

MODELS 5J12,
5J13, Ch. 5J1

CIRCUIT

5 tube AC-DC Superheterodyne covering two bands,
(540 KC—1730 KC) and (5.8 MC—18MC).

OPERATING VOLTAGE

110-120 Volts AC or 110-120 Volts DC. It can be
operated on 220 Volts AC or DC only if a special line
resistance cord is used. (See Parts List.)

ALIGNMENT PROCEDURE

- Connect output meter across voice coil.
- Turn receiver volume control full on.
- Use an isolation transformer if available, otherwise connect a .1 mfd. condenser in series with low side of signal generator and attach to B minus of chassis.
- Use lowest output setting of signal generator capable of producing adequate output meter indication and then proceed as outlined in chart below.
- Repeat adjustments to insure good results.

NOTE

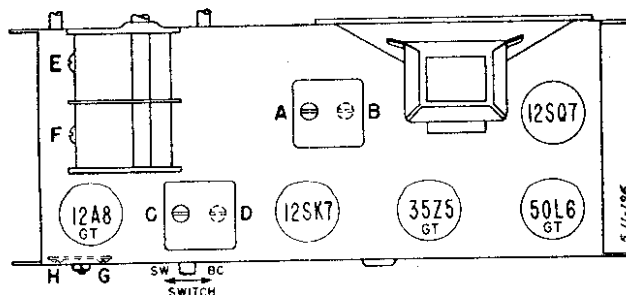
To avoid splitting the slotted head of powdered iron core tuning slugs in I.F. transformers, use an alignment tool having a blade 1/8" wide.

Step	Dummy Antenna in Series with Signal Generator	Connection of Signal Generator (High Side)	Band Switch Position	Signal Generator Frequency	Receiver Gang Setting	Trimmer Description	Trimmer Designation	Type of Adjustment
1	250 mmfd. condenser	Grid Cap 12A8 Tube	B.C.	455 K.C.	Gang fully open	2nd IF 1st IF	A, B* C, D*	Maximum Output
2	250 mmfd. condenser	End of Ant. Wire	B.C.	1730 K.C.	Gang fully open	B.C. Oscillator (on gang)	E	Maximum Output
3	250 mmfd. condenser	End of Ant. Wire	B.C.	1400 K.C.	Tune in generator signal	B.C. Antenna (on gang)	F	Maximum Output
4	250 mmfd. condenser	End of Ant. Wire	B.C.	600 K.C.	Tune in generator signal	B.C. pad	G	Maximum Output. Rock gang while adjusting
Recheck alignment at 1400 K.C. (in step 3 above)								
5	400 ohm carbon resistor	End of Ant. Wire	S.W.	15 M.C.	Tune in generator signal	S.W. Antenna	H (see caution below)	Maximum Output. Rock gang while adjusting

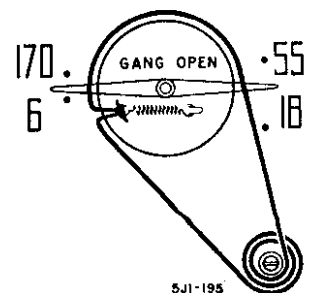
*Adjustments B and D are made from underside of chassis.

Caution: Be sure that trimmer "H" is aligned on correct frequency and not on image which is approximately 910 K.C. lower in frequency as indicated on dial.

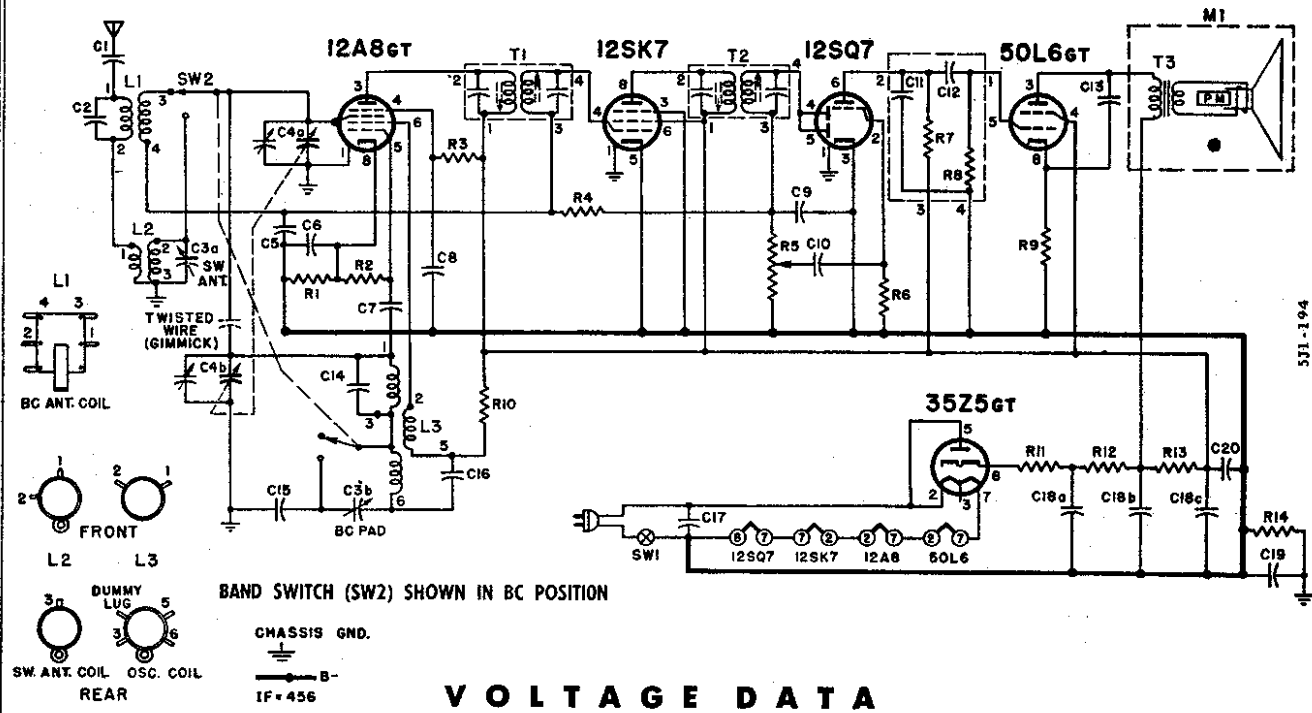
TUBE AND TRIMMER LOCATION



POINTER SETTING AND DIAL CORD STRINGING

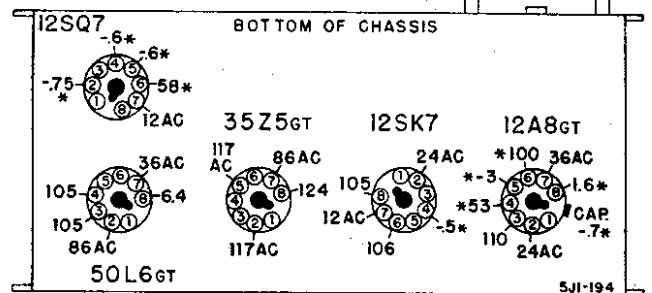


MODELS 5J12,
5J13, Ch. 5J1



V O L T A G E D A T A

- All readings made between tube socket terminals and B minus (terminal of On-Off switch).
- Dial turned to low frequency end; volume control at minimum.
- Band switch set in "BC" position.
- Measured on 117 Volts AC line. When measured from DC line, voltages may be slightly lower.
- Voltages measured with Vacuum Tube Voltmeter. Readings taken with a 1,000 ohm per volt meter will be approximately the same except for those marked with an asterisk * in the voltage chart; these readings will either be lower or practically zero.



* If taken with a 1000 ohm-per-volt meter, readings will either be lower or practically zero.

RESISTORS

Symbol	Description	Part No.
R1	330 ohms, 1/2 Watt	60B 8-331
R2	47,000 Ohms, 1/2 Watt	60B 8-473
R3	39,000 ohms, 1/2 Watt	60B 8-393
R4	2.2 Megohms, 1/2 Watt	60B 8-225
R5	1 Megohm Volume Control	75B 1-25
R6	4.7 Megohms, 1/2 Watt	60B 8-475
*R7	470,000 ohms, 1/2 Watt	
*R8	470,000 ohms, 1/2 Watt	
R9	220 ohms, 1/2 Watt	60B 8-221
R10	3,300 ohms, 1/2 Watt	60B 8-332
R11	33 ohms, 1 Watt	60B 28-3
R12	150 ohms, 1 Watt	60B 28-1
R13	1,000 ohms, 1 Watt	60B 28-2
R14	150,000 ohms, 1/2 Watt	60B 8-154

CONDENSERS

Symbol	Description	Part No.
C1	.001 mfd., 400 Volts, Paper	65A 2-6
C2	50 mmfd., Mica	65B 5-11
C3a	3 to 30 mmfd.	Dual Trimmer...66A 23-4
C3b	450 to 510 mmfd.	
C4a	0 to 420 mmfd.	
C4b	0 to 420 mmfd.	
C5	.05 mfd., 400 Volts, Paper	65A 2-9

Symbol	Description	Part No.
C8	.05 mfd., 400 Volts, Paper	65A 2-9
C7	100 mmfd., 10%, -.00075 Temp. Coeff., Ceramic	65B 6-19
C8	.05 mfd., 400 Volts, Paper	65A 2-9
C9	250 mmfd., Ceramic	65B 6-5
C10	.01 mfd., 400 Volts, Paper	65A 2-18
*C11	250 mmfd., 500 Volts	
*C12	.01 mfd., 400 Volts	
C13	.01 mfd., 400 Volts, Paper	65A 2-18
C14	10 mmfd., 10%, Zero Temp. Coeff., Ceramic	65B 6-44
C15	.003 mfd., 3%, Silver Mica	65B 1-6
C16	.005 mfd. min., Ceramic Disc	65A 10-1
C17	.05 mfd., 400 Volts, Paper	65A 2-9
C18a	30 mfd., 150 Volts	Elect...67A 8
C18b	30 mfd., 150 Volts	
C18c	20 mfd., 150 Volts	
C19	.18 mfd., 200 Volts, Paper	65A 2-27
C20	.05 mfd., 400 Volts, Paper	65A 2-9

COILS, TRANSFORMERS, ETC.

Symbol	Description	Part No.
L1	Coil, Antenna BC	69A 74
L2	Coil, Antenna SW	69A 75
L3	Coil, Oscillator BC and SW	69A 76
T1	Transformer, 1st IF	72B 50
T2	Transformer, 2nd IF	72B 51

Symbol	Description	Part No.
T3	Transformer, Output	98A 4
SW1	Switch, On-Off	Part of R5
SW2	Switch, Band	77B 1-12
MI	Speaker (5" PM) and Output Trans.	78B 26-1

MISCELLANEOUS

Description	Part No.
Antenna Hank (20')	89A 4-2
Cabinet	
Mahogany (5J12)	34D 22-6
Ivory (5J13)	34D 22-7
Carton and Fillers	44B 110
Dial Cord	50A 1-3
Felt Washer (Knob)	5A 4-3
Felt Washer (Pointer)	5A 4-8
Knob	
Ivory	33A 32-5
Walnut	33A 32-4
Pointer	
Ivory	25A 31-2
Walnut	25A 31-1
Ring, Pointer Compression	19A 31-1
Shaft, Tuning	28A 26-1
Spacer, Tuning Shaft	29A 2-7-21
Speed Nut, Tuning Shaft	2B 10-19-59
Spring, Dial Cord Tension	19B 1-2
Washer, "C" (Tuning Shaft)	4A 4-6-0
Washer, Spring (Tuning Shaft)	4A 6-3-0
Resistance Cord, for 220 V. operation	
With American Male Plug	89A 14
With Continental Male Plug	89A 14-1

* C11, C12, R7, and R8 are contained in a multiple-unit component called a couplete (part number 69A5-1). Although a defective section of the couplete can sometimes be replaced by individual components, we strongly recommend replacing the entire couplete. Note that numerals 1, 2, 3, 4, shown at schematic connections correspond to couplete lead numbers printed on face of couplete.