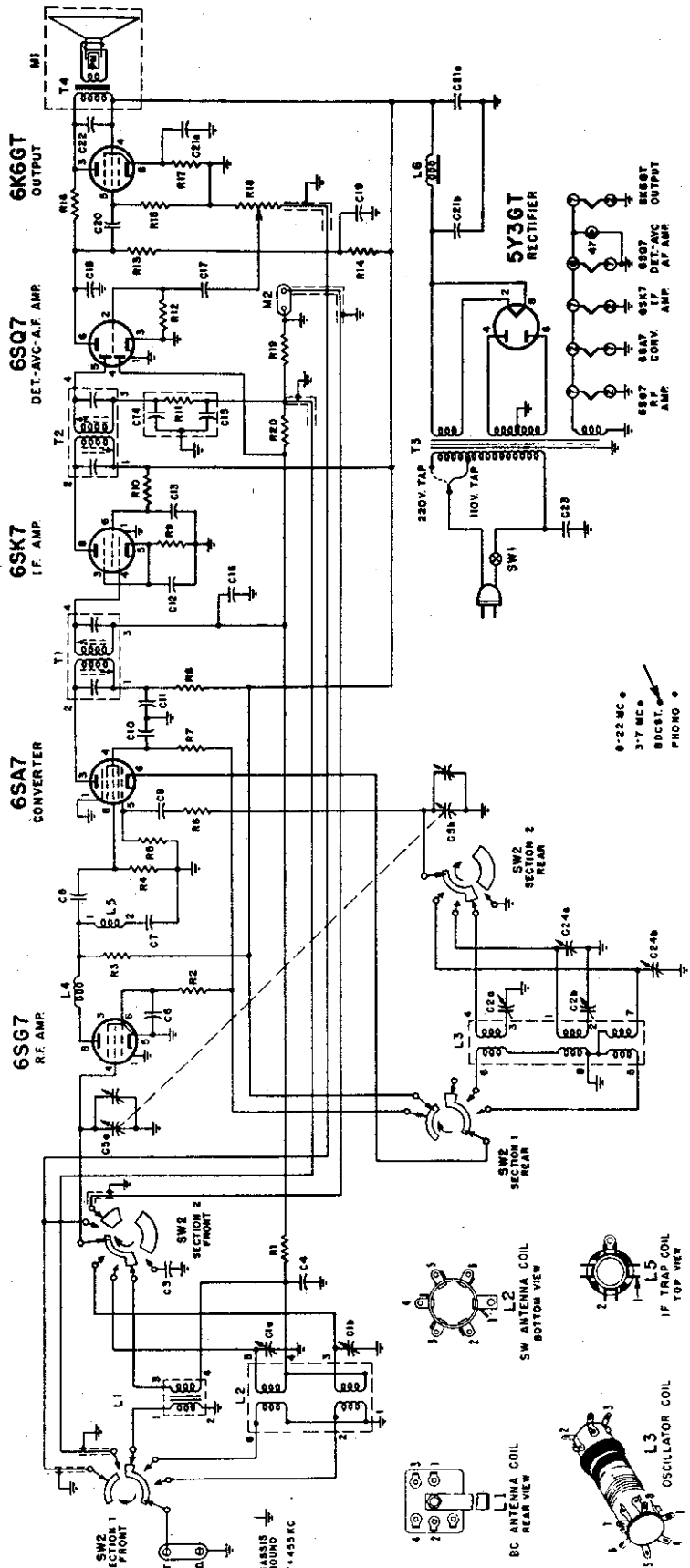
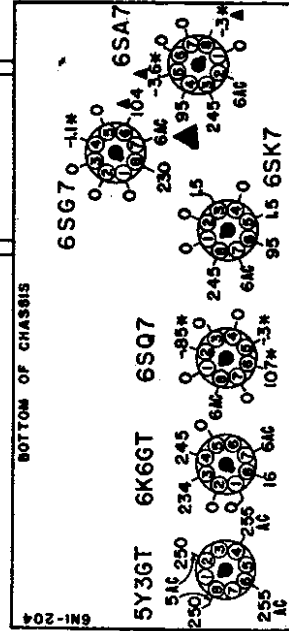


MODELS 6N12,
6N13, Ch. 6N1



BAND SWITCH (SW2) SHOWN IN BC POSITION



VOLTAGE DATA

- Measured on 117 Volts AC line.
- 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.
- All readings made between tube socket terminals and chassis ground, unless otherwise indicated.
- Dial turned to low frequency end; volume control at minimum.
- Band switch set in "BC" position.

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

▲ On "Phono" these voltages will be zero. All other DC readings may be slightly higher.

MODELS 6N12,
6N13, Ch. 6N1

ALIGNMENT PROCEDURE

- Be sure both set and signal generator are thoroughly warmed up before starting alignment.
- Turn gang condenser to wide open position and make sure that dial pointer is at position shown in illustration below.
- Connect output meter across voice coil.
- Turn receiver volume control full on.
- 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 | .02 mfd. condenser | † Pin No. 8 of 6SA7 | Broad-cast | 455 KC | Gang fully open | 2nd IF 1st IF | A, B* C, D* | Maximum Output |
| 2 | 200 mmfd. condenser | Antenna Terminal | Broad-cast | 1730 KC | Gang fully open | B.C. Oscillator (on gang) | E | Maximum Output |
| 3 | 200 mmfd. condenser | Antenna Terminal | Broad-cast | 1400 KC | Tune in generator signal | B.C. Antenna (on gang) | F | Maximum Output |
| 4 | 200 mmfd. condenser | Antenna Terminal | Broad-cast | 600 KC | Tune in generator signal | B.C. pad | G | Maximum Output. "Rock" gang while adjusting |

Recheck alignment at 1400 KC (in step 3 above)

| | | | | | | | | |
|---|-------------------------|------------------|--------|--------|-----------------|-------------------|------|--|
| 5 | 400 ohm carbon resistor | Antenna Terminal | Medium | 7.5 MC | Gang fully open | M.B. Osc. Trimmer | H ** | Maximum Output |
| 6 | 400 ohm carbon resistor | Antenna Terminal | Medium | 6.2 MC | Tune in signal | M.B. Ant. Trimmer | I | Maximum Output |
| 7 | 400 ohm carbon resistor | Antenna Terminal | Medium | 3.2 MC | Tune in signal | M.B. Osc. Pad | J | Maximum Output "Rock" gang while adjusting |

Recheck alignment in step 5 and 6

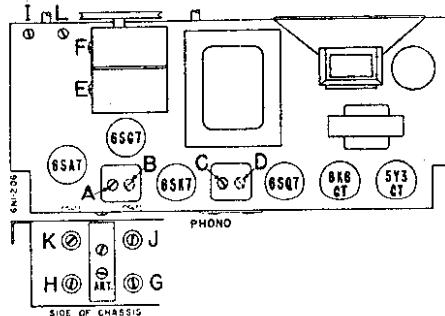
| | | | | | | | | |
|---|-------------------------|------------------|------------|-------|-----------------|-------------------|------|--|
| 8 | 400 ohm carbon resistor | Antenna Terminal | Short Wave | 23 MC | Gang fully open | S.W. Osc. Trimmer | K ** | Maximum Output |
| 9 | 400 ohm carbon resistor | Antenna Terminal | Short Wave | 18 MC | Tune in signal | S.W. Ant. Trimmer | L | Maximum Output "Rock" gang while adjusting |

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

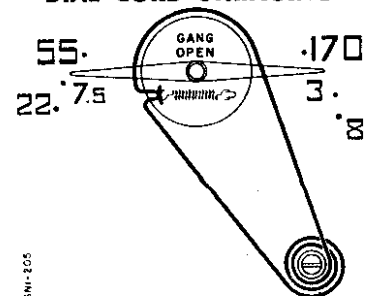
† If IF adjustments are very far off alignment, it may be necessary to feed signal through pin #4 of 6SK7, then through pin #8 of 6SA7.

** Be sure that trimmer is aligned at correct frequency and not on image which should be approximately 910 KC lower than correct frequency, as indicated on the dial. Check to see that image appears 910 KC lower than alignment frequency.

TUBE AND TRIMMER LOCATION



POINTER SETTING AND DIAL CORD STRINGING



MODELS 6N12,
6N13, Ch. 6N1

RESISTORS

| Symbol | Description | Part No. |
|--------|--|-----------|
| R1 | 270,000 ohms, 1/2 Watt | 60B 8-274 |
| R2 | 47,000 ohms, 1/2 Watt | 60B 8-473 |
| R3 | 2,200 ohms, 1/2 Watt | 60B 8-222 |
| R4 | 100,000 ohms, 1/2 Watt | 60B 8-104 |
| R5 | 22,000 ohms, 1/2 Watt | 60B 8-223 |
| R6 | 100 ohms, 1/2 Watt | 60B 8-101 |
| R7 | 15,000 ohms, 1/2 Watt | 60B 8-153 |
| R8 | 1,000 ohms, 1/2 Watt | 60B 8-102 |
| R9 | 100 ohms, 1/2 Watt | 60B 8-101 |
| R10 | 47,000 ohms, 1/2 Watt | 60B 8-473 |
| *R11 | 47,000 ohms, 1/4 Watt | |
| R12 | 4.7 megohms, 1/2 Watt | 60B 8-475 |
| R13 | 270,000 ohms, 1/2 Watt | 60B 8-274 |
| R14 | 33,000 ohms, 1/2 Watt | 60B 8-333 |
| R15 | 470,000 ohms, 1/2 Watt | 60B 8-474 |
| R16 | 1 Megohm, 1/2 Watt | 60B 8-105 |
| R17 | 560 ohms, 1 Watt | 60B14-561 |
| R18 | 2 Megohm, Volume Control and On-Off Switch SW1 | 75B 1-29 |
| R19 | 680,000 ohms, 1/2 Watt | 60B 8-684 |
| R20 | 2.2 Megohms, 1/2 Watt | 60B 8-225 |

CONDENSERS

| | | | |
|------|--|----------------|----------|
| C1a | 3 to 40 mmfd | } Dual Trimmer | 66A 23-7 |
| C1b | 3 to 40 mmfd | | |
| C2a | 410 to 500 mmfd | } Dual Trimmer | 66A 23-5 |
| C2b | 1700 to 3100 mmfd | | |
| C3 | .01 mfd., 450 Volts, Ceramic | | 65A 10-3 |
| C4 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C5a | 0 to 420 mmfd., Ant. | } Gang | 68B 23 |
| C5b | 0 to 420 mmfd., Osc. | | |
| | (Dial drum spotwelded to gang) | | |
| C6 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C7 | 60 mmfd., ±5%, —.00075 Temp. Coeff., Ceramic | | 65B 8-8 |
| C8 | 100 mmfd., Mica | | 65B 5-17 |
| C9 | 50 mmfd., Mica | | 65B 5-11 |
| C10 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C11 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C12 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C13 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| *C14 | 100 mmfd., Ceramic | | |
| *C15 | 100 mmfd., Ceramic | | |
| C16 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C17 | .01 mfd., 400 Volts, Paper | | 65A 2-8 |
| C18 | 250 mmfd., Ceramic | | 65B 6-5 |
| C19 | .05 mfd., 400 Volts, Paper | | 65A 2-9 |
| C20 | .01 mfd., 400 Volts, Paper | | 65A 2-8 |
| C21a | 20 mfd., 25 Volts | } Elect | 67C 6-25 |
| C21b | 30 mfd., 350 Volts | | |
| C21c | 30 mfd., 350 Volts | | |
| C22 | .005 mfd., 400 Volts, Paper | | 65A 2-17 |
| C23 | .01 mfd., 400 Volts, Paper | | 65A 2-8 |
| C24a | 3 to 40 mmfd. | } Dual Trimmer | 66A 23-6 |
| C24b | 3 to 30 mmfd. | | |

* Part of Diode Filter Unit 63A3-1. This unit consists of R11, C14, C15 (see schematic). If a section of the unit becomes defective, replace with exact duplicate or individual components of proper value.

CIRCUIT

Six tube AC operated Superhetrodyne receiver, covering three bands. Broadcast: 540 KC—1730 KC. Medium: 2.75 MC—7.5 MC. Short Wave: 7.2 MC to 23 MC. A phono-jack has been provided on rear of set to plug in phonograph.

ANTENNA

Since this set is highly sensitive, for best results do not use an antenna longer than necessary.

COILS, TRANSFORMERS, ETC.

| Symbol | Description | Part No. |
|--------|---|-------------|
| L1 | Coil, Antenna (BC) | 69A 78 |
| L2 | Coil, Antenna (MB and SW) | 69A 79 |
| L3 | Coil, Osc. (BC, MB and SW) | 69A 67 |
| L4 | Coil, Peaking (RF) | 69A 80 |
| L5 | Coil, Trap (455 KC) | 69A 77 |
| L6 | Filter Choke | 74A 10 |
| T1 | Transformer, 1st IF | 72B 71 |
| T2 | Transformer, 2nd IF | 72B 72 |
| T3 | Transformer, Power (117 V and 220 V) | 80B 14 |
| T4 | Transformer, Speaker Output | 98A 55-1 |
| M1 | Speaker (5" PM) with Output Transformer | 78B 42 |
| M2 | Jack, Phono Input | 86A 1 |
| SW1 | Switch, On-Off | Part of R18 |
| SW2 | Band Switch | 76B 15 |
| | Diode Filter | 63A 3-1 |

DIAL PARTS

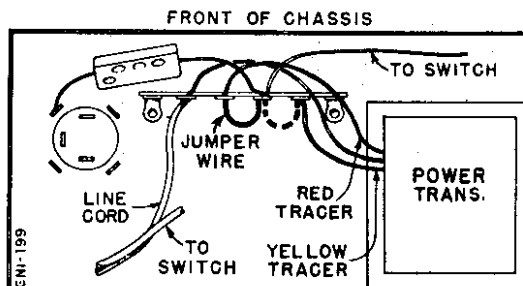
| | |
|-------------------------------------|------------|
| Bracket, Dial Background | 15A 180-1 |
| Dial Cord | 50A 1-3 |
| Dial Crystal | 24A 8 |
| Dial Scale | 21B 53 |
| Pilot Light #47 | 81A 1-8 |
| Pointer, Dial | 25A 30-1 |
| Ring, Compression (Pointer) | 19A 31-1 |
| Sleeve, Tuner (Brass) | 27A 93 |
| Snap Button (for mtg. dial crystal) | 13A 1-1-47 |
| Snap Button (for mtg. dial scale) | 13A 1-3-47 |
| Socket and Leads, Pilot Light | 82A 7-2 |
| Spring, Tension (Dial Cord) | 19B 1-2 |

MISCELLANEOUS

| | |
|---|------------|
| Back, Cabinet | 43B 63 |
| Bag, Waxed Paper Shipping | 45A 4-12 |
| Bracket, Band Switch | 15A 393 |
| Cabinet, Plastic | |
| Ivory (6N13) | 34D 18-3 |
| Mahogany (6N12) | 34D 18-2 |
| Carton and Fillers | 44B 133 |
| Decal, Band Switch | 26A 26 |
| Knobs | |
| "Band Switch" (Mahog., 6N12) | 33B 38-11 |
| "Band Switch" (Ivory, 6N13) | 33B 38-12 |
| "On-Off Volume" (Mahog., 6N12) | 33B 38-6 |
| "On-Off Volume" (Ivory 6N13) | 33B 38-9 |
| "Station Selector" (Mahog., 6N12) | 33B 38-5 |
| "Station Selector" (Ivory, 6N13) | 33B 38-8 |
| Screw, Mounting (for cabinet back, #6x1/4 ST) | 1A 51-2-21 |
| Socket Tube (Octal) | 87A 10-2 |
| Terminal Board, Antenna | 10A 6-2 |
| Washer, Felt (for knobs) | 5A 4-10 |

OPERATING VOLTAGE

110-120 Volts AC, 50 or 60 cycle. 220 Volts AC may be used by changing the connection on terminal strip (see illustration).



For 220 Volt operation, move jumper wire as indicated by dotted line connection.