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ALIGNMENT PROCEDURE

Operation	Connect Oscillator To	Dummy Antenna	Input Signal Frequency	Band	Set Dial To	Adj. Trimmers	Purpose
1	Pin 7 12AT7 Converter 2 turns loosely cpd. to wavemagnet	.05 Mfd.	455 Kc. Modulated	BC	600 Kc.	L-9, 10, 13, 14, 17 and 18	Align I. F. channel for maximum output.
2	2 turns loosely cpd. to wavemagnet		1600 Kc. Modulated	BC	1600 Kc.	C4	Set oscillator to dial scale.
3	2 turns loosely cpd. cpd. to wavemagnet		1400 Kc. Modulated	BC	1400 Kc.	C2 and C3	Align det. and ant. stages.
4 (a)	Pin 1 (grid) on 12AU6 limiter.	.05 Mfd.	10.7 Mc. Unmodulated	FM		L19 coil slug Primary discr.	Align primary of discriminator for maximum reading.
5 (b)	Pin 1 (grid) on 12AU6 limiter.	.05 Mfd.	10.7 Mc. Unmodulated	FM		L20 coil slug sec. of discr.	Adjust secondary of discriminator for zero reading.
6 (c)	Pin 1 (grid) on 12BA6 2nd. IF.	.05 Mfd.	10.7 Mc. Unmodulated	FM		L15 and L16 Prim. and Sec. of 3rd. IF transformer	Align 3rd. IF transformer for maximum reading.
7 (c)	Pin 1 (grid) on 12BA6 1st. IF.	.05 Mfd.	10.7 Mc. Unmodulated	FM		L11 and L12 Prim. and Sec. of 2nd. IF transformer	Align 2nd. IF transformer for maximum reading.
8 (c)	Pin 7 (grid) on 12AT7 converter tube socket	.05 Mfd.	10.7 Mc. Unmodulated	FM		L7 and L8 Prim. and Sec. of 1st. IF transformer	Align 1st. IF Transformer for maximum reading.
9 (c) (d)	Antenna Post F (Re- move line ant.)	270 ohms	98 Mc. Unmodulated	FM	98 Mc.	L5 Osc. Coil Slug	Set Oscillator to dial scale.
10 (c) (d)		270 ohms	98 Mc. Unmodulated	FM	98 Mc.	L3 and L2 Det. and RF coil Slugs	Align det. and ant. stages to maximum reading.

IMPORTANT

Alignment of this chassis will in most cases be unnecessary unless an IF or RF transformer is replaced or the adjustments have been tampered with.

Correct alignment can only be made if the following procedure is followed:

A vacuum tube voltmeter with an isolation resistor of 2,000,000 ohms in series with the hot lead will serve for FM adjustments. This lead should be shielded.

An AC output meter connected across the primary or secondary of the output transformer will be satisfactory for all AM adjustments.

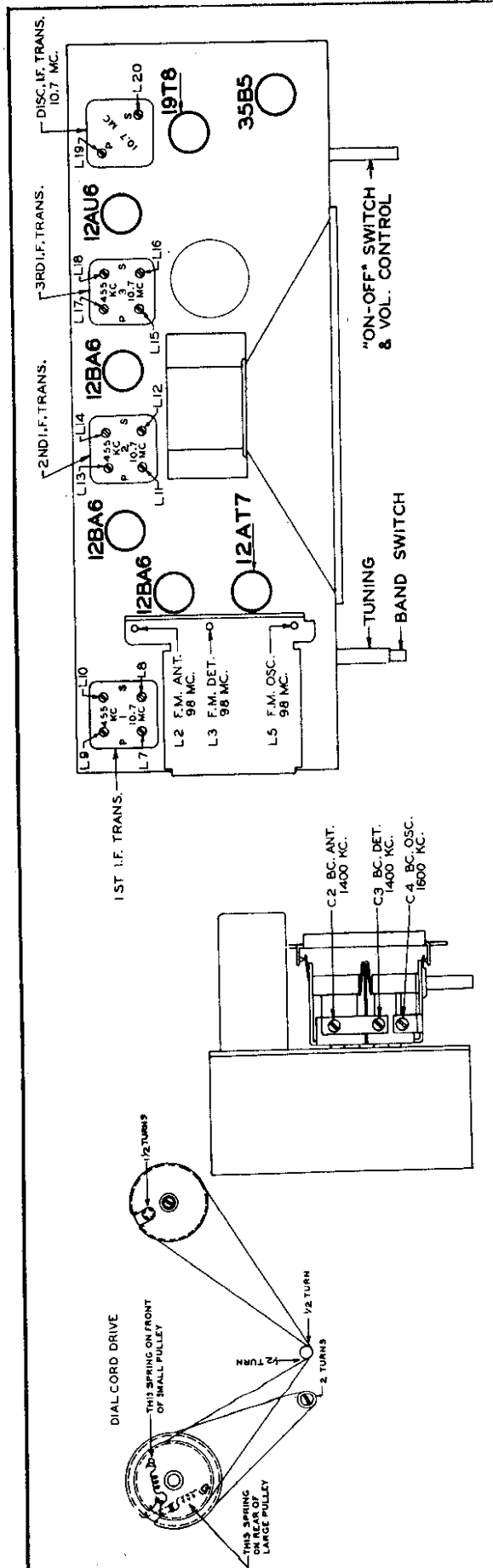
The signal generator output should be kept just high enough to get an indication on the meter.

(a) Vacuum Tube Voltmeter Lug 6 on discriminator transformer to chassis (half discriminator load).

(b) Vacuum Tube Voltmeter Lug 3 on discriminator transformer to chassis (full discriminator load).

(c) Vacuum Tube Voltmeter from Limiter Grid to Chassis.

(d) Loosen Slugs by applying a hot iron to the cement.



TUBE AND TRIMMER LOCATION

FM RF Alignment: The tuning slugs are attached to threaded shafts and the slugs are varied in the field of the coils by turning the shafts clockwise or counter-clockwise. After adjustment the shafts must be secured with a drop of speaker cement.

FM IF Alignment: The same type of tuning slugs for aligning the AM IF Amplifier are used for the FM I.F.'s. Observe the same precautions when making adjustments.

FM Discriminator Alignment: When the secondary of the discriminator is aligned (operation 5) use sufficient signal input to get a good positive and negative indication before setting the slug for zero reading. A center zero indicating meter is recommended for this adjustment, but is not absolutely necessary. Reversing the leads of a non-zero center meter, or observing closely when the meter starts to go to the left (negative) of zero will give the same results.

The 7F01 chassis incorporates a superheterodyne circuit with two stages of IF, and one stage of RF amplification on all bands. When adjustments are made on the 7F01 or any AC-DC chassis, a line isolation transformer (110 V input to 110 V output) is recommended in order to avoid a "hot" chassis. If an isolation transformer is not available, check the AC voltage between chassis and bench ground, and if there is any indication of voltage, reverse the plug before handling the set.

AM Alignment: The alignment of this chassis on the standard broadcast band is conventional. The alignment slugs in the IF transformers are threaded and screw into the coil forms. The slugs are slotted for a small size fiber screw driver. Do not press hard on the aligning tool or the threads in the coil forms will strip and adjustment will be impossible.

PARTS LIST

PART NO.	REF.NO.	DESCRIPTION	PART NO.	REF.NO.	DESCRIPTION
<u>DIAL ASSEMBLY</u>			<u>RESISTORS</u>		
12-1407		Dial Light Socket Mounting Bracket	63-1772	R2	470 Ohm 1/2 W. 20% Ins. Res.
26-389		Louvre Dial	63-1779	R1	680 Ohm 1/2 W. 20% Ins. Res.
46-538		Tuning Control Knob	63-1785	R8	1000 Ohm 1/2 W. 10% Ins. Res.
46-688		Tone Control Knob	63-1786	R9	1000 Ohm 1/2 W. 20% Ins. Res.
46-718		Band Switch Knob	63-1799	R25	2200 Ohm 1/2 W. 10% Ins. Res.
54-211		Speed Nut (4 used on Dial Scale Mtg.)	63-1800	R7	2200 Ohm 1/2 W. 20% Ins. Res.
57-1335		Tone Knob Esc.	63-1806	R13	3300 Ohm 1/2 W. 10% Ins. Res.
76-493		Tuning Shaft	63-1810	R14	3900 Ohm 1/2 W. 10% Ins. Res.
78-786		Dial Light Socket	63-1817	R22	5600 Ohm 1/2 W. 10% Ins. Res.
80-69		Dial Cord Spring	63-1824	R15	8200 Ohm 1/2 W. 10% Ins. Res.
80-209		Dial Cord Spring	63-1828	R5	10K Ohm 1/2 W. 20% Ins. Res.
80-444		Tuner Arm Tension Spring	63-1856	R11	47K Ohm 1/2 W. 20% Ins. Res.
80-580		Tuner Arm Stop Spring	63-1870	R12	100K Ohm 1/2 W. 20% Ins. Res.
80-581		Tuner Arm Pressure Spring	63-1876	R16	150K Ohm 1/2 W. 20% Ins. Res.
83-1504		Dial Light Shield	63-1898	R10	470K Ohm 1/2 W. 20% Ins. Res.
93-475		Felt Washer (S-14129)	63-1926	R4	2.2 Megohm 1/2 W. 20% Ins. Res.
93-690		Felt Washer (Used on S-13944)	63-1940	R17	4.7 Megohm 1/2 W. 20% Ins. Res.
94-371		Pointer Pulley Bushing			
100-97		Dial Light Bulb			
114-26		#8 x 1/4" Hex. Hd. S.T. Screw Type Z Cad. (Used on 12-1407)			
188-30		Retaining Ring	12-1070		Wavemagnet Mounting Bracket (2 used)
188-102		Clamping Ring	14-851		Cabinet for 7H920W (or 14-848)
S-13944		Pointer, Pulley & Bushing Assembly (59-205)	14-1020		Cabinet for 7H920 (or 14-850)
S-13945		Cam, Pulley and Bushing	19-139		Cabinet Back Retaining Clip (4 used)
S-13981		Tone Control Bracket & Lug Assembly	49-608	SP-1	7 1/2" P. M. Speaker
S-13982		Dial Cord & Eyelet Assembly			208-608 Cone & Voice Coil Assembly
S-13983		Dial Cord & Eyelet Assembly	54-139		#3/8-32 x 9/16" Walnut Type 9N Steel Cad. (Used to mount Volume Control)
S-14129		Volume Control Knob Assembly	54-140		#3/8-32 x 9/16" Hex. Nut Steel (Used to mount Tone Control)
S-14429		Tuner Arm Assembly	54-226		Speed Nut Tinnerman (3 used to mount Tuning Cores)
			57-1269		I.F. Transformer Terminal Plate
			58-128		Two Prong Plug
			74-52		Plastic Speaker Screen
			78-782		Miniature Tube Socket (7 contact)
			78-788		Miniature Tube Socket (9 contact)
			78-794		Miniature Tube Socket (3 used)
			78-795		Miniature Tube Socket (7 contact)
			78-854		Miniature Tube Socket (9 contact)
			85-464		Band Switch
			93-665		Fibre Washer (2 used on S-14385)
			93-719		.031 x 5/16 x 7/16 Steel Washer Cad. Pl. (4 used on 74-52)
			94-334		Speaker Mounting Bushing
			94-485		Fibre Bushing (1 ea. used on 63-1584) and 63-1582)
			94-598		R.F. Plate Mounting Bushing (4 used)
			95-1035		Output
			97-284		Dial Cord Guide Stud
			97-293		Insulating Stud (4 used on Chassis Mtg.)
			110-130		Grill Cloth
			112-281		#10 x 3/4" Oval B.H.S.T. Stat. Bronze (4 used on chassis mounting)
			112-697		#6 x 7/16" Straight Side B.H.S.T. Steel Cad. Pl. (4 used on back)
			114-26		#8 x 1/4" Hex. Hd. S.T. Screw Steel Cad. Pl. (2 used on S-13977)
			114-78		#6 x 32 x 5/16" Hex. Hd. Slotted S. T. (Wavemagnet Mtg.)
			114-160		#6 x 7/8" Hex. Hd. S. T. Screw (1 used to Mt. 212-3)
			114-292		#6 x 5/8" Hex. Hd. Sl. S. T. Screw (8 used)
			114-319		#8-32 x 11/16" Hex. Hd. Slotted M.S. Steel (4 used)
			125-17		Rubber Grommet (4 used on 49-608)
			125-62		Rubber Grommet (4 used on R.F. Plate)
			139-69		Speaker Baffle
			149-64		Tuning Core (3 used)
			188-34		Ring (Used on 63-1582)
			202-697		F.M. Instruction Book
			202-741		Instruction Book
			212-3		Selenium Rectifier
			S-13977	SE-1	Wavemagnet Assembly
			S-14128	L1	Cabinet Back, A.C. Plug & Cord Assembly (Complete)
			S-14358		Wavemagnet Cable Assembly
			S-14562		Cabinet Back, A.C. Plug & Cord Assembly (W Model Only) (Complete)
63-1202	R21	330 Ohm W.W. 2 W 10% Ins. Res.			
63-1450	R24	22 Ohm W.W. 1 W 20% Ins. Res.			
63-1452	R20	270 Ohm W.W. 2 W 10% Ins. Res.			
63-1582	R23	Tone Control			
63-1584	R18	Volume Control & Switch			
63-1737	R3	68 Ohm 1/2 W. 20% Ins. Res.			
63-1744	R6	100 Ohm 1/2 W. 20% Ins. Res.			
63-1747	R19	120 Ohm 1/2 W. 10% Ins. Res.			
<u>COILS & CHOKES</u>			<u>MISCELLANEOUS</u>		
S-12256	L21	A.C. Line Choke Coil Assembly			
S-13971	T2	2nd. I.F. Transformer Assembly			
S-13972	T3	3rd. I.F. Transformer Assembly			
S-13973	T4	Discriminator Transformer Assembly			
S-13974	L4	Broadcast Detector Coil Assembly			
S-14192	L2	F.M. Antenna Coil Assembly			
S-15733	L5	F.M. Oscillator Coil Assembly			
S-15743	L3	F.M. Detector Coil Assembly			
S-15888	L6	Broadcast Osc. Coil Assembly			
S-15981	T1	1st. I.F. Transformer Assembly			
<u>CONDENSERS</u>					
22-3	C5	.01 Mfd. Ceramic (Disc.) 500 V.			
22-829	C10	.05 Mfd. 200 V.			
22-854	C18	.0005 Mfd. 600 V.			
22-1220	C13	.002 Mfd. 600 V.			
22-1367	C12	50 Mmfd. Ceramic 500 V.			
22-1506	C7	22 Mmfd. Ceramic 500 V.			
22-1507	C15	25 Mmfd. Ceramic 500 V.			
22-1661	C21,22	Elect. 8-4-40 Mfd.			
	23, & 24	150V-40 Mfd. 25 V.			
22-1669	C8	100 Mmfd. Ceramic 500 V.			
22-1676	C6	.001 Mfd. Ceramic 500 V.			
22-1677	C1	Three Gang Variable			
22-1683	C16	.02 Mfd. (Shielded) 400 V.			
22-1702	C19	.005 Mfd. 400 V.			
22-1705	C9	30 Mmfd. Ceramic 500 V.			
22-1766	C11	.68 Mmfd. (Molded) 500 V.			
22-1775	C26	.047 Mfd. 400 V.			
22-2084	C20	.1 Mfd. 200 V.			
<u>RESISTORS</u>					