COMPONENT DESCRIPITONS

C1 Electrolytic — Single Sect.
C2 Electrolytic — Dual Sect.
C3 Electrolytic — Triple Sect.
C4 Electrolytic — Single Sect. 25 cy. only
C8 Drive Trimmer
C9 Horizontal Frequency Trimmer
J1 Interlock Socket
J2 AC Outlet
J3 Phone Socket
J4 Yoke Socket
L2 1st I.F. Grid Coil
L3 47.25 Mc. Trap
L4 39.75 Mc. Trap
L5 41.25 Mc. Trap
L6 4.5 Mc Trap
L7 4.5 Mc. Sound Take-off Coil
L11 Width Control Coil
L13 Stabilizing Coil
L14 Filter Choke
L15 Filter Choke — 25 cycle only
R1 Volume Control  } Dual
R2 Tone Control  } Dual
R3 Contrast Control
R4 Horizontal Hold Control  } Dual
R5 Brightness Control  } Dual
R6 Vertical Hold Control
R7 Sync. Control
R8 Vertical Size Control
R9 Vertical Linearity Control
R10 Fixed Wire Wound Resistor
SW1 AC Off-On Switch  } D.P.S.T.
Afterglow Switch
SW2 Phono-TV-Hi-fi Switch
T1 1st Pix I.F.
T2 2nd Pix I.F.
T3 3rd Pix I.F.
T4 Pix I.F. Output
T5 Interstage Sound I.F.
T6 4.5 Mc Ratio Detector
T7 Output Transformer top of chassis
T8 Vertical Output Transformer
T9 Horizontal Output — top of chassis under shield can
T10 Power Transformer
ALIGNMENT PROCEDURE

4.5 Mc SOUND I.F. AND TRAP

1. Trap L6:
   Apply crystal calibrated 4.5 Mc. signal source capacitively to V8 pin No. 2; set contrast control at max.
   Connect DC VTVM through the diode probe shown schematically in Fig. 1 to kinescope cathode.
   Tune L6 for minimum reading on VTVM. To prevent received signals from interfering with the adjustment V6 should be removed. The VTVM should have a full scale reading of 1 or 2 volts and the signal generator should be adjusted for full output.

2. Sound I.F., L7 and T6 Pri. and Sec. and T6 Pri. (bottom):
   Apply signal as above.
   Connect DC VTVM across ratio detector 5 uf. electrolytic capacitor.
   Tune L7 and T5 (Top and bottom) and T6 pri. (bottom) for maximum VTVM reading.

3. Radio Detector, T6 Sec. (top):
   Apply signal as above.
   Connect DC VTVM to junction of de-emphasis resistor and capacitor (150K and 470 uuf), at either end of shielded audio lead.
   Adjust T6 sec. (top) for zero VTVM reading.
   Note that adjustments numbers 2 and 3 above may be made with a received TV signal. The trap adjustment, number 1 above, may only be made as described. However the need of this adjustment being made in the field is very unlikely.

PICTURE IF ALIGNMENT

A — Alignment of M-Derived Filter
   (1) Short circuit the tuner input by connecting a shorted "clothespin" across the antenna terminals.
   (2) Disconnect the grid end of the 1.5 uuf capacitor connected between pin 1 of V4 and L5.
   (3) Set channel selector to an interference-free high frequency channel.
   (4) Connect the high side of an IF sweep generator (approximately 38 to 48 mc) to an ungrounded tube shield floating over converter tube (V2). Connect low side to chassis.
   (5) Connect H.F. terminals of the diode detector probe shown in Fig. 1 to the plate of V5 (pin 5) and ground. Connect the video terminal to ground. Adjust the oscilloscope for maximum gain.
   (6) Connect -1.5 volts bias to AGC line at junction of 100K and 330K ohm resistors on terminal strip TS 13.
   (7) Adjust L1 and L2 for maximum gain at approximately 43 mc.
       Adjust T1 and T2 for maximum gain at 39.75 Mc.
       Adjust L4 for maximum attenuation at 39.75 Mc.
       The generator output should be adjusted so that the 39.75 mc. marker is clearly visible.
   (8) Adjust T1 and T2 for maximum gain at 47.25 mc.
       Adjust L5 for maximum attenuation at 47.25 mc.
       The generator output should be adjusted so that the 47.25 mc. marker is clearly visible.
   (9) Transfer diode detector probe to plate of V3 (pin 5) and ground and adjust oscilloscope for maximum gain.
   (10) Set bias to -3.0 volts and adjust L1 and L2 to obtain the response shown in Fig. 11.
       The circuit is properly adjusted when the two outside peaks are of the same amplitude, and the centre peak is midway between the two outside peaks.
       L1 controls the tilt of the response. L2 controls the position of the centre peak. The markers should then fall approximately as shown in Fig. 11.

B — Alignment of Staggered Quadruple
   (11) Reconnect 1.5 uuf capacitor to pin 1 of V4. Remove diode detector from V3 and connect video terminal to junction of peaking coil L18 and 1.5K ohm resistor.
   (12) Set bias to -4.5 volts and adjust sweep generator output to obtain 6 volts peak-to-peak output at diode load.
   (13) Adjust L5, T1, T2, T3 and T4 to obtain response shown in Fig. III.
       Adjust L5 to place trap at 41.25 mc.
       Adjust T1 to place 42.0 mc. marker at 50% point.
       Adjust T2 to place 45.75 mc. marker at 50% point.
       Adjust T3 and T4 to position 42.5 mc and 44.5 mc markers and obtain flat response.
   NOTE: T3 is tuned to the low frequency side of the band centre frequency while T4 is tuned to the high frequency side of band centre. Care must be taken to ensure that the resonant frequencies of these transformers are not interchanged. This will not occur if initially the slug of T3 is turned all the way into the winding and the slug of T4 is turned all the way out of the winding.
   (14) Disconnect the oscilloscope, the antenna short-circuit, bias batteries and sweep generator. Replace converter tube shield.
V1 — 6BZ7 Cascode RF Amp.
V2 — 6AT8 Pentode Converter
V3 — 6BZ6 1st Video L.F.
V4 — 6BZ6 2nd Video L.F.
V5 — 6BZ6 3rd Video L.F.
V6 — 6AM8 4th Video L.F. and Video Detector
V7 — 6U8 Sync. Amplifier and Sound L.F.
V8 — 12BY7A Video Output
V9 — 6AU6 Limiter
V10 — 6AL5 Ratio Detector
V11 — 6AV6 1st Audio and AGC Clamp
V12 — 6V6GT Audio Output
V13 — 6AU6 AGC Keyer
V14 — 6C86 Sync. Separator
V15 — 6C4 Sync. Splitter
V16 — 12AU7 Vert. Osc.
V17 — 6W6GT Vert. Output
V18 — 6AL5 Hor. Phase Detector
V19 — 6CG7 Hor. Multivibrator
V20 — 6DQ6 Hor. Output
V21 — 1B3GT H.V. Rectifier
V22 — 6AX4GT Damper
V23 — 5AS4 Rectifier
V24 — 21ATP4A 21" Pix Tube
— 24DP4A 24" Pix Tube

**Fig. 1**

PIX TUBE: 21'-21ATP4A; 24'-24DP4A

**Fig. 2**

**Fig. 3**
L1: P-2666  
L2: P-2967  
L3: P-2966  
L4: P-2933  
L5: P-2920-1  
L6: P-2937  
L7: K-1711  
L8: P-2943-1.5  
L9: P-2789  
L10: P-2450  
L11: LK-485-10  
L12: LK-593  
L13: LK-485-10  
L14: P-2911  
L15: P-2907-7  
L16: P-2907-8  
L17: P-2907-9  
T1: P-2889  
T2: P-2889  
T3: P-2889  
T4: P-2915  
T5: P-2810  
T6: P-2687  
T7: LK-512-6  
T8: LK-575-2  
T9: K-1562  
T10: LK-599  
               Mixer Plate Coil (in tuner)  
               1st I.F. Grid Coil  
               47.25 Mc. Trap  
               39.75 Mc. Trap  
               41.25 Mc. Trap  
               4.5 Mc. Trap  
               4.5 Mc. Sound Take-off Coil  
               Deflection Yoke & Centering Device  
               RF Choke  
               Width Control Coil  
               Choke (part of T9)  
               Stabilizing Coil  
               Filter Choke (used on 25 cycle models only)  
               Filter Coke (used on 60 cycle models only)  
               Filter Choke (used on 25 cycle models only)  
               Choke  
               Peaking Coil — Yellow & Blue  
               Peaking Coil — Yellow & Black  
               Peaking Coil — Yellow & Red  
               1st Pix I.F.  
               2nd Pix I.F.  
               3rd Pix I.F.  
               Pix I.F. Output  
               Interstage Sound I.F.  
               4.5 Mc. Ratio Detector  
               Output Transformer  
               Transformer — Vertical Output  
               Horizontal Output  
               Power Transformer 60 Cycle  
               Power Transformer 25 Cycle
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