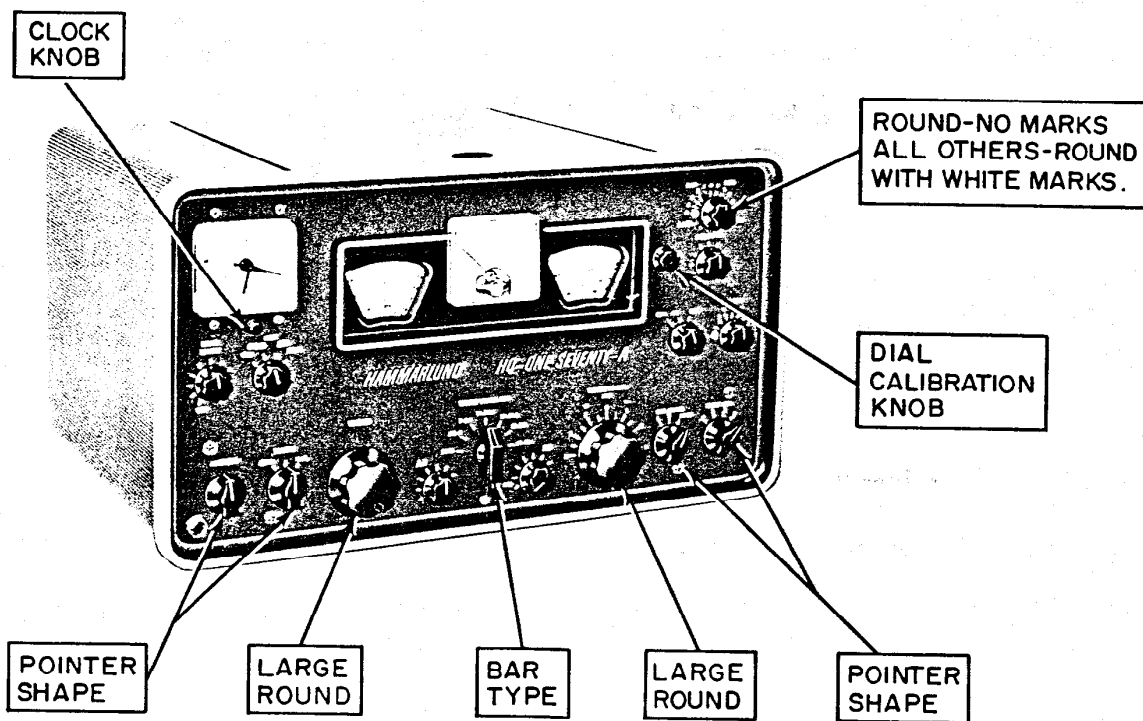
Step 4. On the front of the panel, remove:

Four Phillips screws and nuts.

One smaller Phillips screw and "L" bracket. Hold panel to prevent it from falling as the last screw is removed.

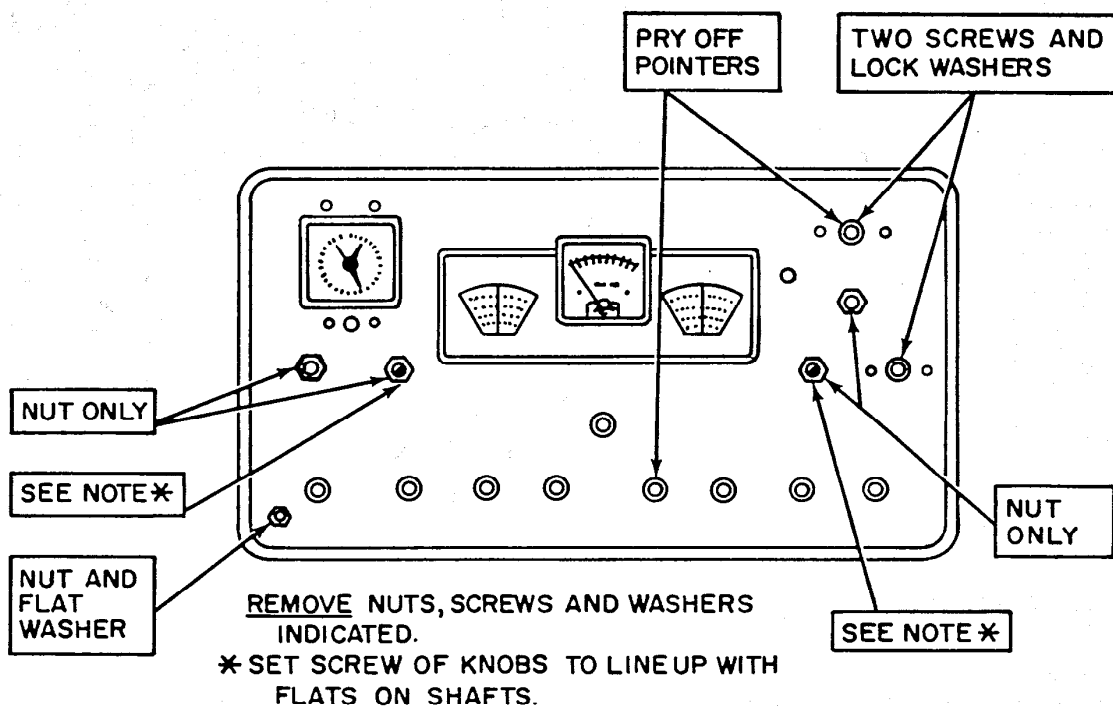
This completes the removal of the front panel. To replace the dial cord, continue with

Step 5.



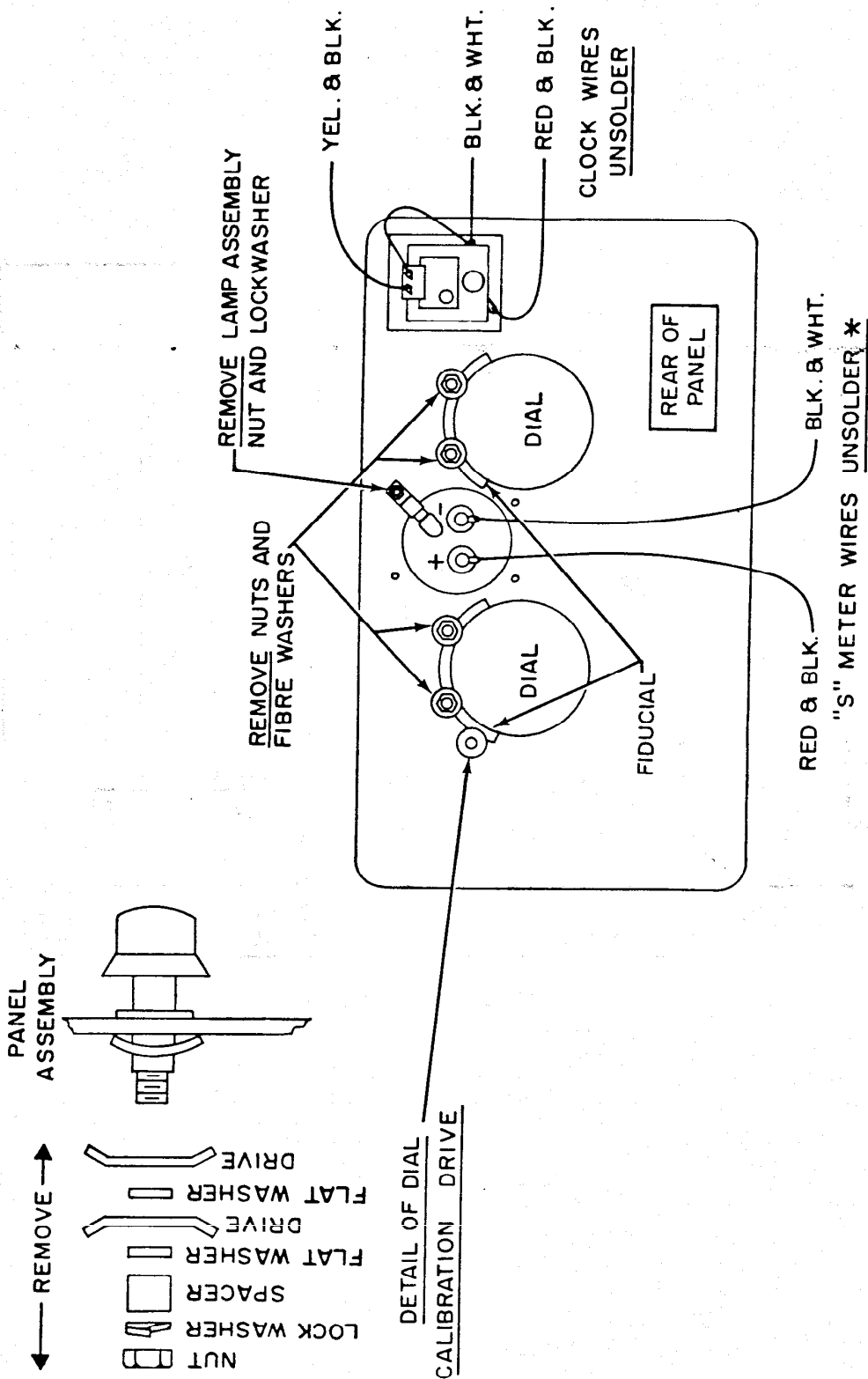
REMOVE ALL KNOBS EXCEPT CLOCK AND DIAL CALIBRATION

STEP 1



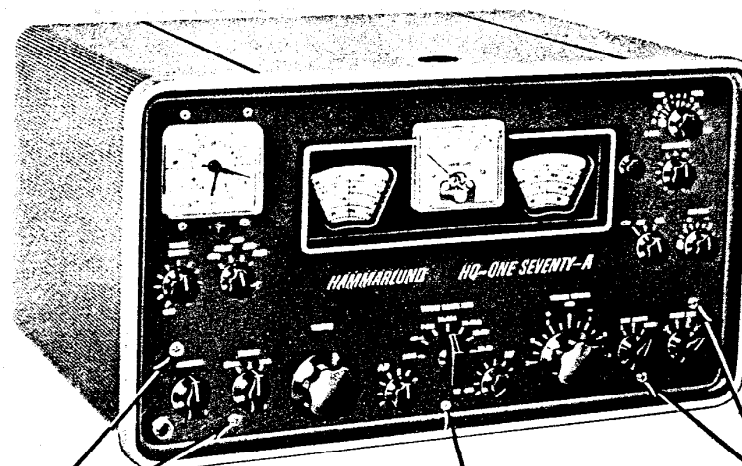
CAUTION TO PREVENT DAMAGE TO CAPACITOR PLATES, MAKE SURE THEY ARE FULLY MESHERD.

STEP 2



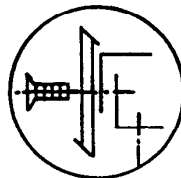
REMOVE AND UNSOLDER AS INDICATED - FOR CONVENIENCE, - PULL OFF OTHER TWO LAMP HOLDERS.

* DO NOT REMOVE NUTS FROM METER, THESE ARE INTERNAL MOUNTING STUDS.



PHILLIPS
SCREWS AND
NUT WITH
CAPTIVE
LOCKWASHER.

PHILLIPS
SCREWS AND
NUT WITH
CAPTIVE
LOCKWASHER



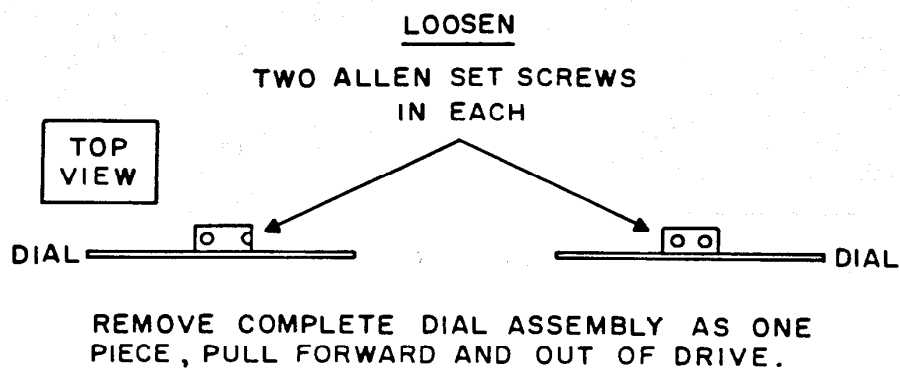
PHILLIPS
SCREW AND
"L" BRACKET.

REMOVE SCREWS, NUTS AND BRACKET INDICATED

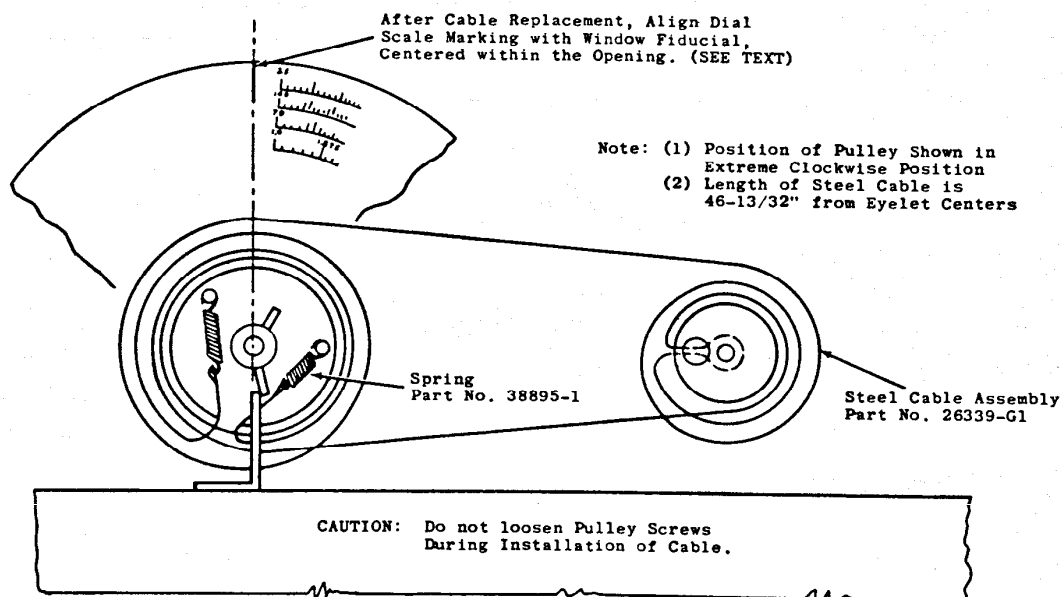
CAUTION - HOLD PANEL TO PREVENT FALLING

STEP 4

Step 5. Loosen but do not remove the set screws on the two dials. DO NOT MOVE THE SET SCREWS OF THE PULLEYS. Now pull the two dial assemblies forward, at the same time guiding the left dial out of the tuning drive discs.



STEP 5.



DIAL CABLE ASSEMBLY

STEP 6

Step 6. Follow the instructions below, referring to the Step 6 illustration as needed, to be sure of correct cable installation.

1. Fold the dial cable in half, and insert the bent-loop end into the small hole of the smaller pulley and loop the dial cable around the shaft.
2. Wrap one half of the dial cable around the smaller pulley for $3/4$ of a turn in a clockwise direction. Guide this half of the cable underneath the larger pulley and wrap around the larger pulley one complete turn clockwise, then hook the spring to the hole on the right side.
3. Wrap the other half of the cable $1-3/4$ turns counterclockwise and guide this end to the larger pulley. Loop around the larger pulley $1-1/2$ turns counterclockwise and hook the spring to the hole on the left side.
4. Turn the pulleys back and forth, and manipulate the cable until the tension on the springs is about equal.

This completes the installation of the dial cable. To replace the dials, the front panel, the controls, and the knobs, continue with Step 7.

Step 7. Replace the two dial assemblies on their shafts, inserting the left dial into the tuning drive discs. Make sure that the tuning capacitor plates are fully meshed, then turn the dials so that the left end of each dial is approximately vertical.

Push on the dials so that the shaft ends are about 1/8 inch recessed. It should be possible to see the previous set screw marks on the shafts to help in this setting.

Now tighten one set screw on each shaft. Final setting will come in a later step.

Step 8. Check that the proper nuts and lock washers are in place on the controls that were removed from the front panel.

Locate the panel in place, inserting the controls in their proper holes.

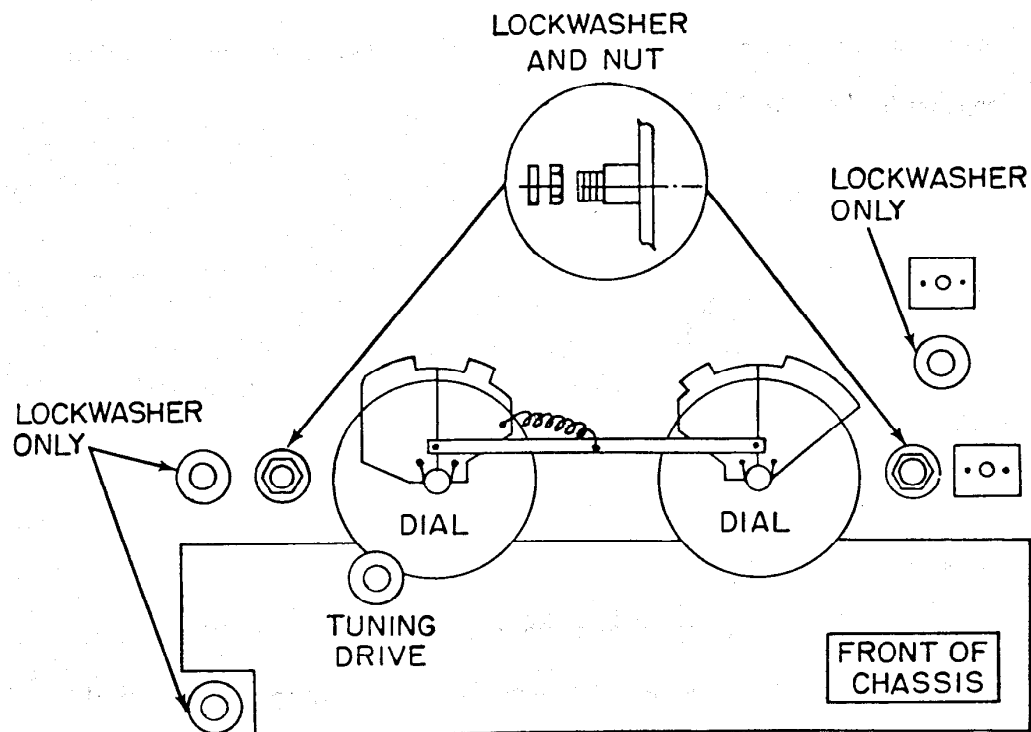
Secure the front panel by replacing the hardware removed in Step 4.

Note that the "L" bracket fits over the small terminal strip located inside the chassis.

Step 9. On the back of the front panel, replace the hardware removed in Step 3.

Check that the dial calibration drive is correctly restored with the transparent segment within the discs. Resolder the wires to the meter and to the clock; see the Step 3 illustration for the wire color code.

Step 10. On the front of the panel, replace the hardware removed in Step 2. Be careful not to scratch the panel when tightening the nuts, and remember to line up the flats of the two controls indicated in the Step 2 illustration.



HARDWARE FOR MOUNTING CONTROLS - WHEN PANEL IS REMOVED

STEP 8

After Step 10 is completed, check that the dials and the dial calibration system operate smoothly and without interference. If necessary, loosen the front panel screws of Step 4 and readjust panel positioning to obtain proper dial operation.

Step 11. Replace the two red pointers by pushing them onto the inner shafts. Be careful not to bend them. Follow the instructions on the Step 11 diagram for capacitor plate meshing, then replace all knobs. Knob identification appears in the Step 1 illustration.

Step 12. This step is for dial alignment.

Reconnect the Receiver and turn it on. Allow it to warm up for about a half hour.

After the warm-up period, tune in to 14 MCS and turn on the crystal calibrator (see instructions in the User's Manual).

Set the dial calibrator so that the hairline is in line with the mark on the top of the opening in the dial escutcheon.

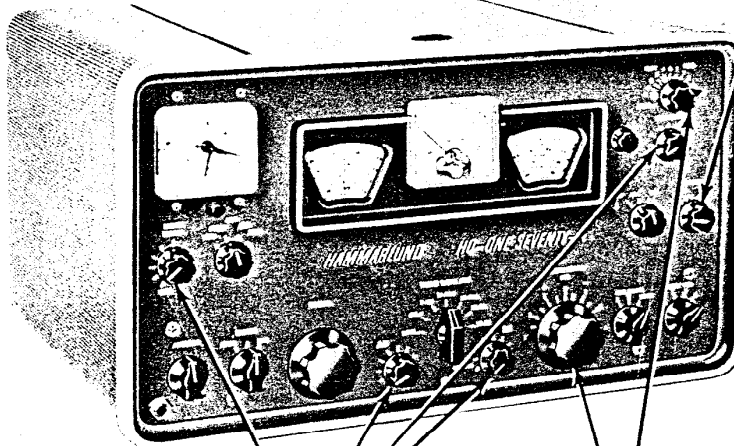
Noting that the tuning capacitor plates are in the correct position for the low end of the band (fully meshed), tune for zero beat, ignoring the dial frequency setting.

Loosen the left dial set screw, hold the capacitor pulley to maintain zero beat, then set the dial to exactly 14 MCS. Now tighten the dial set screw again FIRMLY.

Turn the dial to gain access to the other set screw on that dial, and tighten it firmly as well. Repeat the same procedure for the right dial, but using 21 MCS this time.

This completes the dial calibration procedure. Check on other bands; if dial calibration is far out, or not possible to be attained, RF alignment will have to be undertaken.

SET CAPACITOR PLATES
OUT OF MESH FOR IN-
STALLATION OF THIS KNOB.



SET CONTROLS COUNTER-
CLOCKWISE, SWITCH OFF IF
SO EQUIPPED

SET CAPACITOR PLATES
IN MESH, PUSH ON POINTER,
THEN KNOB.

KNOB ALIGNMENT POSITIONS - REMAINING SHAFTS HAVE FLATS
IF KNOB ALIGNMENT IS REQUIRED.

REPLACING POINTERS AND KNOBS

STEP II

Alignment Procedure

This Receiver has been carefully aligned at the factory and should never require any more than a touch-up to retain the peak of its performance. If alignment is necessary, follow the instructions provided below with care.

For the alignment procedure, the equipment listed is required:

Non-metallic alignment tools, general Cement #5097 and #8282, or equivalents.

DC Vacuum-tube Voltmeter.

Signal Generator(s) capable of accurately producing unmodulated signals of:
60 KCS, 455 KCS, 3035 KCS, and RF ranging from 1.8 MCS to 54.0 MCS.

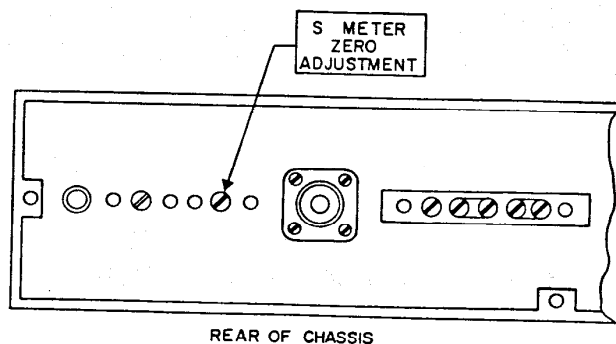
Alignment must be undertaken with the Receiver out of its cabinet. Remove the chassis from the cabinet as instructed in this Manual. When removed, set the chassis on its end with the power transformer down nearest the table top. This is to permit access to both the top and bottom of the chassis.

Before operating the Receiver, adjust the "S" meter pointer screw on the front face of the meter to set the needle exactly over the zero mark on the scale.

Connect the speaker to the Receiver, plug the set into a source of power, and turn it on.

BEFORE ALIGNMENT, THE RECEIVER MUST BE ALLOWED TO WARM UP FOR AT LEAST A HALF HOUR. This is to assure frequency stability.

After warm-up, set the RF gain control fully counterclockwise without actually turning the set off, and adjust the meter zero control at the rear of the Receiver chassis again for zero on the scale. The AVC switch must be set to a position other than "OFF" for the meter to read.



Set all of the front panel controls as shown in the illustration at the start of the alignment procedure. Changes to these settings will be required as the alignment progresses.

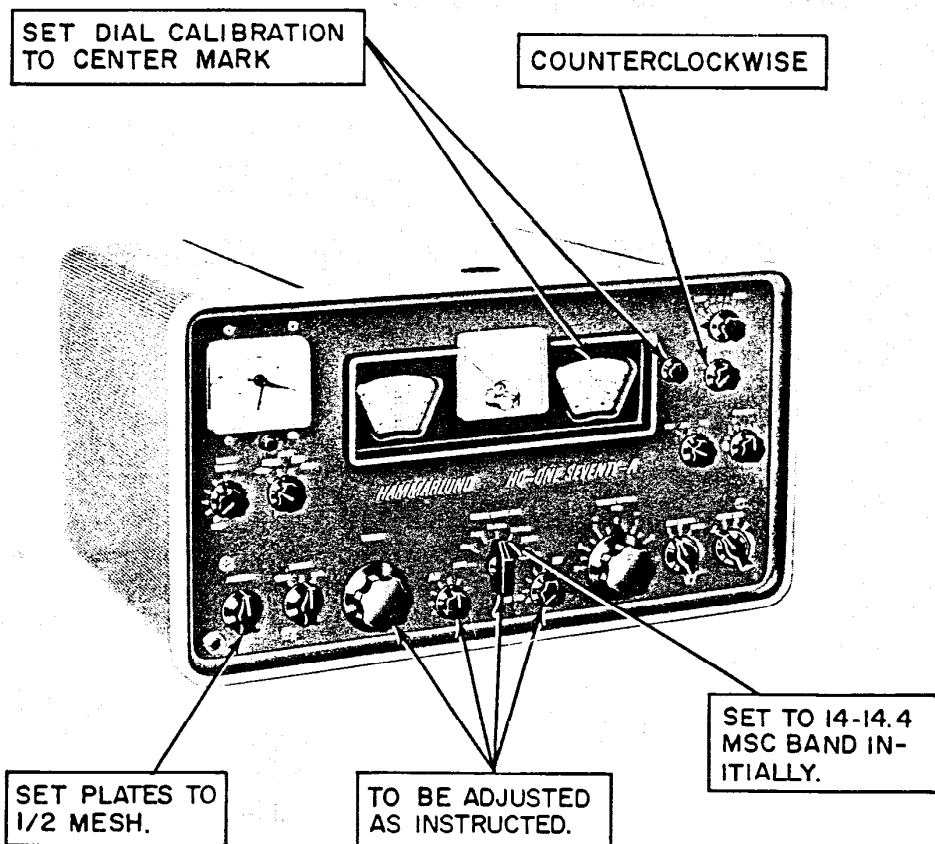
Except where noted in the diagrams, the coil slugs are set from the top of the can. Be careful that you are actually turning the proper slug; it is sometimes easy to be adjusting the wrong one, or even to be turning both at once if they happen to be close together inside the coil.

IF ALIGNMENT

Step 1. Connect the VTVM as required in the illustration.

Connect the Signal Generator for the 60 KCS First Adjustments.

Apply an unmodulated 60 KCS, and set T6, T7, T8, T9, T10, and T11 for a peak reading. Remember to reduce the IF input signal level as necessary to maintain about -5 volts.

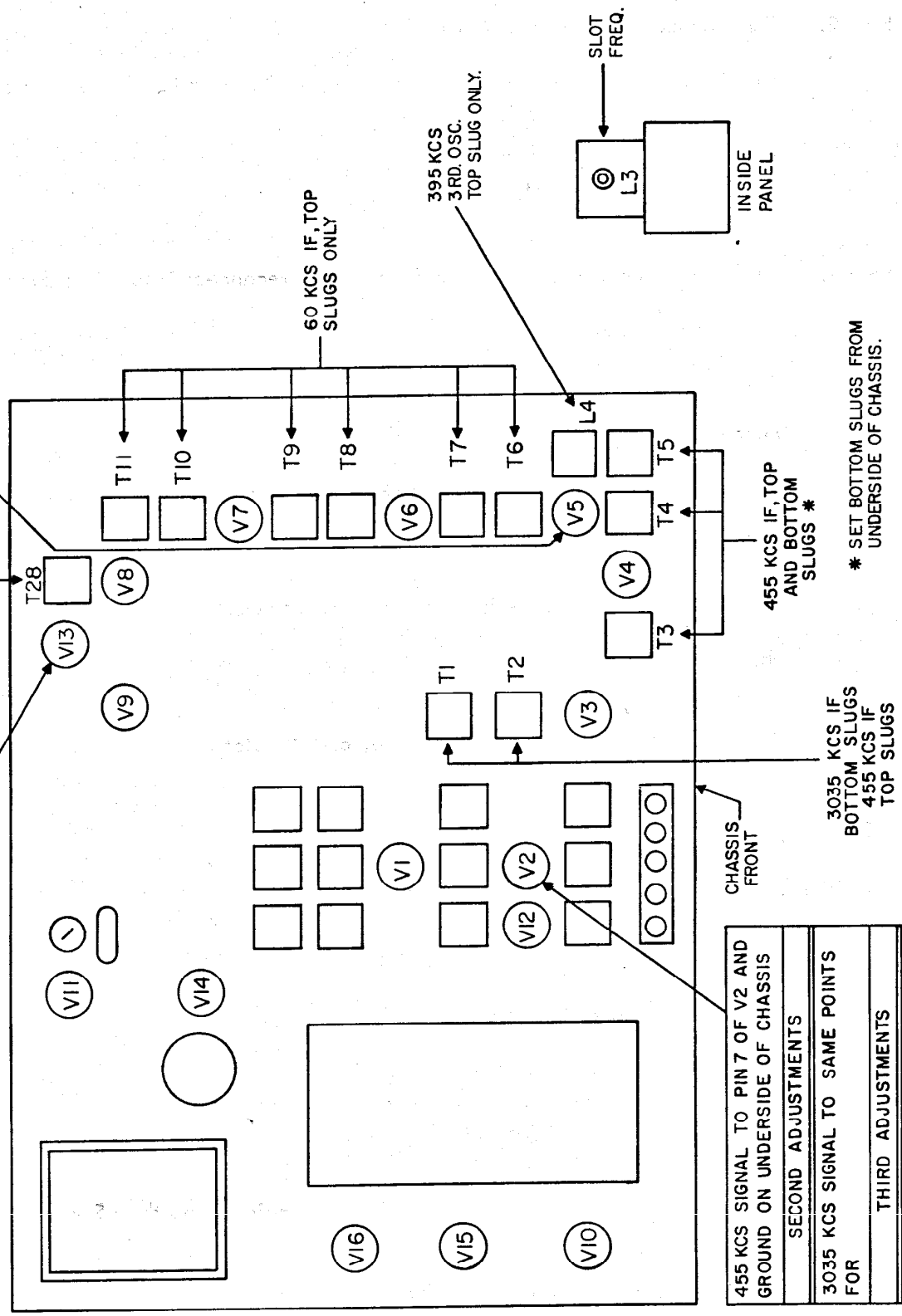


CONTROL SETTING AT START OF ALIGNMENT

MAINTAIN -5 VOLTS DC
DC VTVM BETWEEN PIN 2 OF V13
AND GROUND ON UNDERSIDE OF
CHASSIS

60 KCS SIGNAL TO PIN 7 OF V5
AND GROUND ON UNDERSIDE OF
CHASSIS

FIRST ADJUSTMENTS



FIRST, SECOND & THIRD IF ADJUSTMENTS

STEPS 1 TO 9

Step 2. Turn the mode switch from AM to CW.

Check that the BFO is set to zero, then adjust T28 for zero beat as heard in the loud speaker.

Return the switch to AM.

Step 3. Disconnect the Signal Generator from V5 and reconnect it to V2 as shown in the illustration.

Apply an unmodulated 455 KCS, and turn the Band Selector to the 3.5-4.0 MCS band.

Set L4, the top and bottom slugs of T5, T4, and T3, and the top slugs of T2 and T1, for a peak reading.

Remember to reduce the IF input signal level as necessary to maintain about -5 volts.

Step 4. Turn the Slot Frequency control to zero, and the Slot Depth control to its mid-position.

Set L3 for minimum meter reading. It may be necessary to raise the IF input level to be sure of indicating the absolute minimum.

Return the generator level and the Slot Frequency and Depth controls to their previous conditions.

Step 5. Apply an unmodulated 3035 KCS, and turn the Band Switch to the 14.0-14.4 MCS band.

Set the bottom slugs for a peak reading, again maintaining the -5 volts.

This completes the IF alignment procedure. For RF alignment continue with Step 6 below.

RF ALIGNMENT

Step 6. Retain the VTVM connected as before.

Connect the Signal Generator to the antenna terminal strip with both links closed.

Check that all the controls are set as in the diagram with the exception of:

Selectivity to 3 KCS

Side bands to Both

Check that the dial cord, the dial drive, and the tuning knobs are properly operating and tight. Repair if required.

Check that the dial calibration is set to the center mark.

Step 7. The RF alignment is now undertaken. All coil and trim adjustments are made to produce a maximum VTVM reading. As the alignment progresses, remember to reduce the RF Gain to maintain the -5 volts; this is to prevent overloading of the Receiver stages, resulting in incorrect tuned circuit peaking.

Follow the order of adjustment shown in the following chart: start with the top line of 50-54 MCS, and work each line from left to right, Osc., RF, and Ant. in that order.

The Osc. and RF adjustments will interact to some extent; repeat each in turn, ending with the RF Trim as the last.

NOTE: The oscillator frequency is on the high side of the incoming frequency on all the bands except 50-54 MCS. If two points on an oscillator setting appear, the furthest counterclockwise is the correct one for the lower bands. The furthest clockwise is correct for 50-54 MCS.

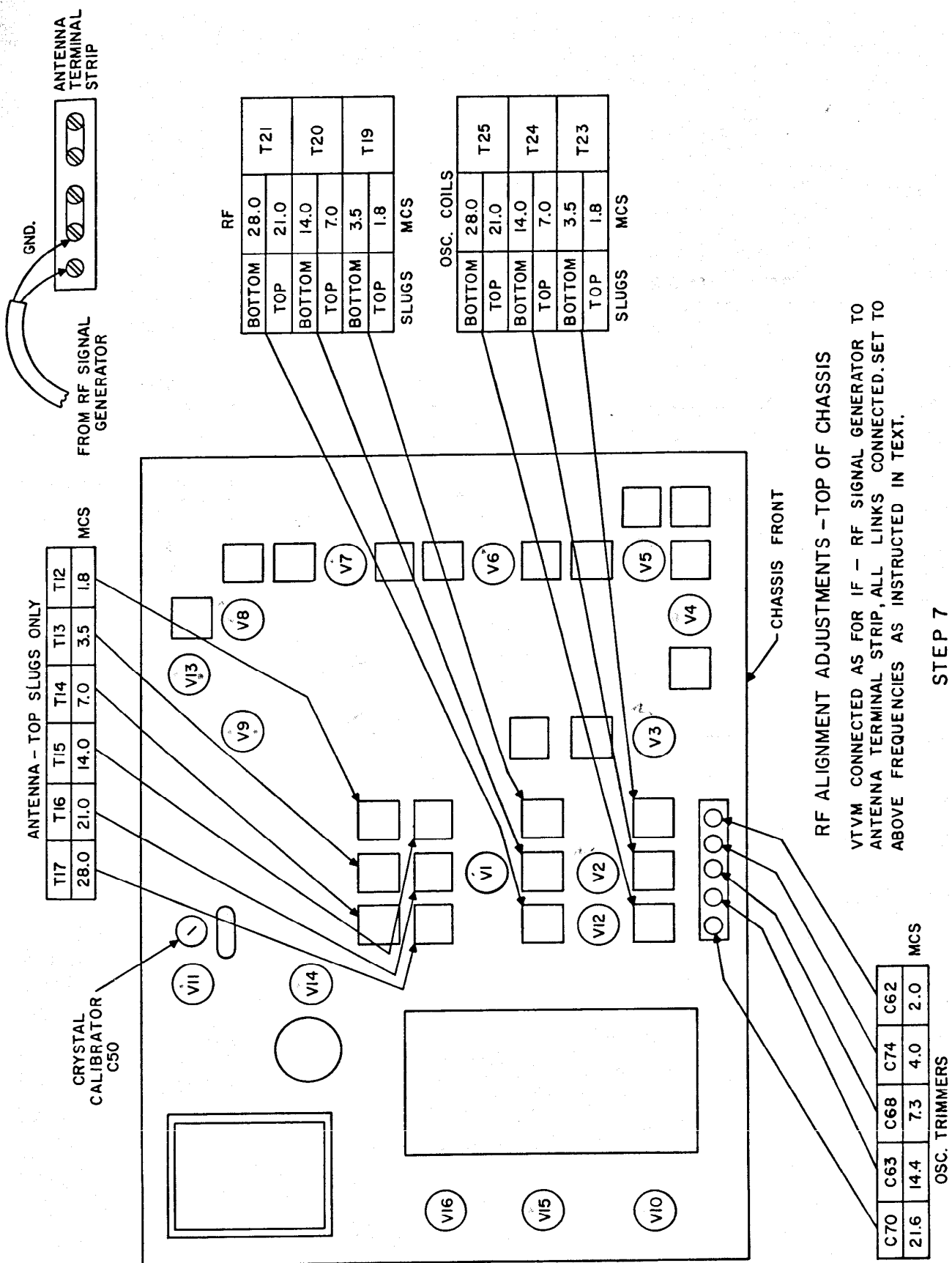
SETTINGS IN MCS			RECEIVER ADJUSTMENTS				
RECEIVER		GENERATOR	OSC COIL	OSC TRIM	RF COIL	RF TRIM	ANT COIL
BAND	TUNE TO	SET TO					
50-54	50	50	T26	-	T22	-	T18*
50-54	54	54	-	C65	-	C59	-
28-30	28	28	T25(B)	-	T21(B)	-	T17
28-30	30	30	-	C64	-	C58	-
21-21.6	21	21	T25(T)	-	T21(T)	-	T16
21-21.6	21.6	21.6	-	C70	-	C57	-
14-14.4	14	14	T24(B)	-	T20(B)	-	T15
14-14.4	14.4	14.4	-	C63	-	C56	-
7-7.3	7	7	T24(T)	-	T20(T)	-	T14
7-7.3	7.3	7.3	-	C68	-	C55	-
3.5-4	3.5	3.5	T23(B)	-	T19(B)	-	T13
3.5-4	4	4	-	C74	-	C54	-
1.8-2	1.8	1.8	T23(T)	-	T19(T)	-	T12
1.8-2	2	2	-	C62	-	C53	-

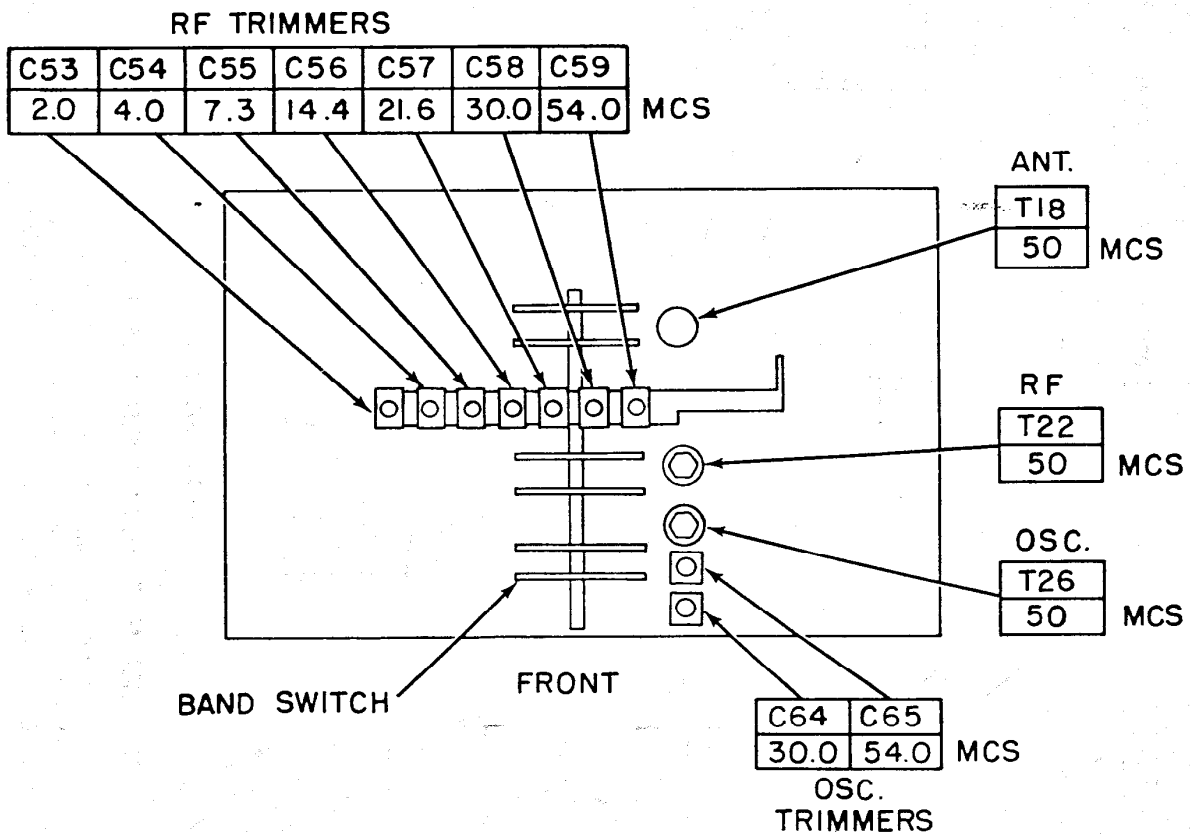
Frequencies are in MCS.

(B) = Bottom Slug, (T) = Top Slug.

* Does not usually require adjustment; squeeze coils together to lower frequency, spread to raise.

Consult the RF alignment chassis views for the location of each of the adjustment points in the above chart.





RF ALIGNMENT ADJUSTMENTS -

UNDER CHASSIS

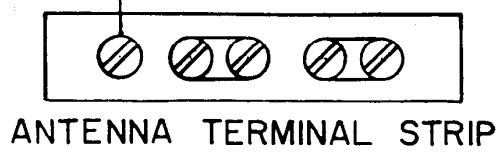
STEP 7

Step 8. On the 50-54 MCS band, reinserting the chassis in the cabinet causes a slight shift in Receiver oscillator frequency. Set the oscillator coil T26 with the Receiver tuned to 50.05 on the dial, 50 MCS applied from the generator. After all alignment is completed, place the chassis in the cabinet or on a metal plate that will cover the entire open chassis, and check that the 50-MCS signal tunes in to 50 MCS on the dial. If it does not, alternately readjust T26 and place the receiver on the metal until it does.

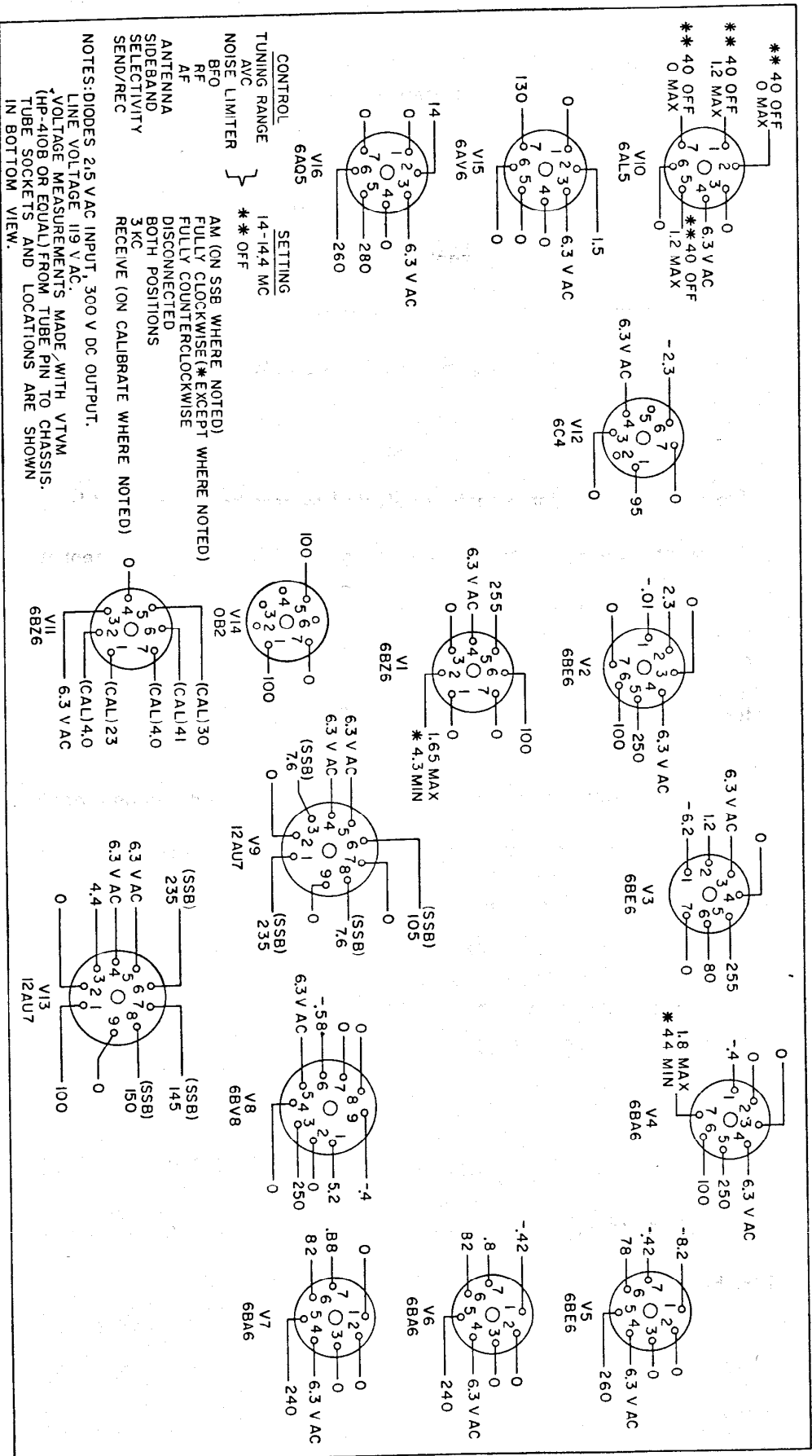
Step 9. The crystal calibrator is factory adjusted to zero beat with the National Bureau of Standards radio signal coming from WWV. If adjustment is determined to be necessary, another receiver capable of receiving WWV on any one of its operating frequencies is required. The HQ-170-A does not tune WWV frequencies. Set the Send-Receive-Calibrate switch to Calibrate.

To set the calibrator, connect a wire from the isolated antenna terminal of the HQ-170-A to the antenna terminal of the second receiver. Tune in WWV on this receiver. Set the HQ-170-A calibrator adjustment C50 for zero beat.

TO SECOND RECEIVER
ANTENNA CONNECTION



This completes the RF alignment procedure. Return the chassis to the cabinet as instructed in this Manual.



PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	<u>CAPACITORS</u>	
C1	Assy	T41604-G5
C2, C4, C5, C6, C7, C9,) C10, C11, C15, C17, C18,) C21, C23, C32, C41, C47,) C81, C124, C130, C133,) C141, C145, C146)	Disc Ceramic .01 MFD +80-20%, 600V	M23034-19
C3, C8	Temp. Comp. N750, 110 MMF, 1000V	K23010-5
C12, C33, C36, C38, C40,) C46, C136, C137)	Disc Ceramic .02 MFD +80-20%, 600V	M23034-9
C13, C89, C97, C111, C113,) C120, C123)	Dur-Mica DM-15 20 MMF $\pm$.5 MMF, 500 V	K23006-17
C14	Dur-Mica DM-19 560 MMF $\pm$ 5%, 500V	K23027-6
C16, C28, C93, C101, C103,) C114)	Dur-mica DM-15 3 MMF $\pm$.5MMF, 500V	K23006-18
C19, C20	Disc Ceramic .04 MFD +80-20%, 600V	M23034-12
C22, C27	Disc Ceramic .01 MFD $\pm$ 10%, 1000V	M23034-25
C29	Dur-Mica DM-15 780 MMF $\pm$ 5%, 300V	K23006-39
C30	Variable (Pass Band)	K42040-2
C31, C51	Dur-Mica DM-15 100 MMF $\pm$ 10%, 500V	K23006-1
C34, C37	Dur-Mica DM-15 24 MMF $\pm$ 10%, 500V	K23006-7
C35	Temp. Comp. N750, 330 MMF, 1000V	K23010-9

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
<u>CAPACITORS (cont'd)</u>		
C39, C42	Disc Ceramic .0005 MFD $\pm 10\%$, 1000V	M23034-13
C43, C152	Dur-Mica DM-15 10 MMF $\pm 10\%$, 500V	K23006-8
C44, C45	Disc Ceramic .002 MFD GMV, 1000V	M23034-18
C48, C87, C131	Dur-Paper .1 MFD $\pm 20\%$, 200V	K23045-3
C49, C95, C105	Dur-Paper .047 MFD $\pm 20\%$, 400V	K23045-2
C50	Var. Trimmer 8-50 MMF, N750	K23038-5
C52	Assy.	K34454-G24
C53, C54	Mica Trimmer 3-35 MMF	K23043-5
C55, C56, C57, C58, C59	Mica Trimmer 1.15-20 MMF	K23043-6
C61	Dur-Mica DM-15 24 MMF $\pm .5$ MMF, 500V	K23006-48
C62, C63, C68, C70, C74	Trimmer 1-8 MMF	K23008-2
C64, C65	Rotary Trimmer 1.5-9.1 MMF	K23057-1
C66	Temp. Comp. 4.7 MMF, N750	K23010-6
C67, C69	Dur-Mica DM-15 62 MMF $\pm 2\%$, 500V	K23006-10
C71	Dur-Mica DM-15 243 MMF $\pm 5\%$, 300V	K23006-27

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
<u>CAPACITORS (cont'd)</u>		
C72, C76	Temp. Comp. 27 MMF, N470	K23010-26
C73	Temp. Comp. 20 MMF, N470	K23010-23
C75, C140	Dur-Mica DM-15 12 MMF $\pm$ 5%, 500V	K23006-94
C77, C78, C143, C144	Dur-Mica DM-15 47 MMF $\pm$.5MMF, 300V	K23006-47
C79	Temp. Comp. 618 MMF, N470	K23010-13
C80	Temp. Comp. N470, 4.7 MMF, 1000V	K23010-8
C82	Electrolytic 60 - 40 - 40 - 40	K15504-71
C82A	60 MFD, 400V	(Part of C82)
C82B	40 MFD, 400V	(Part of C82)
C82C	40 MFD, 350V	(Part of C82)
C82D	40 MFD, 25V	(Part of C82)
C83, C84	Disc Ceramic .01 MFD, GMV, 1400V	M23034-26
C85	Dur-Paper .1 MFD $\pm$ 20%, 600V	K23045-5
C86, C94	Dur-Mica DM-15 31 MMF, 500V	K23006-15
C88, C90, C96, C98	Dur-Mica DM-15 29 MMF, 500V	K23006-16
C91, C99	Dur-Mica DM-15 28 MMF, 500V	K23006-19
C92, C100	Dur-Mica DM-15 27 MMF, 500V	K23006-20

PARTS LIST HQ-170A

<u>SCHEMATIC DESCRIPTION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	<u>CAPACITORS (cont'd)</u>	
C104, C110, C115, C117,) C122)	Dur-Mica DM-15 7 MMF, 500V	K23006-24
C106	Dur-Mica DM-15 10 MMF, 500V	K23006-22
C107, C116	Dur-Mica DM-15 14 MMF, 500V	K23006-25
C108, C119	Dur-Mica DM-15 21 MMF, 500V	K23006-26
C112, C121	Dur-Mica DM-15 16 MMF, 500V	K23006-23
C125	Dur-Mica DM-15 47 MMF $\pm 10\%$, 500V	K23006-6
C126, C127	Mylar .01 MFD $\pm 10\%$, 400V	K23044-2
C129	Variable 98.5 MMF (BFO)	K42042-1
C132	Disc Ceramic .005 MFD, GMV, 1000V	M23034-10
C134	Dur-Mica DM-15 2 MMF $\pm .5$ MMF, 500V	K23006-37
C135	Disc Ceramic 8 MMF $\pm 20\%$, 1000V	M23034-11
C138	Temp. Comp. N750, 47 MMF, 500V	K23061-26J
C139	Capacitor Temp. Comp. 10 MMF, N470	K23010-45
C142	Temp. Comp. 12 MMF, N470	K23010-10
C147	Electrolytic 20 MFD, 25V	M23091-1

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
<u>CAPACITORS (cont'd)</u>		
C102, C109, C118, C148, C149, C150	Dur-MICA DM-15 9 MMF $\pm$.5 MMF, 500V	K23006-21
C151, C154, C155, C156	Disc Ceramic .001 MFD, GMV, 500V	M23034-30
C153	Dur-Mica DM-15 47 MMF $\pm$ 2%, 500V	K23006-105
CR1, CR2	Rectifier, Silicon (CER 72C)	M41215-3
E1	Fuse Holder	K15923-1
F1	Fuse, 3 Amp Type 3AGC for 50-60 Cycles 115V Operation	K15928-8
F1	Fuse, 1-1/2 Amp Type 3 AGC for 50-60 Cycles 230V Operation	K15928-1
I1	Lamp, Incandescent #47	K16004-1
I2	Lamp, Incandescent #47	K16004-1
I3	Lamp, Incandescent #47	K16004-1
J1	Socket (8 Pin)	K16083-1
J2	Phone Jack	K35608-1
J3	Connector, Female	K41138-1
J4	Connector, Receptacle (Antenna)	K16111-1
J5, J6	Connector, Female	K41144-1
L1	RF Choke, 2.5 MH	K15627-1
L2	Bifilar Coil	K42032-1
L4	Passband Tuning Coil	K26301-1
L5, L7, L10	Inductor, 330 MH	K42019-1
L6	Reactor	K26302-1
L8	RF Choke, 38 Microhenry	K15629-1
L9	RF Choke, 240 Microhenry	K15629-2
M1	Meter "Signal strength"	K26149-5

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
<u>RESISTORS</u>		
R1, R30, R32, R37, R46,) R76, R82, R85, R93, R99)	470K $\pm$ 10%, 1/2W	K19309-113
R2, R13, R27, R40, R51, R74	100K $\pm$ 10%, 1/2W	K19309-97
R3, R4	10 Ω $\pm$ 10%, 1/2W	K19309-1
R5, R14	180 Ω $\pm$ 5%, 1/2W	K19309-260
R6	Variable, 1.5K Dual With R15 and S3, RF Sens.	K38940-1
R7, R29	22K $\pm$ 10%, 1/2W	K19309-81
R8, R98	160 Ω $\pm$ 5%, 1/2W	K19309-199
R9, R12, R16, R17, R47,) R52, R62, R97)	1K $\pm$ 10%, 1/2W	K19309-49
R10, R42, R49, R65, R70,) R72, R73, R75, R84)	47K $\pm$ 10%, 1/2W	K19309-89
R11	4.3K $\pm$ 5%, 1/2W	K19309-213
R15	Variable, 10K, RF Sens.	(Part of R6)
R18, R103	100K $\pm$ 10%, 1W	K19310-97
R19	Variable, 1.5K (Sens. Adj.)	K15379-2
R20	Variable, 300 (Zero Adj.)	K15379-1
R21	22K $\pm$ 10%, 1W	K19310-81
R22	820 Ω $\pm$ 5%, 1/2W	K19309-266
R23, R41, R95	10K $\pm$ 10%, 1/2W	K19309-73
R24	120 Ω $\pm$ 5%, 1/2W	K19309-258
R25	39 Ω $\pm$ 5%, 1/2W	K19309-253

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	<u>RESISTORS (cont'd)</u>	
R26	Variable, 200 Ω (Slot Depth)	K15368-7
R28, R43, R45, R48,) R68, R71)	220K, $\pm 10\%$, 1/2W	K19309-105
R31, R33	68 Ω $\pm 10\%$, 1/2W	K19309-21
R34	560 Ω $\pm 10\%$, 1/2W	K19309-43
R35	1K $\pm 10\%$, 1W	K19310-49
R39	820 Ω $\pm 10\%$, 1/2W	K19309-47
R44, R102	1 MEG $\pm 10\%$, 1/2W	K19309-121
R53	3K $\pm 10\%$, 10W	K19337-2
R54	680 Ω $\pm 10\%$, 1/2W	K19309-45
R55	3K $\pm 5\%$, 1/2W	K19309-212
R56	15K $\pm 10\%$, 1/2W	K19309-77
R57	6.8K $\pm 10\%$, 1/2W	K19309-69
R58	27K $\pm 10\%$, 2W	K19304-52
R59, R63, R69	2.2K $\pm 10\%$, 1/2W	K19309-57
R60, R61, R66, R67	330K $\pm 10\%$, 1/2W	K19309-109
R64	270 Ω $\pm 10\%$, 1/2W	K19309-35
R77	27 Ω $\pm 10\%$, 1/2W	K19309-11
R78	Variable 500K (Noise Limiter) Includes S1	K15378-3
R79	Variable 1 MEG (Audio Gain)	K26218-3
R80	180 Ω $\pm 10\%$, 1/2W	K19309-31
R81	1.5K $\pm 10\%$, 1W	K19310-53

PARTS LIST HQ-170A

SCHEMATIC DESIGNATION

DESCRIPTION

PART NO.

RESISTORS (cont'd)

R83	4.7 MEG $\pm 10\%$, 1/2W	K19309-137
R86	430 Ω $\pm 5\%$, 1W	K19310-212
R87	470 Ω $\pm 10\%$, 1/2W	K19309-41
R88	2.7K $\pm 5\%$, 1/2W	K19309-272
R89	3.6K $\pm 5\%$, 1/2W	K19309-179
R90	6.2K $\pm 5\%$, 1/2W	K19309-176
R91	11K $\pm 5\%$, 1/2W	K19309-215
R92	5.6K $\pm 10\%$, 1/2W	K19309-67
R94	68 Ω $\pm 5\%$, 1/2W	K19309-256
R96	4.7K $\pm 10\%$, 1/2W	K19309-65
R100	22 Ω $\pm 10\%$, 1W	K19310-9
R101	2.2 MEG $\pm 10\%$, 1/2W	K19309-129

S1	Switch SPDT (Noise Limiter)	Part of R78
S2A	Switch Wafer (Ant. Primary)	K38952-1
S2B, C	Switch Wafer (Ant. Sec. RF Sec.)	K38952-2
S2D	Switch Wafer (RF Tap)	K38952-3
S2E, F	Switch Wafer Osc. (HF Osc. Tank, HF Osc. Top)	M39073-1
S3	Switch SPST (On-Off Line)	Part of R6 and R15
S4	Switch (Send-Rec.-Calibrate)	K26306-1
S5	Switch (Selectivity)	M26296-1
S6	Switch (Sideband)	M26303-1
S7	Switch (AM-SSB-CW)	K39225-1
S8	Switch (AVC)	K26309-2

PARTS LIST HQ-170A

<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
T1, T2	IF Transformer, 3035 & 455KC	M26402-2
T3	IF Transformer, 455 KC	K38829-2
T4, T5	IF Transformer, 455 KC	K38946-1
T6, T7, T8, T9, T10, T11	60 KC Coil Assy.	M42005-1
T12	Antenna Coil Assy. (Band 1)	K38926-1
T13	Antenna Coil Assy. (Band 2)	K38927-1
T14	Antenna Coil Assy. (Band 3)	K38928-1
T15	Antenna Coil Assy. (Band 4)	K38929-1
T16	Antenna Coil Assy. (Band 5)	K38930-1
T17	Antenna Coil Assy. (Band 6)	K38931-1
T18	Antenna Coil (Band 7)	K26338-1
T19	RF Coil Assy. (Bands 1 & 2)	K38932-1
T20	RF Coil Assy. (Bands 3 & 4)	K38933-1
T21	RF Coil Assy. (Bands 5 & 6)	K38934-1
T22	RF Coil (Band 7)	K38944-2
T23	Osc. Coil Assy. (Bands 1 & 2)	K38935-2
T24	Osc. Coil Assy. (Bands 3 & 4)	K38936-2
T25	Osc. Coil Assy. (Bands 5 & 6)	K38937-2
T26	Oscillator Coil (Band 7)	K38945-3
T27	Power Transformer for 50-60 Cycles 115V Operation	K26305-3
T27	Power Transformer for 50-60 Cycles 115/230V Operation	K26305-4
T28	60 KC Coil Assy.	M42005-4

PARTS LIST HQ-170A

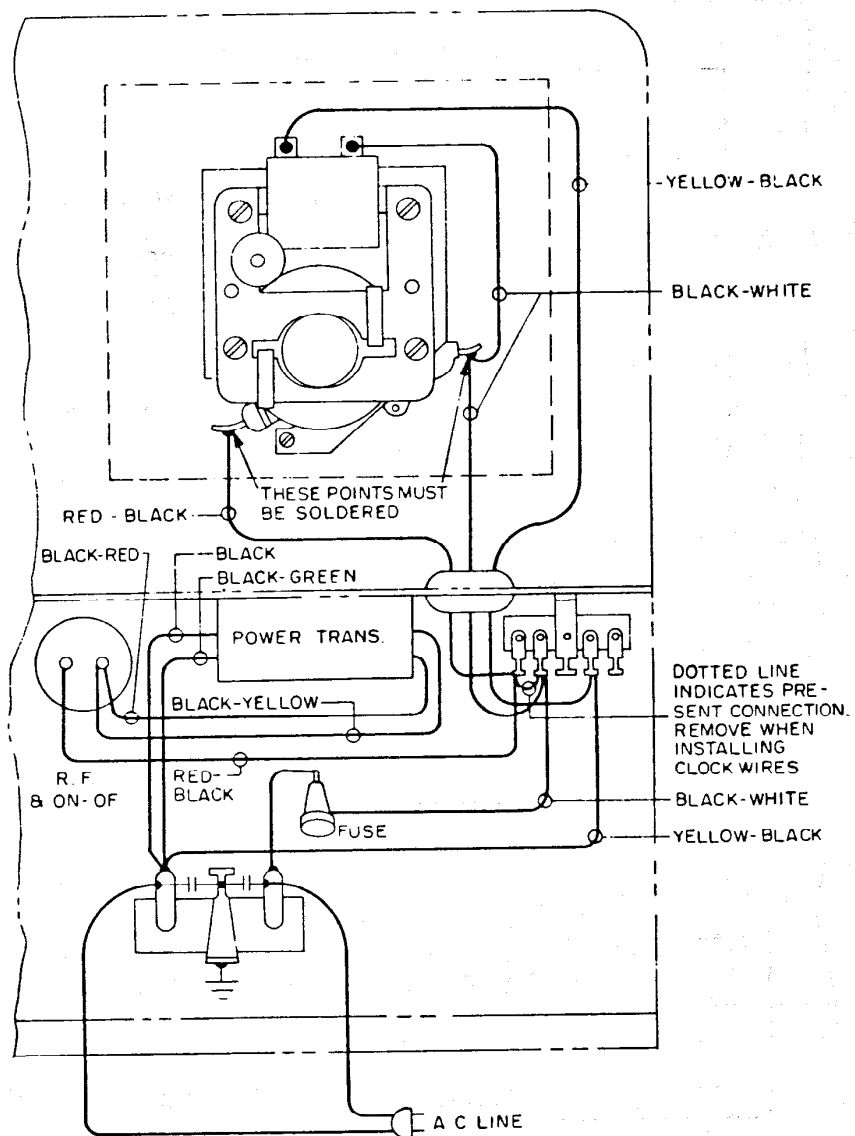
<u>SCHEMATIC DESIGNATION</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
T29	Output Transformer	K38828-2
T30	Filament Transformer for 50-60 Cycles, 115V Operation	K39224-1
T30	Filament Transformer for 50-60 Cycles, 115/230V Operation	K39224-2
V1, V11	Tube, Electron, 6BZ6	K16388-1
V2, V3, V5	Tube, Electron, 6BE6	K16284-1
V4, V6, V7	Tube, Electron, 6BA6	K16283-1
V8	Tube, Electron, 6BV8	K16396-1
V9, V13	Tube, Electron, 12AU7	K16295-1
V10	Tube, Electron, 6AL5	K16294-1
V12	Tube, Electron, 6C4	K16288-1
V14	Tube, Electron, OB2	K16375-1
V15	Tube, Electron, 6AV6	K16392-1
V16	Tube, Electron, 6AQ5	K16387-1
Y1	Crystal, 2580KC	K38972-2
Y2	Crystal, 100KC	K38661-1
Z1	RC Printed Network	K38981-1
Z2	RC Printed Network	K38846-1

MISCELLANEOUS PARTS

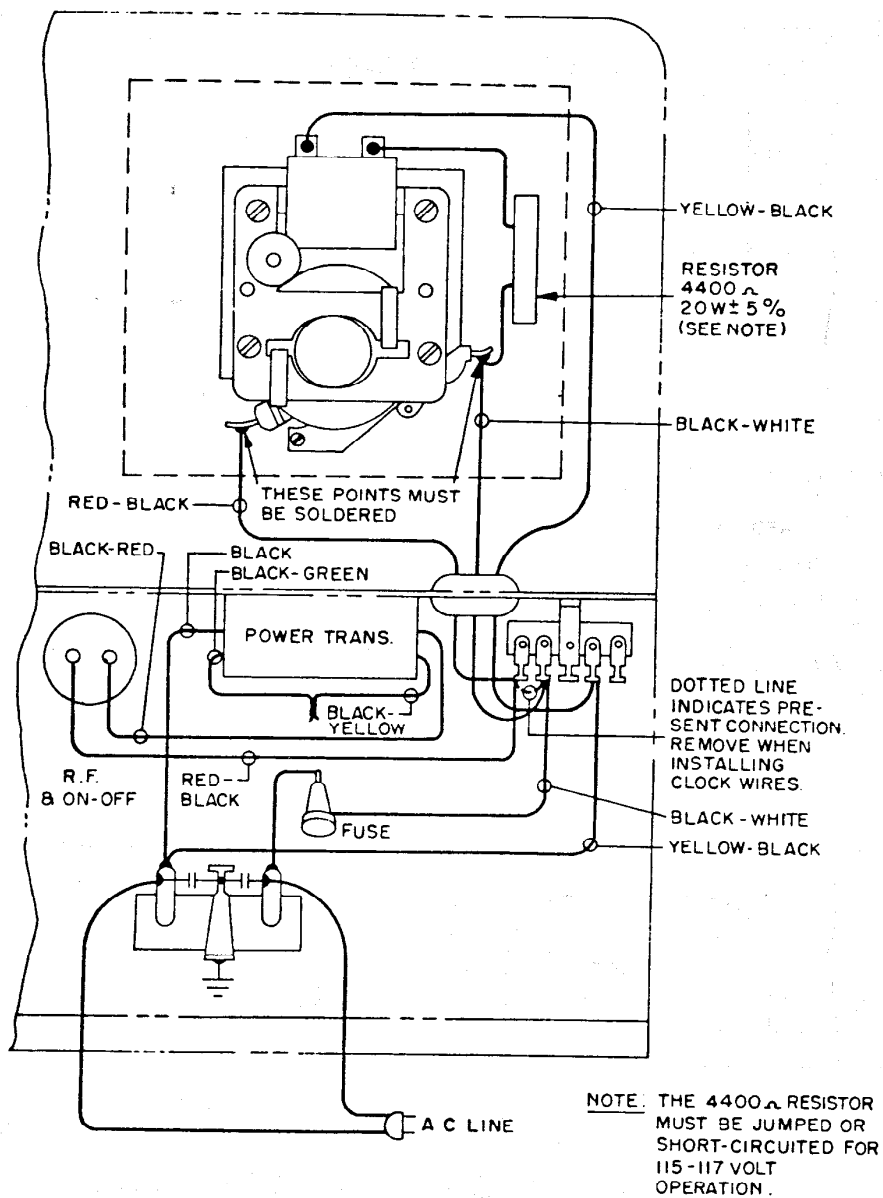
<u>DESCRIPTION</u>	<u>PART NO.</u>
Snap Button	K29619-9
Sems Fastener, #10 - 32 x 5/8 Lg.	K10004 -60
Metal Washer, 13/64 I.D. x 13/32 O.D. x .040 Thk.	K10007-243
Instruction Book	K52757-2
Steel Cable Assy.	K26339-G1
Tension Spring for Steel Cable Assy.	K38895-1
Knob (1" Dia.) with No Mark	K26224-2
Knob (1" Dia.) with White Mark	K26224-1
Knob (2" Dia.)	K26226-1
Knob (Pointer Type)	K26229-1
Knob, Bar	K26243-1
Knob (3/4" Dia.)	K26216-3
Pointer (Large)	K42043-2
Pointer	K42043-1
Window Assy.	M26300-G2
Window Assy. Retainer Spring	K26273-1
Window Assy. Tension Spring	K26318-1

OPTIONAL ACCESSORIES

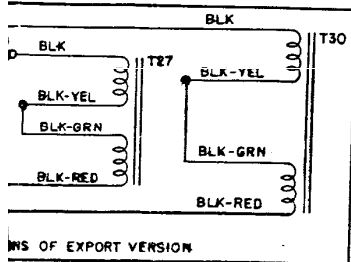
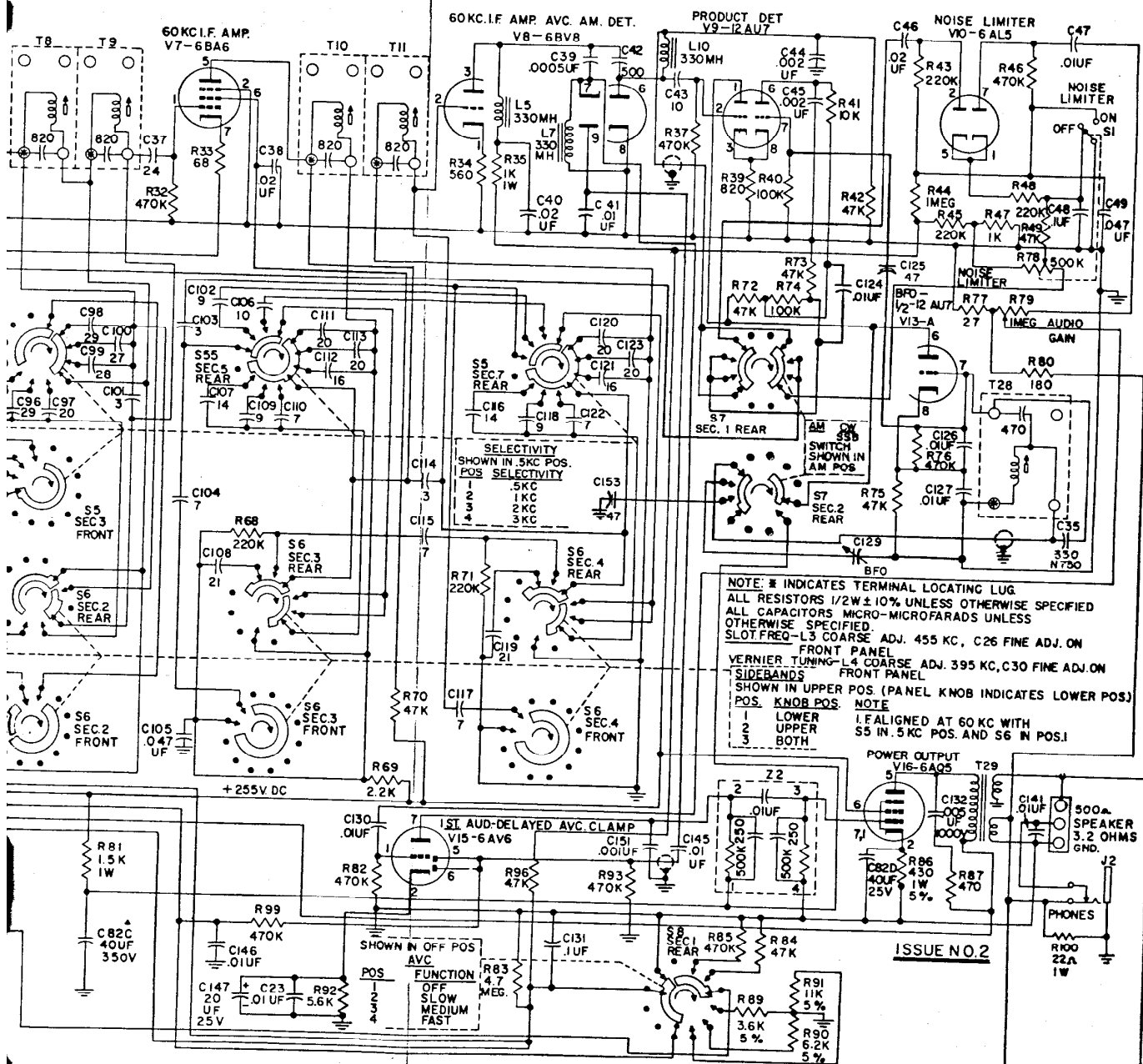
<u>DESCRIPTION</u>	<u>PART NO.</u>
24 Hour 115 60 ~ Telechron Clock Assembly Conversion Kit	PL 26380-G2
24 Hour, 115-230V - 50 ~ Telechron Clock Assembly Conversion Kit	PL 26380-G3
24 Hour, 115-230V - 60 ~ Telechron Clock Assembly Conversion Kit	PL 26380-G4
Loudspeaker, Assembly Model S200 in Cabinet Matched to the Models HQ-170A and HQ-180A series of receivers	PL 26394-G1



CLOCK INSTALLATION HQ-170A & HQ-180A
115V 50 OR 60 ~



CLOCK INSTALLATION HQ-170A & HQ-180A
230V 50 OR 60 ~



SCHEMATIC DIAGRAM - HQ-170A

