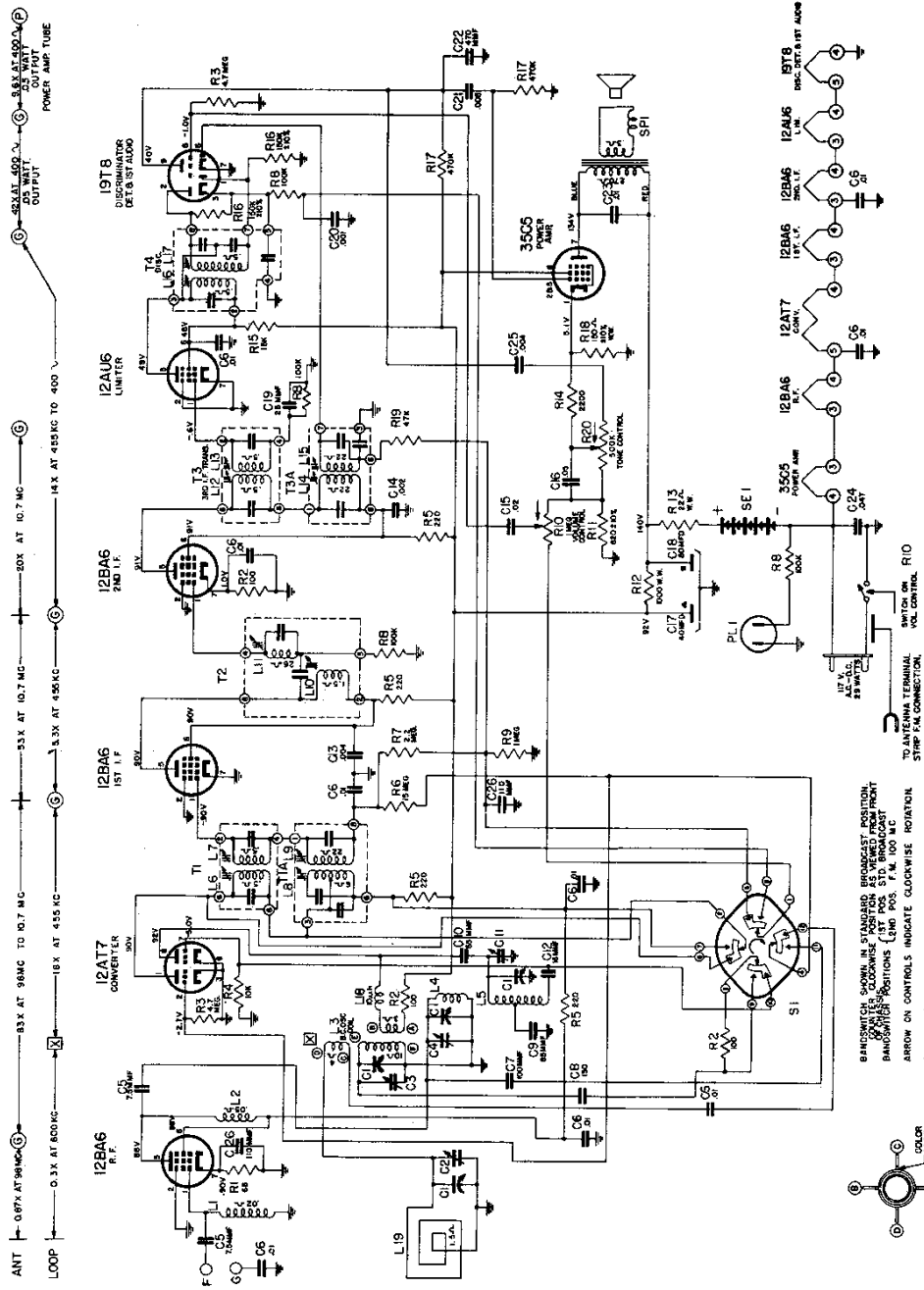
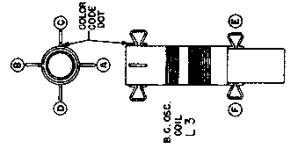


MODEL H724,
Ch. 7H02



BANDSWITCH SHOWN IN STANDARD BROADCAST POSITION.
 CLOCKWISE ROTATION INDICATES STANDARD BROADCAST
 POSITION. COUNTERCLOCKWISE ROTATION INDICATES
 STANDARD BROADCAST POSITION. STD POS. STD. BROADCAST
 ARROW ON CONTROLS INDICATE CLOCKWISE ROTATION.
 ALL VOLTAGES MEASURED FROM COMMON RETURN TO
 POINTS INDICATED WITH AN A.C. D.C. VACUUM
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 ALL RESISTORS ARE 20% UNLESS OTHERWISE SPECIFIED.
 ⊕ DENOTES CHASSIS
 AMP. MOD. I.F. FREQUENCY 455 KC.
 FREQ. MOD. I.F. FREQUENCY 10.7 MC.
 STD - 1500 KC. STANDARD BROADCAST.
 TUNING RANGES 80 - 100 MC. FREQUENCY MOD.



The 7H02 chassis incorporates a superheterodyne circuit with two stages of IF, on the FM Band, and two stages on the AM Band. There is one stage of RF amplification on the FM Band.

When adjustments are made on the 7H02 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.

The I.F. transformers and the discriminator transformer are the new permeability tuned type. The advantage of an IF transformer of this type is its extreme stability under various humidity and temperature conditions. The upper coil is the secondary and the lower the primary. When adjusting these IF and discriminator transformers, tuning wrench 68-19 can be inserted into the top slug, rotated until maximum output is obtained and then dropped down to the lower slug and the same operation repeated. The tuning wrench is so designed that turning one slug does not affect the adjustment of the other.

FM IF Alignment: Because of the wide band pass, it is desirable to use a FM signal generator and a cathode ray oscilloscope when aligning the FM IF channel. The instruction book for the Zenith Model 800 Signal Generator (Form Z8001) covers complete FM alignment procedure. If visual alignment equipment is unavailable, reasonably accurate alignment can be made by following the procedure outlined in this service note.

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.

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:

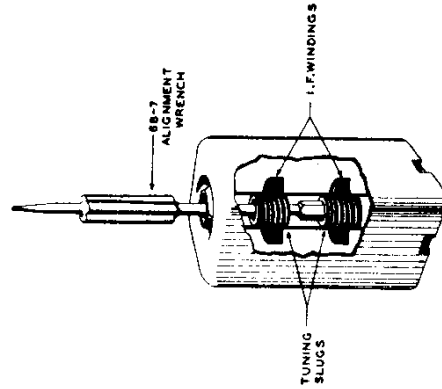
A vacuum tube voltmeter with an isolation resistor of 2,000,000 ohms in series with the hot lead will serve for FM adjustments. This lead should be shielded.

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

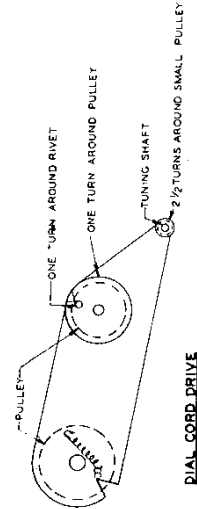
The signal generator output should be kept just high enough to get an indication on the meter.

(e) Vacuum Tube Voltmeter Lug 7 on discriminator transformer to chassis (half discriminator load).

- (b) Vacuum Tube Voltmeter Lug 5 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.



Detail of
IF Transformer

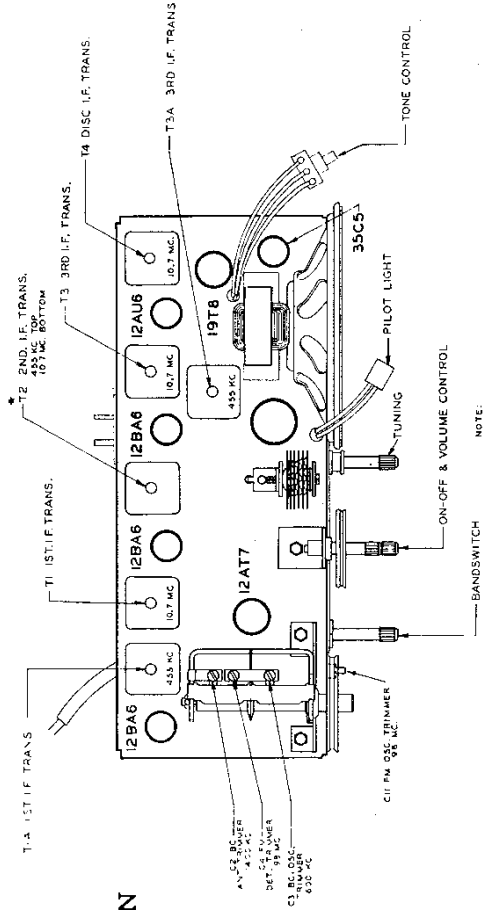


MODEL H724,
Ch. 7H02

ALIGNMENT PROCEDURE

| Operation | Connect Oscillator to | Dummy Antenna | Input Signal Frequency | Band | Set Dial To | Adj. Trimmers | Purpose |
|------------|---|---------------|-------------------------|------|-------------|---|---|
| 1 | Pin 2 12AT7 Converter 2 turns loosely cpld. to wavemagnet | .05 Mfd. | 455 Kc. Modulated | BC | 600 Kc. | L8, 9, 11, 14, 15 | Align I. F. channel for maximum output. |
| 2 | 2 turns loosely cpld. to wavemagnet | | Modulated | BC | 1600 Kc. | C 3 | Set oscillator to dial scale. |
| 3 | 2 turns loosely cpld. to wavemagnet | | 1400 Kc. | BC | 1400 Kc. | C 2 | Align antenna stage. |
| 4 (a) | Pin 1 (grid) on 12AU6 limiter. | .05 Mfd. | 10.7 Mc. | FM | | L16 coil slug Primary discr. | Align primary of discriminator for maximum reading. |
| 5 (b) | Pin 1 (grid) on 12AU6 limiter. | .05 Mfd. | 10.7 Mc. | FM | | L17 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 | | L12 and L13 Prim. and Sec. of 3rd IF TRANS. | Align 3rd IF transformer for maximum reading. |
| 7 (c) | Pin 1 (grid) on 12BA6 1st IF. | .05 Mfd. | 10.7 Mc. Unmodulated | FM | | L10 Prim. of 2nd IF transformer | Align 2nd IF transformer for maximum reading. |
| 8 (c) | Pin 2 (grid) on 12AT7 converter tube socket. | .05 Mfd. | 10.7 Mc. Unmodulated | FM | | L6 and L7 Prim. and Sec. of 1st IF transformer. | Align 1st IF transformer for maximum reading. |
| 9 (c) | Antenna Post FM (Re- move line ant.) | 270 ohms | 98 Mc. Unmodulated | FM | 98 Mc. | C11 Osc. Coil Slug | Set Oscillator to dial scale. |
| 10 (c) (d) | | 270 ohms | Unmodulated | FM | 98 Mc. | C4 Det. Coil Slug | Align det. stage to maximum reading. |

TUBE AND TRIMMER LOCATION



PARTS LIST

| PART NO. | DESCRIPTION | PART NO. | DESCRIPTION | PART NO. | DESCRIPTION |
|----------|--|----------|--|----------|-------------|
| | | | <u>MISCELLANEOUS (Cont'd.)</u> | | |
| 26-451 | Dial Scale | 54-271 | 6-32 X 1/4" Walnut Steel Cad. (1 used on ea. I.F.) | | |
| 46-859 | Band Switch Knob | 54-305 | 3/8-32 X 9/16" Nut St. Br. (Chassis Mtg.) | | |
| 46-860 | Tuning Control Knob | 57-1686 | Emblem Plate | | |
| 46-900 | Vol. Control Knob | 57-1690 | Emblem Mtg. Plate | | |
| 46-901 | Tone Control Knob | 58-188 | Two Frong Plug (AC) | | |
| 59-251 | Dial Pointer | 78-787 | Two Contact Socket (Cab. Back) | | |
| 78-904 | Dial Light Socket Assem. | 78-806 | Miniature Tube Socket | | |
| 80-69 | Dial Cord Tension Spring | 78-807 | Miniature Tube Socket | | |
| 100-105 | Neon Indicator Bulb | 78-869 | Miniature Tube Socket (2 Used) | | |
| 188-129 | Retaining Ring (1 ea. used on S-17334 & S-17467) | 78-871 | Miniature Tube Socket | | |
| S-17334 | Tuning Shaft & Pulley Assem. | 78-903 | Miniature Tube Socket | | |
| S-17336 | Tuning Shaft Brkt. & Ins. Strip Assem. | 83-1056 | Wavemagnet Mtg. Strip | | |
| S-17380 | Dial Cord & Eyelet Assem. | 83-1393 | Rubber Strip (Handle) | | |
| S-17467 | Pointer Shaft, Brkt. & Pulley Assem. | 83-1789 | Rubber Strip (Rubber) | | |
| | | | <u>CONDENSERS (Cont'd.)</u> | | |
| 20-329 | L1 | 63-686 | 150 Ohm W.W. 1/2W 10% Ins. Res. | 500V | |
| 20-330 | L2 | 63-1450 | 22 Ohm W.W. 1W 20% Ins. Res. | 150V | |
| 20-331 | L4 | 63-1527 | 1000 Ohm W.W. 3W 20% Ins. Res. | 400V | |
| 20-333 | L8 | 63-1737 | 68 Ohm 1/2W 20% Ins. Res. (3 Used) | 500V | |
| 95-1102 | T3A | 63-1744 | 100 Ohm 1/2W 20% Ins. Res. | | |
| 95-1150 | T4 | 63-1758 | 220 Ohm 1/2W 20% Ins. Res. (4 Used) | | |
| 95-1250 | T1A | 63-1782 | 820 Ohm 1/2W 10% Ins. Res. | | |
| 95-1251 | T2 | 63-1800 | 2200 Ohm 1/2W 20% Ins. Res. | | |
| S-17340 | L3 | 63-1828 | 10K Ohm 1/2W 20% Ins. Res. | | |
| | | | <u>COILS & CHOKES</u> | | |
| 20-329 | L1 | 63-1835 | 47K Ohm 1/2W 20% Ins. Res. | | |
| 20-330 | L2 | 63-1856 | 100K Ohm 1/2W 20% Ins. Res. (4 Used) | | |
| 20-331 | L4 | 63-1876 | 150K Ohm 1/2W 20% Ins. Res. (2 Used) | | |
| 20-333 | L8 | 63-1912 | 1 Megohm 1/2W 20% Ins. Res. | | |
| 95-1102 | T3A | 63-1926 | 2.2 Megohm 1/2W 20% Ins. Res. (2 Used) | | |
| 95-1150 | T4 | 63-1940 | 4.7 Megohm 1/2W 20% Ins. Res. | | |
| 95-1250 | T1A | 63-2143 | 15 Megohm 1/2W 20% Ins. Res. | | |
| 95-1251 | T2 | 63-2144 | Tone Control | | |
| S-17340 | L3 | 63-2144 | | | |
| | | | <u>CONDENSERS</u> | | |
| 22-3 | C6 | 11-85 | Line Cord & Plug (6 ft. lg.) | | |
| 22-4 | C25 | 12-1070 | Wavemagnet Mtg. Brkt. | | |
| 22-5 | C26 | 14-1273 | Plastic Cabinet for H724 Table Model | | |
| | | 16-667 | Packing Carton | | |
| 22-6 | C22 | 24-535 | Line Cord Plug Cover | | |
| 22-229 | C21 | 43-165 | Handle Housing | | |
| 22-448 | C13 | 49-689 | ZC5091 Cone & Voice Coil | | |
| 22-830 | C15 | 54-129 | Speed Nut (9 Used on Mtg. Grill & Baffle) | | |
| 22-1126 | C23 | | | | |
| 22-1158 | C16 | | | | |
| 22-1220 | C18 | | | | |
| 22-1507 | C19 | | | | |
| 22-1669 | C7 | | | | |
| 22-1675 | C8 | | | | |
| | | | <u>MISCELLANEOUS</u> | | |
| 54-271 | | 54-271 | | | |
| 54-305 | | 54-305 | | | |
| 57-1686 | | 57-1686 | | | |
| 57-1690 | | 57-1690 | | | |
| 58-188 | | 58-188 | | | |
| 78-787 | | 78-787 | | | |
| 78-806 | | 78-806 | | | |
| 78-807 | | 78-807 | | | |
| 78-869 | | 78-869 | | | |
| 78-871 | | 78-871 | | | |
| 83-1056 | | 83-1056 | | | |
| 83-1393 | | 83-1393 | | | |
| 83-1789 | | 83-1789 | | | |
| 83-1829 | | 83-1829 | | | |
| 83-495 | | 83-495 | | | |
| 93-487 | S1 | 93-487 | S1 | | |
| 97-293 | | 97-293 | | | |
| 110-152 | | 110-152 | | | |
| 112-281 | | 112-281 | | | |
| 114-78 | | 114-78 | | | |
| 114-261 | | 114-261 | | | |
| 134-356 | | 134-356 | | | |
| 138-42 | | 138-42 | | | |
| 139-91 | | 139-91 | | | |
| 149-99 | | 149-99 | | | |
| 159-69 | | 159-69 | | | |
| 171-11 | | 171-11 | | | |
| 194-22 | | 194-22 | | | |
| 196-153 | | 196-153 | | | |
| 199-103 | | 199-103 | | | |
| 202-697 | | 202-697 | | | |
| 203-842 | | 203-842 | | | |
| 212-7 | SE1 | 212-7 | SE1 | | |
| S-13210 | | S-13210 | | | |
| S-14527 | | S-14527 | | | |
| S-17364 | L19 | S-17364 | L19 | | |
| S-17366 | | S-17366 | | | |