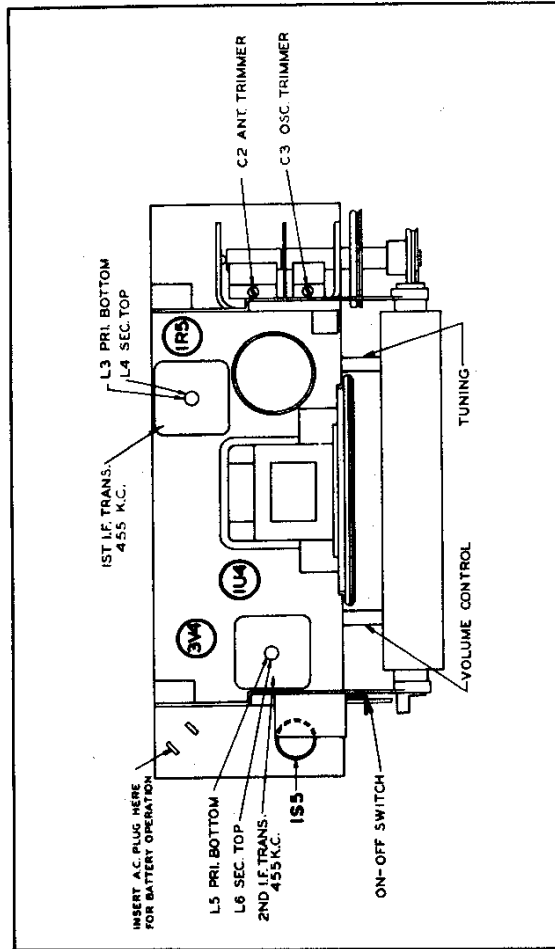


TUBE, TRIMMER LOCATION



ALIGNMENT PROCEDURE

OPERATION	CONNECT OSCILLATOR TO	DUMMY ANTENNA	INPUT SIG. FREQUENCY	BAND	SET DIAL TO	TRIMMERS	PURPOSE
1	Converter Grid	.1 Mfd	455 Kc.	BC	600 Kc.	L3, 4, 5 & 6	I.F. Alignment
2	Two turns loosely coupled to Wavemagnet		1600 Kc.	BC	1600 Kc.	Osc. Trim. C3	Set Oscillator to scale
3	Two turns loosely coupled to Wavemagnet		1400 Kc.	BC	1400 Kc.	Ant. Trim. C2	Align Wavemagnet

TO THE SERVICE MAN:

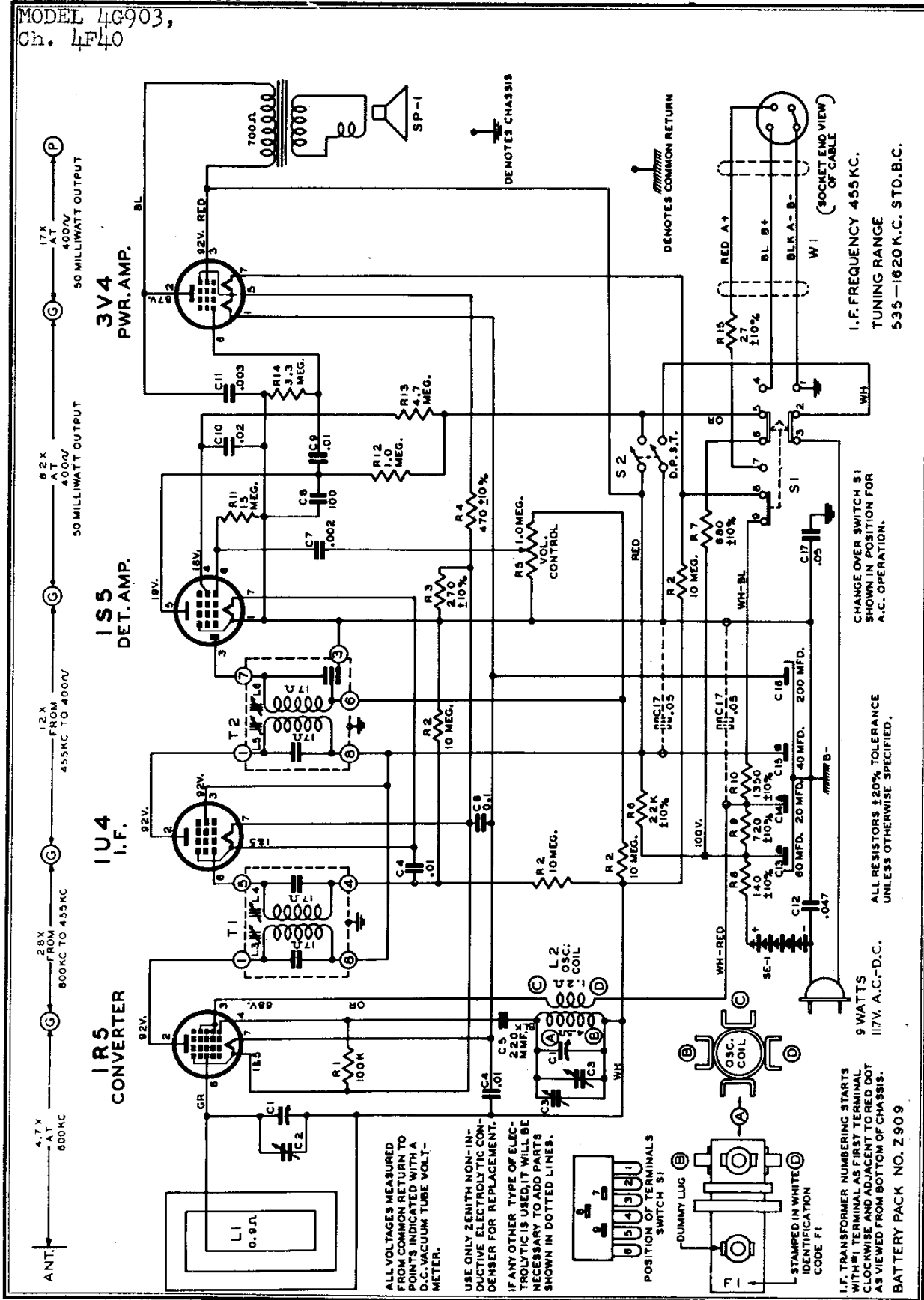
The 4F40 chassis is an AC, DC or battery operated super-heterodyne. The chassis is isolated from the DC circuit, and all measurements must be made from a common negative point. The most convenient place to reach this negative point is the terminal strip to which C17 is connected. When the change over Switch S1 is in AC position, the DC resistance from chassis to any circuit must be almost infinite. If any circuit becomes grounded a hum will result. Microphonic tubes will cause audio howl. Check the 1R5 and 1S5.

The wavemagnet is connected to the chassis by two wires that pass through the hollow dial pivots. If the R.F. becomes weak or dead, check the D.C. resistance of the wavemagnet. This D.C. resistance should be approximately .9 ohm. If it is open check the wavemagnet.

IF Alignment: Remove the chassis from the cabinet and arrange the units so that the wavemagnet can be connected. All the connections and adjustments can be made from the top of the chassis. Connect a signal generator, through a .1 mfd. dummy antenna, to the converter grid and B (common return). Connect an output meter across the voice coil of the speaker (two lugs provided). Set the signal generator to 455 Kc. and adjust L3, L4, L5 and L6 for maximum indication on the output meter. Always keep the signal output from the generator just high enough to get an indication, otherwise excessive loading may result.

RF Alignment: Connect a two turn loop across the leads of the signal generator, loosely couple this loop to the wavemagnet. Set the signal generator and the dial pointer of the receiver to 1600 Kc. and adjust C3 oscillator trimmer to resonance. Set the signal generator and dial pointer to 1400 and adjust C2 antenna trimmer to resonance. These trimmers are on the top of gang condenser. Check operation and re-install set in cabinet. Tune in a weak station near 1400 Kc. or use background noise and readjust antenna trimmer for maximum sensitivity.

MODEL 4G903,
Ch. 4F40



I.F. FREQUENCY 455 KC.
TUNING RANGE
535-1620 K.C. STD. B.C.

CHANGE OVER SWITCH S1
SHOWN IN POSITION FOR
A.C. OPERATION.

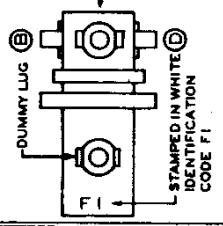
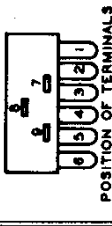
ALL RESISTORS ±20% TOLERANCE
UNLESS OTHERWISE SPECIFIED.

9 WATTS
117V. A.C.-D.C.

I.F. TRANSFORMER NUMBERING STARTS
WITH #1 TERMINAL AS FIRST TERMINAL
CLOCKWISE AND ADJACENT TO RED DOT
AS VIEWED FROM BOTTOM OF CHASSIS.
BATTERY PACK NO. Z 909

ALL VOLTAGES MEASURED
FROM COMMON RETURN TO
POINTS INDICATED WITH A
D.C.-VACUUM TUBE VOLT-
METER.

USE ONLY ZENITH NON-IN-
DUCTIVE ELECTROLYTIC CON-
DENSER FOR REPLACEMENT.
IF ANY OTHER TYPE OF ELEC-
TROLYTIC IS USED, IT WILL BE
NECESSARY TO ADD PARTS
SHOWN IN DOTTED LINES.



DIAL CABLE DRAWING

On receivers using Tuning Gang #22-2032, Dial String Assemblies #S-15440 (short) and #S-15441 (long) must be used.

DIAL CABLE DRAWING

On receivers using Tuning Gang #22-2108, Dial String Assemblies #S-15440 (short) and #S-16106 (long) must be used.

PARTS LIST

PART NO.	REF. NO.	DESCRIPTION	PART NO.	REF. NO.	DESCRIPTION	PART NO.	REF. NO.	DESCRIPTION
12-1554		Tuning Shaft Bracket	63-1912	R12	1 Meg Ohm 1/2W 20% Ins.	78-782		MISCELLANEOUS
26-420		Dial Scale	63-1933	R14	3.3 Meg Ohm 1/2W 20% Ins.	78-806		Miniature Tube Socket
46-768		Tuning & Vol. Control Knob (2 Used)	63-1940	R13	4.7 " " 1/2W 20% " "	78-807		Miniature Tube Socket (2 Used)
52-1490		Emblem Plate	63-1954	R2	10 " " 1/2W 20% " "	80-699		Latch Spring
57-1493		Trim Plate	63-1961	R11	15 " " 1/2W 20% " "	83-1600		Handle Strip (Slotted)
57-1513		Emblem Plate (Y Model only)	63-1999	R8	140 Ohm 3W 10% (Zipohm) Ins. (or 63-2014)	83-1610		Wavemagnet Retaining Strip (2 Used)
57-1514		Trim Plate (Y Model only)	63-2010	R9,10	Two Section Camohm	85-450	S1	Power Change-Over Switch
66-560		Tuning Shaft	63-2013	R5	Volume Control	85-451	S2	On-Off Switch
66-569		Dial Cord Tension Spring (3 Used)				94-472		Handle Mig. Bushing (2 Used)
93-718		Flat Washer (Used behind Pointer Assem.)				112-761		#2 X 1/4" Phill. R.H.S.T. Type Z Steel N.P. (2 Used on Emblem Plate)
188-320		Retaining Ring (Used on 76-540)	11-104		Line Cord & Plug	113-18		#6-32 X 5/16 Hex Hd. Slotted M.S. Steel Cad. Pl. Shakeprf. (2 Used on 85-450)
S-15430		Pointer & Pulley Assem.	12-1552		Chassis Mig. Bkkt. (2 Used)	113-23		#8-32 X 5/16 Hex Hd. Sl. M.S. Steel Cad. Pl. Int. Shakeprf. Lock (2 Used on S-15633)
S-15440		Dial Cord Assem. (Short)	14-1103		Cabinet for 4G903 (Use S-15427)	114-159		#6 X 1/4" Hex Hd. S.T. Screw Cad. Pl. (4 Used on S-15437)
S-15441		Dial Cord Assem. (Long)	14-1103Y		Cabinet for 4G903Y (Use S-15631)	114-311		#6-32 X 1" Hex Hd. Slotted M.S. Steel N.P. (1 Used to Mt. Rectifier)
S-16016		Dial Cord Assem. (Long)	15-51		Cable Socket Cap & Insulator	114-319		#8-32 X 11/16" Hex Hd. Slotted M.S. Steel Cad. Pl. (2 Used to Mt. Handle)
			19-99		Coil Mig. Clip	147-156		Speaker Mig. Spacer
			19-185		Speaker Baffle Retaining Clip (2 Used)	156-37		Door Latch
			24-481		Front Door	156-38		Rear Cover Catch (2 Used-Black)
			24-482		Front Door (Y Model only)	156-39		Door Latch (Y Model only)
			24-495		On-Off Switch Cover	166-44		Rubber Bumper (Speaker & Gang)
			49-658	SP-1	4" P.M. Speaker	192-124		Dial Glass
					208-658 Cone & Voice Coil	199-115		Flexible Handle Sleeve (With Cardboard Strips)
					206-658 Output Trans.	199-116		Paper Sleeve (Used on Wavemagnet Lead)
			54-30		#8-32 X 5/16" X 7/64" Hex Nut Steel N.P.	202-689		Instruction Book
			54-34		#6-32 X 1/4" X 3/32 Hex Nut - Steel N.P. (Used on Rectifier)	212-5	SE-1	Selenium Rectifier (or 212-2)
			54-139		#3/8-32 X 9/16" Palmnut-Type 9N Cad. Pl. (Used on Vol. Control)	S-15427		Cabinet Front & Hinge Assem.
			54-267		#6-32 X 5/16 Palmnut Cad. Pl. (2 Used on I. F. Trans.)	S-15433		Support Brkt. & Idler Pulley Assem.
			54-282		Spring Nut-Cad. Pl. (2 Used on Dial Scale & Pointer)	S-15434		Wavemagnet Winding Assem.
			54-283		Spring Nut Black Oxide (3 Used)	S-15438	W1	Wavemagnet Cable & Socket Assem.
			54-284		Wavemagnet Lead Retaining Nut (2 Used)	S-15473		Speaker Baffle & Grille Cloth Assem. (110-137)
			57-1480		Chassis Bottom Plate (Metal)	S-15548		Cabinet Rear Cover Assem. (2 Used)
			57-1491		Latch Plate (Behind Latch)	S-15549		Brkt. & Idler Pulley Assem. (Lower)
			57-1494		Cabinet Reinforcing Plate	S-15595		Cabinet Front & Hinge Assem. (Y Model only)
			61-71		Idler Pulley (6 Used)	S-15631		Cabinet Rear Cover Assem. (Y Model only)
			61-136		Idler Pulley (Black)	S-15632		Handle End Pieces Assem. (Y Model only)
			64-288		Shoulder Rivet (2 Used on S-15595)	S-15633		Handle End Pieces Assem.
			64-290		Shoulder Rivet (1 Used on 61-71)			
			64-303		Shoulder Rivet (1 Used on S-15433)			
			78-274		Elect. Cond. Socket			
			78-543		Battery Cable Socket (4 Contact)			

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