



## BELMONT RADIO CORP.

**MECHANICAL ADJUSTMENT**—The core tuning bar (see illustration of iron cores) and dial pointer must be adjusted mechanically before any electrical alignment is attempted. Rotate the manual tuning control until the core bar is farthest from the coils. For proper adjustment the bar should be approximately  $1/32$  of an inch from the two rod guide angles.

With the core bar in this position, adjust the dial pointer to coincide with 1600 kc on the dial scale.

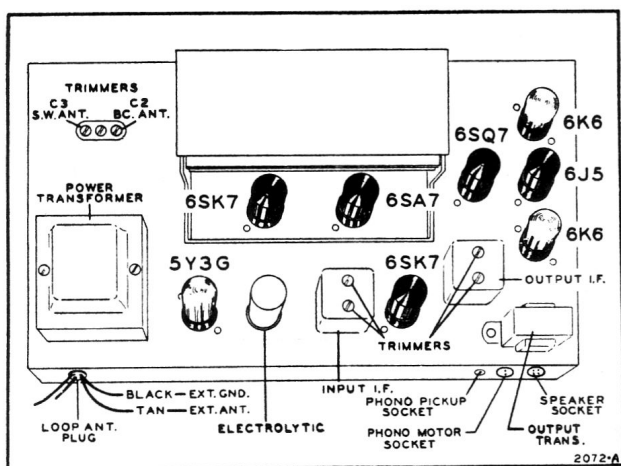
Rotate each of the three broadcast coils (see illustration) until the end of the coil is  $1-5/32$ " from the end of the coil form. Rotate the three 9-mc coils until this dimension is  $1-1/16$ " for these coils. After these adjustments have been made, the unit can be aligned electrically.

**ELECTRICAL ADJUSTMENT**—To align the set make the following preliminary adjustments: Set the tone pushbutton for treble tone; set the volume control at maximum; connect the ground post of the signal generator to the radio chassis; connect the output meter across a 3.2-ohm output load; and allow the receiver and signal generator to warm up for several minutes.

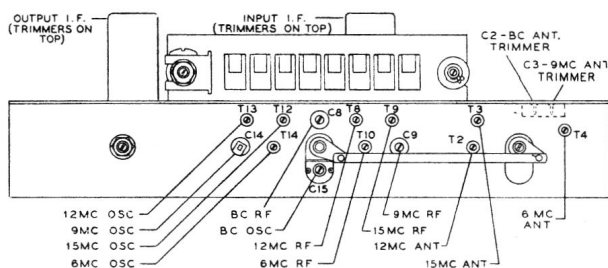
Align the set according to the sequence given in the chart. The indicated dummy antenna is to be connected in series between the signal generator output lead and the receiver. Adjust the set for maximum output; reduce the input as needed to keep the output near 1.3 volts.

Locations of all the trimmers and coils are shown in the illustrations below. After adjustment, seal the coil cores with collodion or a similar substance (do not use cement).

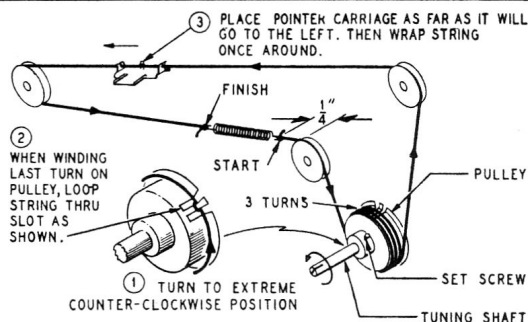
| BAND SWITCH SETTING   | SIGNAL GENERATOR |                    |                                  | DIAL POINTER SETTING | ADJUST TO MAXIMUM OUTPUT (in order shown)                              |
|-----------------------|------------------|--------------------|----------------------------------|----------------------|------------------------------------------------------------------------|
|                       | Frequency        | Coupling Capacitor | Connection to Radio              |                      |                                                                        |
| Broadcast (for I. F.) | 455 kc           | .1 mf              | Grid (pin 8) of converter (6SA7) | 1600 kc              | Trimmers on output and input I. F. cans                                |
| Broadcast             | 1600 kc          | 200 mmf            | Antenna lead                     | 1600 kc              | BC Osc. trimmer C15<br>BC R. F. trimmer C8<br>BC Ant. trimmer C2       |
|                       | 1400 kc          | 200 mmf            | Antenna lead                     | 1400 kc              | Rotate cores of<br>BC R. F. coil T7 and<br>BC Ant. coil T1             |
| 31 Meter              | 9.6 mc           | 400 ohms           | Antenna lead                     | 9.6 mc               | 9 mc Osc. trimmer C14<br>9 mc R. F. trimmer C9<br>9 mc Ant. trimmer C3 |
| 49 Meter              | 6.1 mc           | 400 ohms           | Antenna lead                     | 6.1 mc               | 6 mc Osc. coil T14<br>6 mc R. F. coil T10<br>6 mc Ant. coil T4         |
| 25 Meter              | 11.8 mc          | 400 ohms           | Antenna lead                     | 11.8 mc              | 12 mc Osc. coil T13<br>12 mc R. F. coil T8<br>12 mc Ant. coil T2       |
| 19 Meter              | 15.2 mc          | 400 ohms           | Antenna lead                     | 15.2 mc              | 15 mc Osc. coil T12<br>15 mc R. F. coil T9<br>15 mc Ant. coil T3       |



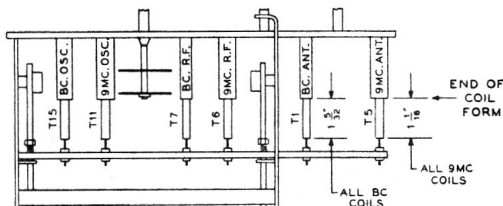
Chassis View



Coils and Trimmers



- WHEN FINISHED WITH STRINGING, SPRING MUST BE  $1/2$ " FROM IDLER AS SHOWN. TO DO THIS:
- LOOSEN SET SCREW ON PULLEY.
  - HOLD TUNING SHAFT FIRM IN POSITION INDICATED AND TURN PULLEY BY HAND UNTIL SPRING IS  $1/2$ " AWAY FROM IDLER.
  - TIGHTEN SET SCREW. NOW SPRING SHOULD TRAVEL BACK AND FORTH WITHOUT TOUCHING THE IDLERS.
  - REPLACE CHASSIS IN CABINET. REPLACE POINTER ON CARRIAGE. TUNE IN STATION OF KNOWN FREQUENCY. HOLD TUNING SHAFT FIRM AND SLIDE POINTER TO CORRECT POSITION ALONG DIAL.
  - GLUE POINTER TO STRING.



## REPLACEMENT PARTS LIST

When ordering parts, specify part number, model number, and series

| Ref. No.                                                                                                                                                                                                                                                                | Part No.    | Description                                                      | Ref. No.      | Part No.    | Description                                                           | Ref. No.             | Part No.                                              | Description                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------|---------------|-------------|-----------------------------------------------------------------------|----------------------|-------------------------------------------------------|----------------------------------|
| <b>REMOVABLE TUNER ASSEMBLY</b>                                                                                                                                                                                                                                         |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>CAPACITORS*</b>                                                                                                                                                                                                                                                      |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| C1                                                                                                                                                                                                                                                                      | B-8F-10767  | 002 mf, 500 volts, 10%, mica                                     | C16           | C-8F3-12    | 470 mfd, 20%, mica                                                    | T18                  | B-12C-10234                                           | Output transformer               |
| C2, C3                                                                                                                                                                                                                                                                  | 124143      | Dual, broadcast (7-123 mfd) and 9 mcs (95-175 mfd) ant. trimmers | C17, C19      | C-8D-10774  | .02 mf, 400 volts, 20%                                                | T20                  | 104202B                                               | Power transformer                |
| C4, C10                                                                                                                                                                                                                                                                 | B-8F3-121   | 470 mfd, 500 volts, 10%, mica                                    | C20-A         | 129165B     | .1 mf, 200 volts, with each section, mica, 20%                        | <b>SOCKETS</b>       |                                                       |                                  |
| C5                                                                                                                                                                                                                                                                      | C-8D-10771  | .1 mf, 200 volts, 20%, mica                                      | C21           | C-8D-10813  | .05 mf, 400 volts, 20%                                                | 121200               | Socket, 4-terminal, for loop antenna                  |                                  |
| C6, C11                                                                                                                                                                                                                                                                 | C-8D-10760  | 10 mfd, 500 volts, 10%, silver mica                              | C22           | C-8D-10935  | .005 mf, 600 volts, 20%                                               | 121279               | Socket, 5-terminal, for tuner                         |                                  |
| C7                                                                                                                                                                                                                                                                      | B-8F5-101   | 10 mfd, 500 volts, 10%, silver mica                              | C23           | C-8D-10770  | .04 mf, 200 volts, 20%                                                | A-15B-11538          | Socket, 4-terminal, for speaker                       |                                  |
| C8                                                                                                                                                                                                                                                                      | A-8G-7205   | Broadcast RF trimmer (120-220 mfd)                               | C24           | C-8D-10788  | .03 mf, 200 volts, 20%                                                | 121280               | Socket, 1-terminal, for phono pickup                  |                                  |
| C9                                                                                                                                                                                                                                                                      | A-8G-7206   | 9 mc RF trimmer (60-110 mfd)                                     | C25           | C-8D-10992  | .06 mf, 600 volts, 20%                                                | 121199               | Socket, 2-terminal, for phono motor                   |                                  |
| C12                                                                                                                                                                                                                                                                     | B-8F3-109   | 47 mfd, 500 volts, 10%, mica                                     | C26           | C-8D-10785  | .006 mf, 600 volts, 20%                                               | 121210               | Socket, octal, molded (all tubes except 6SK7, 1F amp) |                                  |
| C13                                                                                                                                                                                                                                                                     | B-8F3-10763 | 200 mfd, 500 volts, 5%, silver mica                              | C27           | C-8D-10785  | .006 mf, 600 volts, 20%                                               | 121273               | Socket, octal, laminated (for 6SK7, 1F amplifier)     |                                  |
| C14                                                                                                                                                                                                                                                                     | 124145      | 9 mc oscillator trimmer (7-35 mfd)                               | C28           | C-8D-10785  | .006 mf, 600 volts, 20%                                               | B-47A-10808          | Socket assembly for dial light                        |                                  |
| C15                                                                                                                                                                                                                                                                     | 124144      | Broadcast oscillator trimmer (15-27 mfd)                         | C29-A, -B, -C | 119109      | Electrolytic, 15 mf x 450 volts, 15 mf x 450 volts, 10 mf x 350 volts | <b>MISCELLANEOUS</b> |                                                       |                                  |
| <b>RESISTORS*</b>                                                                                                                                                                                                                                                       |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| R1, R4                                                                                                                                                                                                                                                                  | C-9B1-31    | 1 megohm, 1/2 watt, 20%                                          | R7, R8        | C-9B1-21    | 22,000 ohms, 1/2 watt, 20%                                            | T19                  | B-18B-10617                                           | Speaker, 10-inch, electrodynamic |
| R2                                                                                                                                                                                                                                                                      | C-9B1-55    | 270 ohms, 1/2 watt, 10%                                          | R9            | C-9B1-59    | 560 ohms, 1/2 watt, 10%                                               | T21                  | A-14MA-11066-3                                        | Loop antenna (ribbon only)       |
| R3                                                                                                                                                                                                                                                                      | C-9B1-70    | 470 ohms, 1/2 watt, 10%                                          | R10           | C-9B1-23    | 47,000 ohms, 1/2 watt, 20%                                            | T22                  | A-16A-11113                                           | Choke on loop terminal board     |
| R5                                                                                                                                                                                                                                                                      | C-9B1-46    | 47 ohms, 1/2 watt, 10%                                           | R11           | C-9B1-34    | 3.3 megohms, 1/2 watt, 20%                                            | 107401               | Plug on loop antenna leads                            |                                  |
| R6                                                                                                                                                                                                                                                                      | C-9B1-79    | 27,000 ohms, 1/2 watt, 10%                                       | R12, S3       | 125180      | Tone control (1 megohm) and radio-phono switch                        | 107201               | Photo motor cable assembly                            |                                  |
| <b>COILS (complete with cores)</b>                                                                                                                                                                                                                                      |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| T1                                                                                                                                                                                                                                                                      | 111195      | Broadcast antenna coil                                           | R13           | C-9B1-27    | 220,000 ohms, 1/2 watt, 20%                                           | 107204               | Connector, for phono pickup leads                     |                                  |
| T2                                                                                                                                                                                                                                                                      | 111191      | 12-mc antenna coil                                               | R14, R17      | C-9B1-86    | 100,000 ohms, 1/2 watt, 20%                                           | 10794                | Dial light, 6.8 volts, type T-44 (2 used)             |                                  |
| T3                                                                                                                                                                                                                                                                      | 111192      | 15-mc antenna coil                                               | R15           | C-9B1-86    | 100,000 ohms, 1/2 watt, 20%                                           | B-2G-10588-1         | Dial pointer                                          |                                  |
| T4                                                                                                                                                                                                                                                                      | 111189      | 6-mc antenna coil                                                | R16           | C-9B1-31    | 470 ohms, 1/2 watt, 10%                                               | A-2J-11041           | Pointer carriage                                      |                                  |
| T5                                                                                                                                                                                                                                                                      | 111190      | 9-mc antenna coil                                                | R18, R19      | C-9B1-20    | 470,000 ohms, 1/2 watt, 20%                                           | 1121035              | Pointer carriage                                      |                                  |
| T6                                                                                                                                                                                                                                                                      | 10959       | 9-mc RF coil                                                     | R20           | C-9B1-20    | 470 ohms, 1/2 watt, 10%                                               | B-53A-10989          | String for dial pointer                               |                                  |
| T7                                                                                                                                                                                                                                                                      | 10962       | 12-mc RF coil                                                    | R21           | C-9B1-56    | 330 ohms, 1/2 watt, 10%                                               | 120377               | String for dial pointer                               |                                  |
| T8                                                                                                                                                                                                                                                                      | 10960       | 12-mc RF coil                                                    | R22           | C-9B1-20    | 10,000 ohms, 1/2 watt, 10%                                            | 107266               | Line cord and plug (9 feet)                           |                                  |
| T9                                                                                                                                                                                                                                                                      | 10961       | 6-mc RF coil                                                     | R23           | C-9B1-20    | 15,000 ohms, 3 watts, 10%                                             | 12085-14             | Escutcheon (for walnut cabinet)                       |                                  |
| T10                                                                                                                                                                                                                                                                     | 10958       | 9-mc oscillator coil                                             | R24, S4       | A-10A-10586 | Volume control (500,000 ohms) and on-off switch                       | 12085-41             | Escutcheon (for mahogany cabinet)                     |                                  |
| T11                                                                                                                                                                                                                                                                     | 11015       | 15-mc oscillator coil                                            | R25           | C-9B1-35    | 4.7 megohms, 1/2 watt, 20%                                            | A-5B-10893-14        | Knob, band switch or radio-phono                      |                                  |
| T12                                                                                                                                                                                                                                                                     | 11015       | 15-mc oscillator coil                                            |               |             |                                                                       | A-5B-10893-41        | Knob, band switch or radio-phono                      |                                  |
| T13                                                                                                                                                                                                                                                                     | 11015       | 12-mc oscillator coil                                            |               |             |                                                                       | 128523-14            | Knob, tuning or volume (for mahogany cabinet)         |                                  |
| T14                                                                                                                                                                                                                                                                     | 11016       | 6-mc oscillator coil                                             |               |             |                                                                       | 128523-41            | Knob, tuning or volume (for mahogany cabinet)         |                                  |
| T15                                                                                                                                                                                                                                                                     | 11016       | Broadcast oscillator coil                                        |               |             |                                                                       | A-2L-11293           | Bandswitch link                                       |                                  |
| <b>MISCELLANEOUS</b>                                                                                                                                                                                                                                                    |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| S1                                                                                                                                                                                                                                                                      | B-20A-10964 | Band switch, antenna                                             | T16           | 108177      | Input IF coil, complete in can (Range of trimmers: 110-210 mfd)       | 112961               | Station call letters                                  |                                  |
| S2                                                                                                                                                                                                                                                                      | B-20A-10965 | Band switch, oscillator and RF                                   | T17           | 108176      | Output IF coil, complete in can (Range of trimmers: 80-140 mfd)       |                      |                                                       |                                  |
| <b>SETTING THE PUSHBUTTONS—The 5. Now push the button in as far as it will go.</b>                                                                                                                                                                                      |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6. Follow this procedure for each of the five other buttons, setting each one for a different station.</b>                                                                                                                                                           |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>7. The setting of any pushbutton can be changed by following the procedure given above.</b>                                                                                                                                                                          |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>8. If any of the buttons is to be set for a short-wave station, turn the band switch to the proper position before adjustment. The switch must be turned to this position also whenever the pushbutton is used, since pressing the button does not change bands.</b> |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>RECORD CHANGER</b>                                                                                                                                                                                                                                                   |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>1. Turn the radio on and turn the band switch to the "B.C." position.</b>                                                                                                                                                                                            |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>2. From the call-letter sheets supplied with this manual, push out the call letters of your favorite six stations. Drop these into the six pushbuttons, preferably but not necessarily in order of frequency (as listed in your newspaper).</b>                      |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>3. Next pull a button out as far as it will come.</b>                                                                                                                                                                                                                |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>4. Very carefully tune in the station corresponding to the pushbutton call letters.</b>                                                                                                                                                                              |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>5.5 watts undistorted.</b>                                                                                                                                                                                                                                           |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>7.5 watts maximum.</b>                                                                                                                                                                                                                                               |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>4 microvolts average for 1/2 watt output.</b>                                                                                                                                                                                                                        |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>35 kc. broad at 1000 times signal at 1000 kc.</b>                                                                                                                                                                                                                    |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6SK7, tuned RF amplifier</b>                                                                                                                                                                                                                                         |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6SK7, converter</b>                                                                                                                                                                                                                                                  |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6SK7, IF amplifier</b>                                                                                                                                                                                                                                               |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6SQ7, detector, AVC, 1st audio</b>                                                                                                                                                                                                                                   |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6J5GT, phase inverter</b>                                                                                                                                                                                                                                            |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>6K6GT, push-pull output</b>                                                                                                                                                                                                                                          |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>5Y3C, rectifier</b>                                                                                                                                                                                                                                                  |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |
| <b>T-44, dial lamp (2 used)</b>                                                                                                                                                                                                                                         |             |                                                                  |               |             |                                                                       |                      |                                                       |                                  |

NOTE: Before removing chassis, take off escutcheon and pull pointer from pointer carriage.

## ELECTRICAL SPECIFICATIONS

|                           |                                                                                                                                                                         |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power Supply</b>       | 105 to 125 volts AC, 60 cycles; 95 watts (118 watts with phono motor operating).                                                                                        |
| <b>Frequency Ranges</b>   | Broadcast band—540 to 1600 kc.<br>49-meter band—5.96 to 6.19 mc.<br>31-meter band—9.1 to 10 mc.<br>25-meter band—11.45 to 12.16 mc.<br>19-meter band—14.94 to 15.46 mc. |
| <b>Intermediate Freq.</b> | 455 kc.                                                                                                                                                                 |
| <b>Tuning</b>             | All bands permeability-tuned.                                                                                                                                           |
| <b>Antenna</b>            | Build-in: provisions also for external antenna and ground.                                                                                                              |
| <b>Speaker</b>            | 10" electrodynamic. Voice coil impedance 3.2 ohms.                                                                                                                      |

D-21H-10417  
D-21H-10132  
Model 204 (with automatic stop)  
Model 205