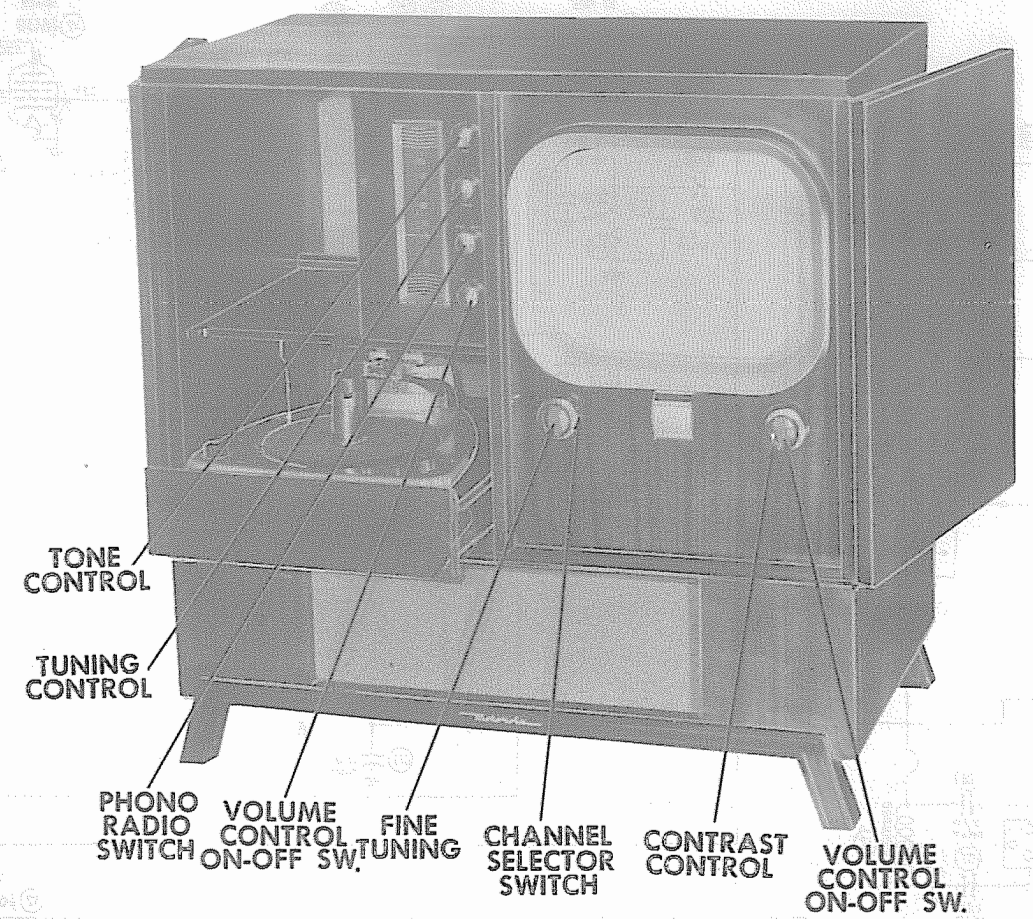


RESISTOR AND INDUCTOR IDENTIFICATION

PHOTOFACT* Folder



MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F



MOTOROLA MODEL 17F11	
TRADE NAME	Motorola Models 17F11, (Ch TS-228 & Radio Ch. HS-302), 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, -
MANUFACTURER	Motorola Inc., 4545 Augusta Blvd., Chicago, Ill. (Ch. TS-228), 17T5A (Ch. TS-214) 17T5C, 17T6BF, F, -
TYPE SET	TV-AM-Phono Combination Receiver (Ch. TS-228)
TUBES	Twenty Three
POWER SUPPLY	110-120 Volts AC-60 Cycle
TUNING RANGE (TV)	Channels 2 thru 13 (AM) 535-1600KC
RATING	1.2 Amps @ 117 Volts AC
INDEX	
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Drive Cord Stringing	8
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Resistance Measurements	8
Schematic (Radio)	18
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FOR SERVICE INFORMATION ON RECORD CHANGER SEE MOTOROLA RC-36A PHOTOFACT SET #147 FOLDER #8.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

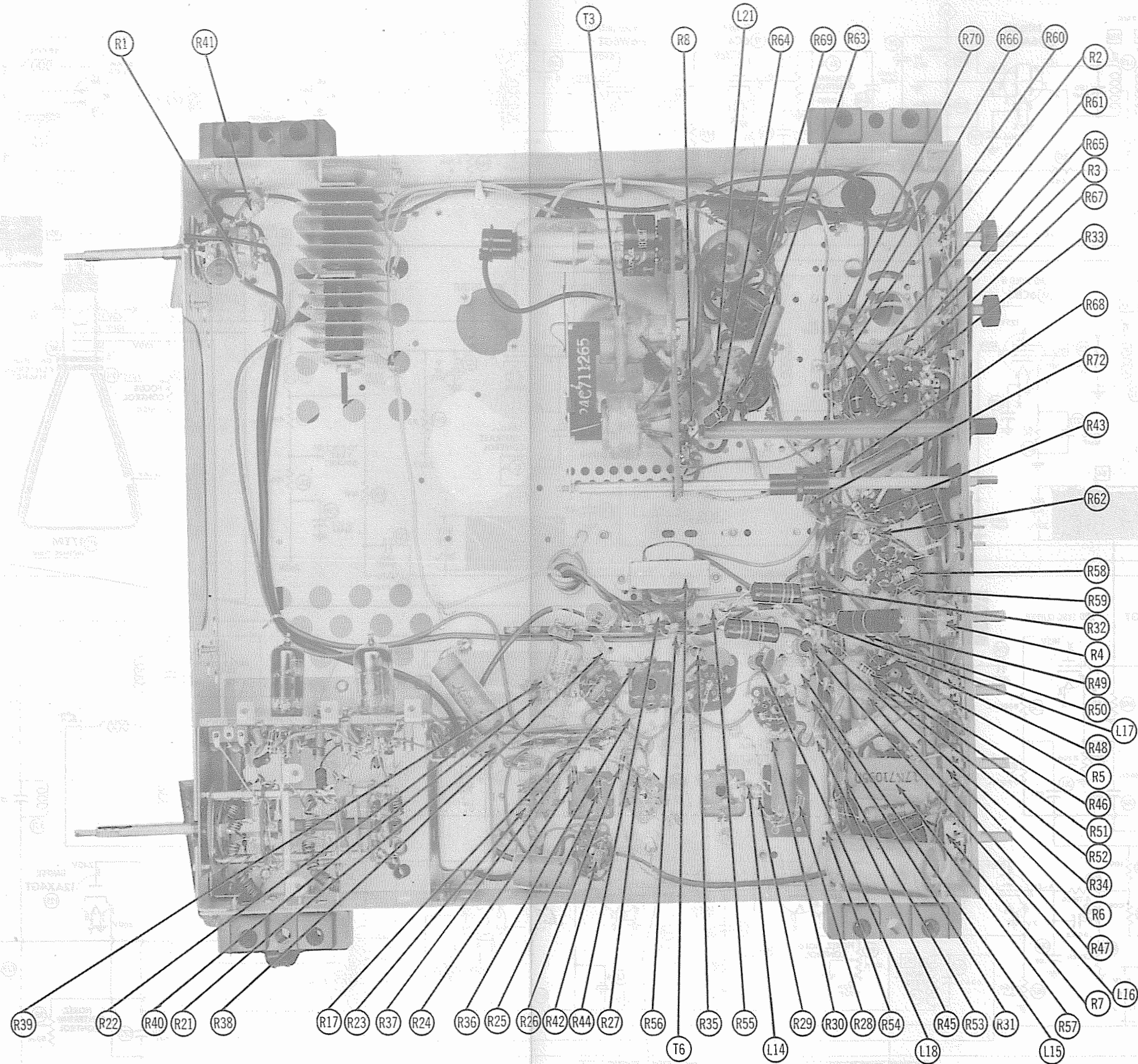
"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

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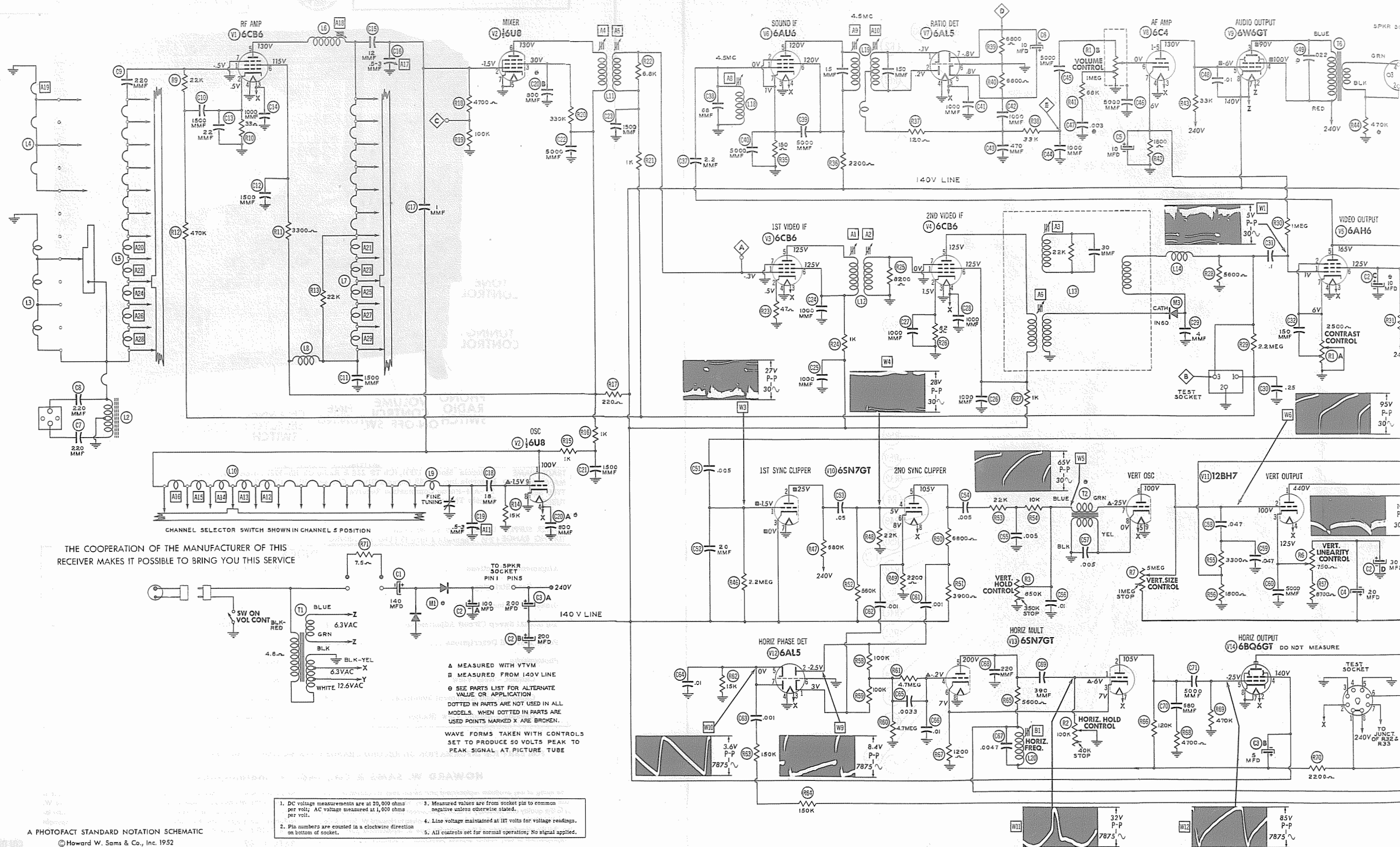
DATE 4-52 SET 165 FOLDER 7

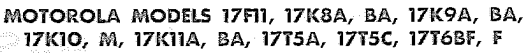
MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

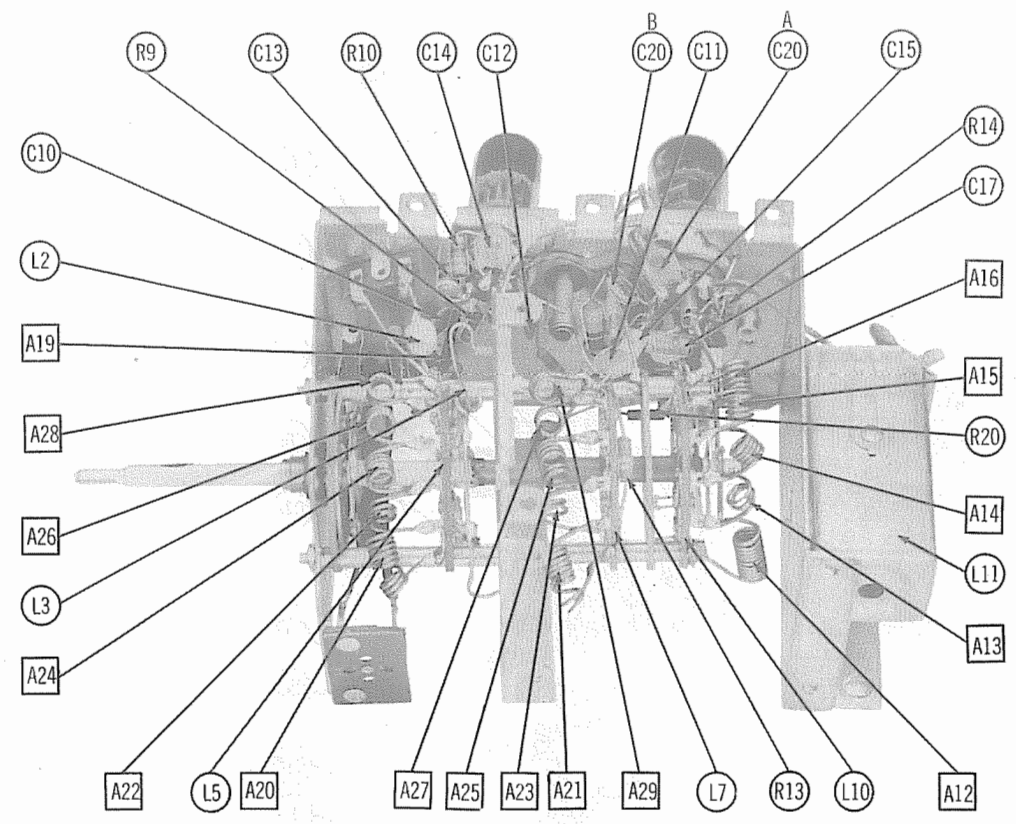


CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

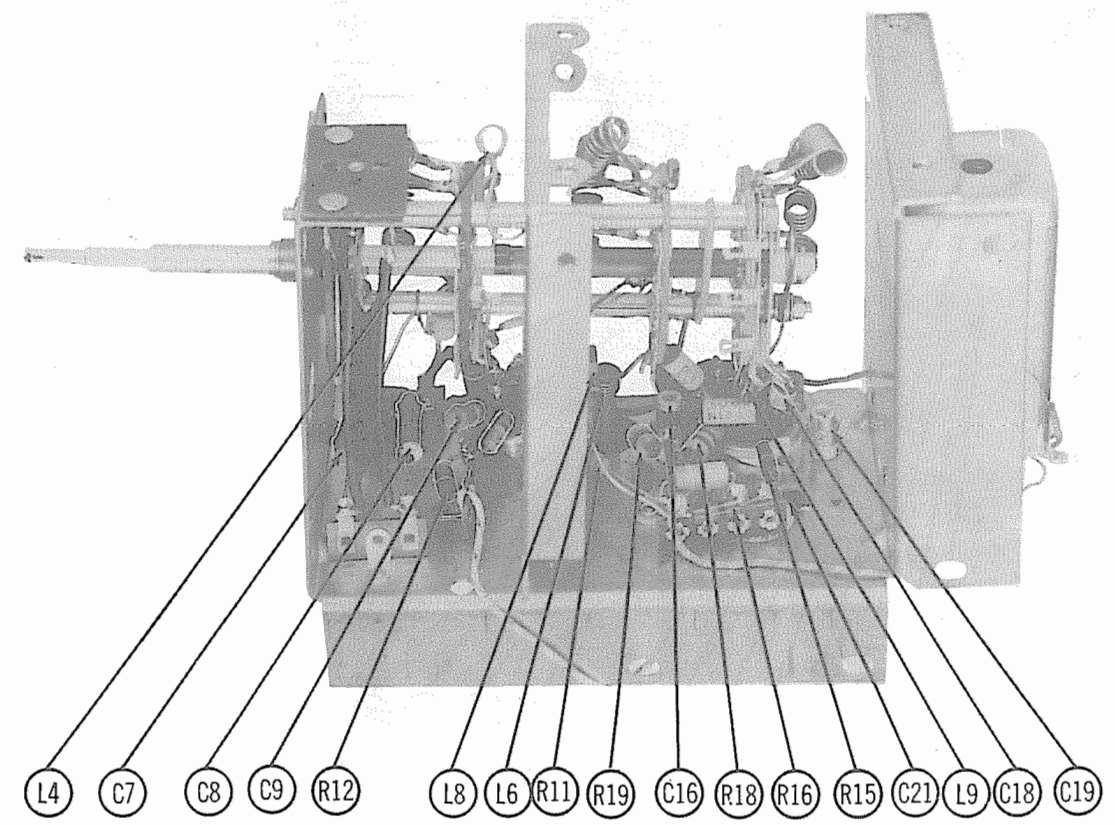




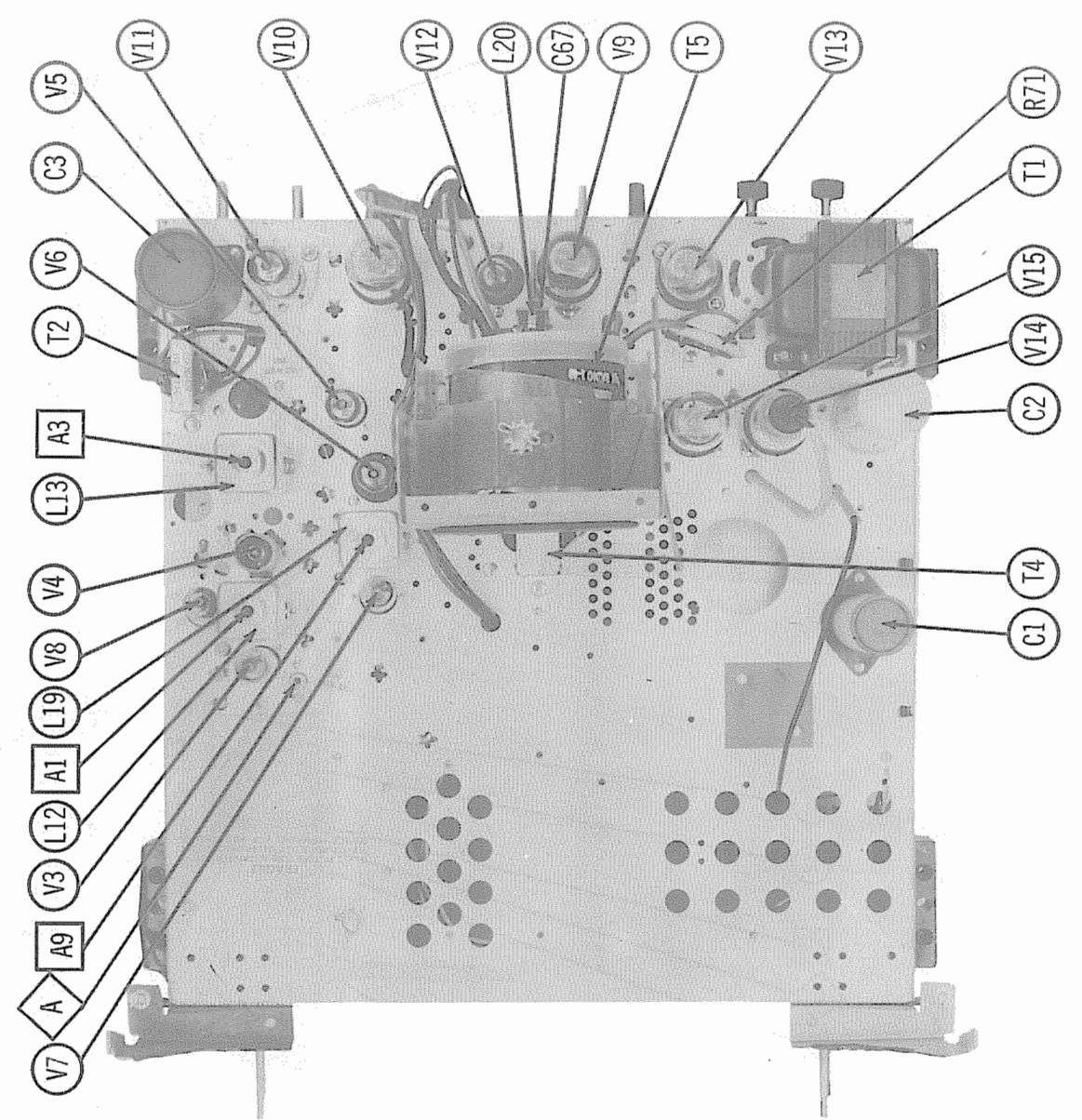
1



RF TUNER-RIGHT SIDE



RF TUNER-LEFT SIDE



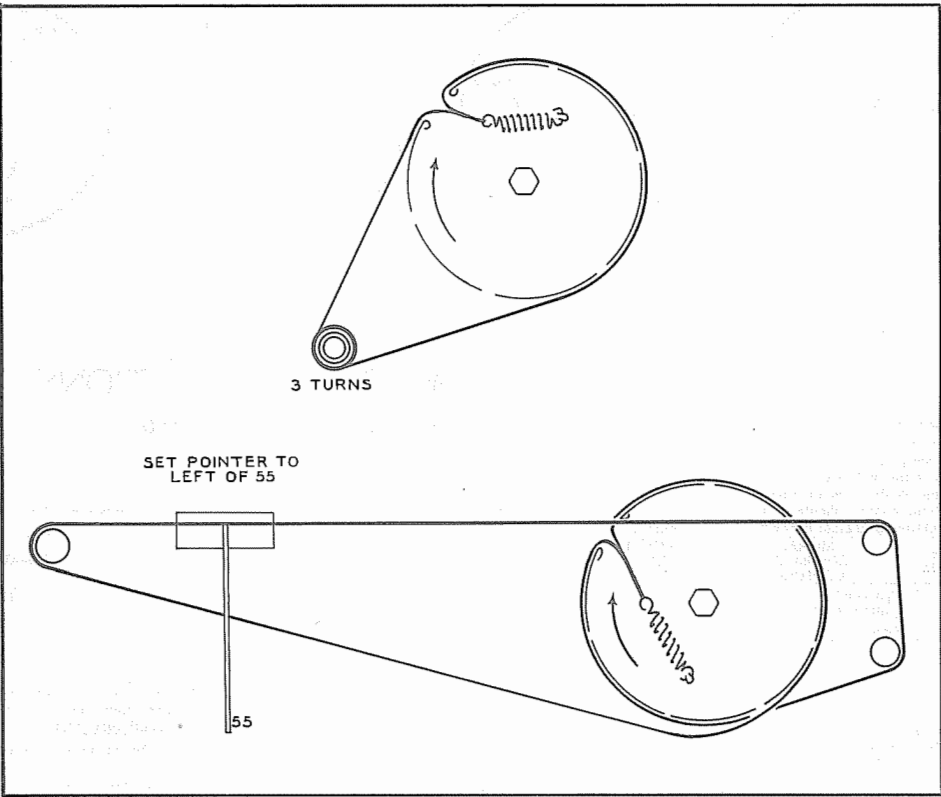
MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F
MAIN DOT SISSVHD

RESISTANCE MEASUREMENTS

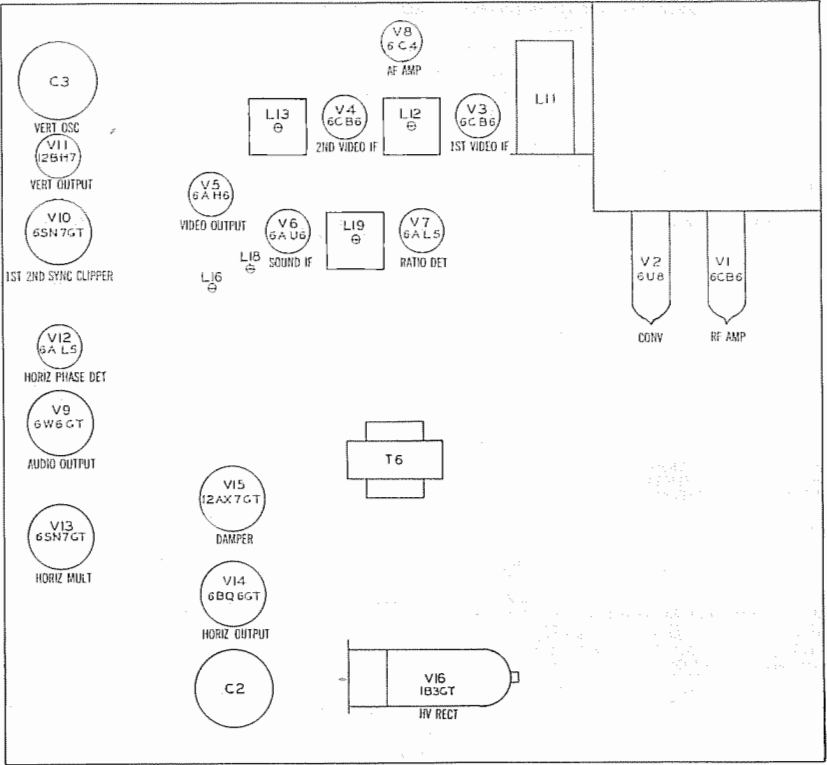
| Item | Tube | Pin 1 | Pin 2 | Pin 3 | Pin 4 | Pin 5 | Pin 6 | Pin 7 | Pin 8 | Pin 9 |
|------|---------|------------------------------|--------|-------------|--------------|-----------|--------|-------|-------|---------------|
| V 1 | 6CB6 | 2.7Meg | 33Ω | .1Ω | 0Ω | 220Ω | 3.5KΩ | 0Ω | | |
| V 2 | 6U8 | 2.2KΩ | 100KΩ | 330KΩ | .1Ω | 0Ω | 220Ω | 0Ω | 9Ω | 15KΩ |
| V 3 | 6CB6 | 2.2Meg | 47Ω | .1Ω | 0Ω | 1KΩ | 1KΩ | 0Ω | | |
| V 4 | 6CB6 | .2Ω | 82Ω | 0Ω | .1Ω | 1KΩ | 1KΩ | 0Ω | | |
| V 5 | 6AH6 | 1Meg | 350Ω | .1Ω | 0Ω | 4.8KΩ | 33KΩ | 350Ω | | |
| V 6 | 6AU6 | 1.2Ω | 150Ω | 0Ω | .1Ω | 2.2KΩ | 2.2KΩ | 150Ω | | |
| V 7 | 6AL5 | INF | INF | .1Ω | 0Ω | 6.8KΩ | 0Ω | 6.8KΩ | | |
| V 8 | 6C4 | 33KΩ | 750KΩ | .1Ω | 0Ω | 33KΩ | 60KΩ | 1.8KΩ | | |
| V 9 | 6W6GT | INF | .2Ω | 1210Ω | 155Ω | 33KΩ | INF | 0Ω | 60KΩ | |
| V 10 | 6SN7GT | 2.2Meg | 680KΩ | 0Ω | 22KΩ | 10KΩ | 2.2KΩ | 0Ω | .1Ω | |
| V 11 | 12BH7 | 750Ω | 2.5Meg | 9KΩ | .1Ω | .1Ω | 2.5Meg | 460KΩ | 50Ω | 0Ω |
| V 12 | 6AL5 | 4.8Meg | 4.8Meg | .1Ω | 0Ω | 15KΩ | 0Ω | 15KΩ | | |
| V 13 | 6SN7GT | 75KΩ | 120KΩ | 1.2KΩ | 9.4Meg | 7.8KΩ | 1.2KΩ | .1Ω | 0Ω | |
| V 14 | 6BQ6GT | INF | .1Ω | 120KΩ | 0Ω | 470KΩ | 15KΩ | 0Ω | 0Ω | Top Cap #45Ω |
| V 15 | 12AX7GT | INF | 27Ω | 200KΩ | INF | 155Ω | 300KΩ | 0Ω | .4Ω | |
| V 16 | 1B3GT | PINS 1-8 HAVE INF RESISTANCE | | | | | | | | Top Cap #210Ω |
| V 17 | 17TP4 | .1Ω | 1.8KΩ | Pin 10 #17Ω | Pin 11 260KΩ | Pin 12 0Ω | 35KΩ | | | |

ALL CONTROLS SET FOR NORMAL OPERATION, NO SIGNAL APPLIED
† MEASURED FROM OUTPUT OF M1
■ MEASURED FROM 140VDC LINE
MEASURED FROM PIN 3 OF V15

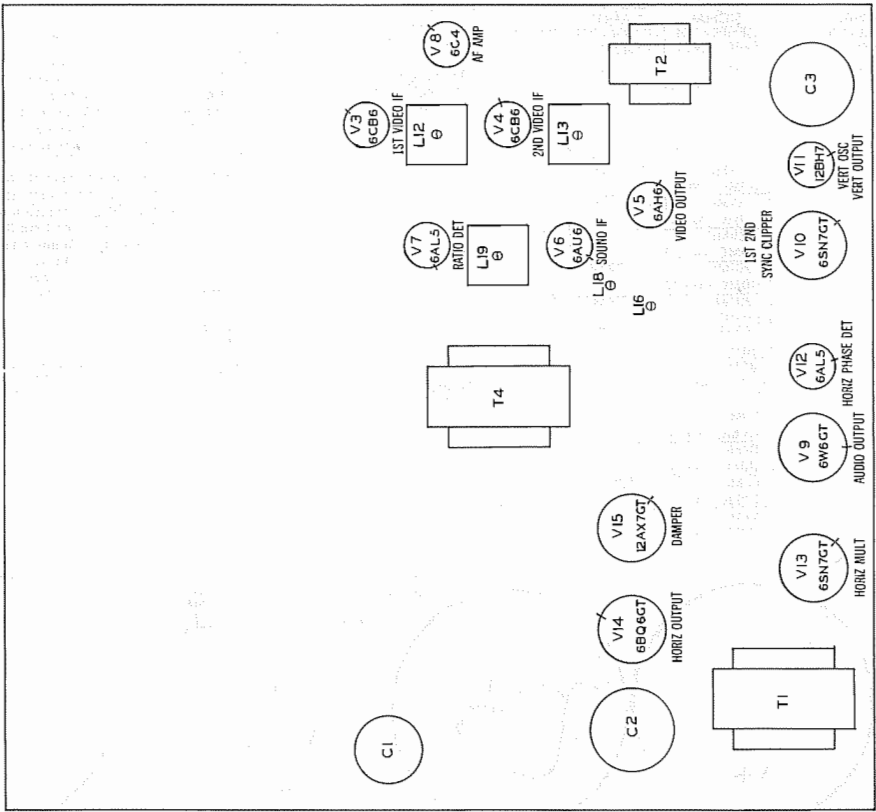
TUNING GANG FULLY CLOSED



DRIVE CORD STRINGING



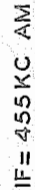
BOTTOM VIEW



TOP VIEW

TUBE PLACEMENT CHART

MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F



MOTOROLA MODELS 17F1, 17K8A, 8A, 17K9A, 8A, 17K10, M, 17K11A, 8A, 17T5A, 17T5C, 17T68F, F

| RESISTANCE READINGS | | | | | | | | | |
|---------------------|-------|--------|-------|-------|-------|--------|-------|--------|-------|
| Item | Tube | Pin 1 | Pin 2 | Pin 3 | Pin 4 | Pin 5 | Pin 6 | Pin 7 | Pin 8 |
| V 18 | 6BA6 | 3.6Meg | 0Ω | 0Ω | .1Ω | ±5.7KΩ | ±16KΩ | 68Ω | |
| V 19 | 6BE6 | 47KΩ | .4Ω | .1Ω | 0Ω | ±3.2KΩ | ±16KΩ | 2.7Meg | |
| V 20 | 6BA6 | 2.6Meg | 0Ω | 0Ω | .1Ω | ±3.2KΩ | ±16KΩ | 270Ω | |
| V 21 | 6AV6 | 10Meg | 0Ω | .1Ω | 0Ω | 515KΩ | 0Ω | ±220KΩ | |
| V 22 | 6K6GT | ↑0Ω | .1Ω | ±680Ω | ±1KΩ | 470KΩ | 300Ω | 0Ω | 470Ω |
| V 23 | 5Y3GT | INF | 130KΩ | INF | 95Ω | INF | 105Ω | INF | 130KΩ |

A PHOTOFACT STANDARD NOTATION SCHEMATIC

RADIO SCHEMATIC



HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the horizontal hold control to the mid position of its range.

Adjust the horizontal frequency slug, (B1), to the center of the range over which the picture synchronizes horizontally.

Adjust the width control until the picture is slightly wider than necessary to fill the mask horizontally.

DISASSEMBLY INSTRUCTIONS

TV

1. Remove 4 push-on control knobs from front panel.
2. Remove 6 wood screws and rear cover.
3. Disconnect built-in antenna.
4. Remove 2 wood screws and remove antenna bracket.
5. Remove speaker plug.
6. Remove 4 chassis bolts. Remove chassis.

Note: For picture tube removal it is necessary to remove chassis as outlined above.

RADIO

1. Remove 4 push-on type control knobs from front panel.
2. Remove 6 wood screws and remove rear cover.
3. Disconnect speaker pin plugs from speaker.
4. Disconnect antenna leads.
5. Disconnect phono plugs from beneath changer.
6. Remove 2 chassis screws. Remove chassis.
7. Remove 4 nuts holding speaker. Remove speaker.

RADIO PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

| ITEM No. | RATING | | REPLACEMENT DATA | | IDENTIFICATION CODES |
|----------|------------|-------|------------------|------------|--------------------------|
| | | | MOTOROLA | IRC | |
| | RESISTANCE | WATTS | PART No. | PART No. | |
| R75 | 1Meg | 1 | 6R6004 | | RF Amp. Grid |
| R76 | 68Ω | 1 | 6R2039 | | RF Amp. Cathode |
| R77 | 4700Ω | 1 | 6R6080 | BTS-4700 | RF Amp. Plate |
| R78 | 33KΩ | 1 | 6R6012 | BTS-33K | Mixer Grid |
| R79 | 47KΩ | 1 | 6R6056 | BTS-47K | Osc. Grid |
| R80 | 2200Ω | 1 | 6R6290 | BTS-2200 | Converter Decoupling |
| R81 | 15KΩ | 2 | 6R5732 | BTB-15K | Screen Dropping |
| R82 | 270Ω | 1 | 6R6432 | BTS-270 | IF Amp. Cathode |
| R83 | 2200Ω | 1 | 6R6290 | BTS-2200 | IF Amp. Plate Decoupling |
| R84 | 47KΩ | 1 | 6R6056 | BTS-47K | Diode Filter |
| R85 | 2.2Meg | 1 | 6R3927 | BTS-2.2Meg | AVC Network |
| R86 | 470KΩ | 1 | 6R6032 | BTS-470K | Diode Load |
| R87 | 10Meg | 1 | 6R2109 | BTS-10Meg | AF Amp. Grid |
| R88 | 68KΩ | 1 | 6R6074 | BTS-68K | Tone Compensation |
| R89 | 220KΩ | 1 | 6R6015 | BTS-220K | AF Amp. Plate |
| R90 | 470Ω | 1 | 6R5593 | BTA-470 | Output Cathode |
| R91 | 470KΩ | 1 | 6R6032 | BTS-470K | Output Grid |
| R92 | 1000Ω | 2 | 6R3922 | BTB-1000 | Filter |

TRANSFORMER (POWER)

| ITEM No. | RATING | | | | REPLACEMENT DATA | | | |
|----------|-----------------|-------------------|--------------|------------------|------------------|----------|----------|----------|
| | | | | | MOTOROLA | STANCOR | MERIT | CHICAGO |
| | PRI. | SEC. 1 | SEC. 2 | SEC. 3 | PART No. | PART No. | PART No. | PART No. |
| T7 | 117VAC
@ .5A | 500VCT
.050ADC | 5VAC
@ 2A | 6.3VAC
@ 2.1A | 25B600684 | PC8403 ① | | PV-60 ① |

① Drill new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | RATING | | | | REPLACEMENT DATA | | | | INSTALLATION NOTES |
|----------|--------|------|---------|-----|------------------|----------|----------|----------|--------------------------------|
| | | | | | MOTOROLA | STANCOR | MERIT | CHICAGO | |
| | PRI. | SEC. | DC RES. | | PART No. | PART No. | PART No. | PART No. | |
| T8 | 8KΩ | 3.6Ω | 680Ω | .4Ω | 25B600969 | A-2313 ② | A-3020 | RO-13 ② | ② Drill one new mounting hole. |

COILS (RF-IF)

| ITEM No. | USE | DC RES. | | REPLACEMENT DATA | | NOTES |
|----------|-----------|---------|-------|------------------|----------|-------|
| | | | | MOTOROLA | MERIT | |
| | | PRI. | SEC. | PART No. | PART No. | |
| L22 | Loop Ant. | 2.8Ω | | 24C690896 | | |
| L23 | Osc. Coil | .2Ω | 6.5Ω | 24K691878 | | |
| L24 | Input IF | 16.5Ω | 16.5Ω | 24B485553 | | |
| L25 | Output IF | 17.5Ω | 17Ω | 24B485555 | | |

PHONO CARTRIDGE and NEEDLE

| ITEM No. | REPLACEMENT DATA | | | | | | REMARKS |
|----------|------------------|----------|------|----------|------|---------------|------------|
| | MOTOROLA | ASTATIC | | SHURE | | ELECTRO-VOICE | |
| | PART No. | PART No. | | PART No. | | PART No. | |
| M6 | 59K691907 | AC-AG-J | A-AG | W26B | A66U | 33 | 0-2 or S-2 |

ASTATIC, SHURE, AND ELECTRO-VOICE NEEDLE LISTINGS SHOWN ABOVE ARE SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGES LISTED. FOR ORIGINAL CARTRIDGE NEEDLE REPLACEMENTS SEE BELOW.

PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

| ITEM No. | REPLACEMENT DATA | | | REMARKS |
|----------|------------------|--------------------|----------------|---------|
| | MOTOROLA | WALCO | JENSEN | |
| | PART No. | PART No. | PART No. | |
| M7 | 59K691909 | W-20AGA or W-21AGS | E-962 or E-902 | |

DIAL LIGHTS

| ITEM No. | BASE TYPE | VOLTS | AMPS. | BEAD COLOR | REPLACEMENT DATA | | NOTES |
|----------|-----------|-------|-------|------------|------------------|--|--------------|
| | | | | | MOTOROLA | | |
| | | | | | PART No. | | |
| M8 | Bayonet | 6-8 | .25 | Blue | 65X10867 | | Type No. #44 |
| M9 | Bayonet | 6-8 | .25 | Blue | 65X10867 | | Type No. #44 |

MISCELLANEOUS

| ITEM No. | PART NAME | MOTOROLA | NOTES |
|----------|------------|-----------|--|
| M10 | Switch | 40B601065 | Radio - Phono |
| M11 | Tuning Cap | 19B891877 | (15 - 447MMF - 32-184MMF) |
| | Knobs | 36C701150 | Off/On Volume, Radio, Phono, Tuning, Tone. |

TV PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

| ITEM No. | USE | REPLACEMENT DATA | | RMA BASE TYPE | NOTES |
|----------|--------------------------|------------------|-------------|---------------|-------|
| | | MOTOROLA | STANDARD | | |
| | | PART No. | REPLACEMENT | | |
| V1 | RF Amplifier | 6CB6 | 6CB6 | 7CM | |
| V2 | Converter | 6U8 | 6U8 | 9AE | |
| V3 | 1st. Video IF Amp. | 6CB6 | 6CB6 | 7CM | |
| V4 | 2nd. Video IF Amp. | 6CB6 | 6CB6 | 7CM | |
| V5 | Video Output | 6AH6 | 6AH6 | 7BK | |
| V6 | Sound IF Amp. | 6AU6 | 6AU6 | 7BK | |
| V7 | Ratio Detector | 6AL5 | 6AL5 | 6BT | |
| V8 | AF Amplifier | 6C4 | 6C4 | 6BG | |
| V9 | Audio Output | 6W6GT | 6W6GT | 7AC | |
| V10 | 1st & 2nd Sync. Clippers | 6SN7GT | 6SN7GT | 8BD | |
| V11 | Vert. Oscillator | | | | |
| V12 | Vert. Output | 12BH7 | 12BH7 | 9A | |
| V13 | Horiz. Phase Det. | 6AL5 | 6AL5 | 6BT | |
| V14 | Horiz. Mult. | 6SN7GT | 6SN7GT | 8BD | |
| V15 | Horiz. Output | 6BQ6GT | 6BQ6GT | 6AM | |
| V16 | Damper | 12AX4GT | 12AX4GT | 4CG | |
| | HV Rectifier | 1B3GT | 1B3GT | 3C | |

CATHODE-RAY TUBE

| ITEM No. | REPLACEMENT DATA | | | RTMA BASE TYPE | NOTES |
|----------|------------------|----------|--|----------------|-------|
| | MOTOROLA | SYLVANIA | | | |
| | PART No. | PART No. | | | |
| V17A | 17TP4 | 17TP4 | | 12C | |
| B | 17HP4 | 17HP4 | | 12C | |

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

| ITEM No. | RATING | | REPLACEMENT DATA | | | | | IDENTIFICATION CODES AND INSTALLATION NOTES |
|----------|--------|------|------------------|-----------|-----------|------------------|--------------|---|
| | | | MOTOROLA | AEROVOX | CENTRALAB | CORNELL-DUBILIER | ERIE | |
| | CAP. | VOLT | PART No. | PART No. | PART No. | PART No. | PART No. | |
| C1 | 140 | 150 | 23B484097 | E3A120 | | UPE15015 | | Voltage Doubler |
| C2A | 100 | 300 | 23B702451 | E4D491 | | | | Filter |
| B | 200 | 150 | | | | | | Decoupling |
| C | 10 | 300 | | | | | | Video Amp. Screen |
| D | 30 | 150 | | | | | | Vert. Output Cathode |
| C3A | 200 | 150 | 23B710941 | E4B257 | | UPE101015 | | Filter |
| B | 5 | 150 | | | | BR415 | | Horiz. MV Decoupling |
| C4 | 20 | 450 | 23K710667 | PRS450/20 | | BR2045A | | Vert. Output Decoupling |
| C5 | 10 | 50 | 23A90205 | PRS50/10 | | BR105 | | AF Amp. Cathode |
| C6 | 10 | 50 | 23A90205 | PRS50/10 | | BR105 | | Stabilizing Cap. |
| C7 | 220 | | 21K77375 | SI220 | D6-221 | | GP2K-221 | RF Coupling |
| C8 | 220 | | 21K77375 | SI220 | D6-221 | | GP2K-221 | RF Coupling |
| C9 | 220 | | 21K400941 | SI220 | D6-221 | | GP2K-221 | RF Coupling |
| C10 | 1500 | | 21A701029 | BPD-0015 | DD-152 | TM5D15 | 801-0015 | AGC Filter |
| C11 | 1500 | | 21A701029 | BPD-0015 | DD-152 | TM5D15 | 801-0015 | RF Amp. Plate Dec. |
| C12 | 1500 | | 21A701029 | BPD-0015 | DD-152 | TM5D15 | 801-0015 | RF Amp. Screen Bypass |
| C13 | 22 | | 21R400942 | SI22 | D6-220 | | GPIK-220 | RF Amp. Cathode |
| C14 | 1000 | | 21R400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | RF Amp. Fil. Bypass |
| C15 | 12 | | 21K114073 | | | | N330K-120 | RF Coupling |
| C16 | .5-3 | | 1X710954 | | 829-3 | | | Variable Trimmer |
| C17 | 1 | | 21K114071 | | | | | Osc. Coupling |
| C18 | 18 | | 21K711246 | | | | | Osc. Grid Cap. |
| C19 | .5-3 | | 1X710954 | | | | | Variable Trimmer |
| C20A | 800 | | | BPD-2X001 | DD-2-102 | TM5DD1 | 801-001 | Conv. Fil. Bypass |
| B | 800 | | | | | | | Mixer Screen Bypass |
| C21 | 1500 | | 21A701029 | BPD-0015 | DD-152 | TM5D15 | 801-0015 | RF Bypass |
| C22 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | RF Bypass |
| C23 | 1500 | | 21A701029 | BPD-0015 | DD-152 | TM5D15 | 801-0015 | Mixer Plate Dec. |
| C24 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | AGC Filter |
| C25 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | 1st Video IF Dec. |
| C26 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | RF Bypass |
| C27 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | 2nd Video IF Dec. |
| C28 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | 2nd Video IF Cathode |
| C29 | 4 | | 21K28951 | | | | | 2nd Video IF Fil. |
| C30 | .25 | 200 | 8R9810 | P488-25 | | PJ2P25 | | Video Det. Filter |
| C31 | .1 | 100 | 8R9814 | P288-1 | DF-104 | PJ2P1 | | AGC Filter |
| C32 | 150 | | 29R691948 | | | | N150-333-151 | Video Coupling |
| C33 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Video Output Cathode |
| C34 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Video Output Screen |
| C35 | 30 | | 21K470329 | | | | N150K-300 | RF Bypass |
| C36 | .1 | 400 | 8R490236 | P488-1 | DF-104 | PTE4P1 | | Fixed Trimmer |
| C37 | 2.2 | | 21A478274 | | TCZ-2.2 | | | Video Coupling |
| C38 | 68 | | 21R400928 | | | | NP0K-2R2 | Sound IF Coupling |
| C39 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Fixed Trimmer |
| C40 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Sound IF Decoupling |
| C41 | 1000 | | 21K400936 | BPD-001 | DD-102 | TM5D1 | 801-001 | Sound IF Cathode |
| C42 | 1000 | | 21K780599 | SI1000 | D6-102 | TM5D1 | 801-001 | Ratio Det. Fil. |
| C43 | 470 | | 21K400947 | SI470 | D6-471 | GP2L-102 | 5HK-D1 | Diode Load Cap. |
| C44 | 1000 | | 21K780599 | SI1000 | D6-102 | TM5D1 | 801-001 | RF Bypass |
| C45 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | De-emphasis |
| C46 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Audio Coupling |
| C47 | .003 | 200 | 8R9820 | P688-003 | D6-302 | | GP2-333-302 | Volume Cont. Isolation |
| C48 | .01 | 400 | 8R9858 | P488-01 | D6-103 | PTE4S1 | | Tone Comp. |
| C49 | .022 | 600 | 8R490255 | P688-022 | DF-203 | PTE6S22 | | Audio Output Grid |
| C50 | 100 | | 21B77286 | SI100 | D6-101 | TM5T1 | | Audio Output Plate |
| C51 | .005 | 600 | 8R9869 | P688-005 | D6-502 | PTE6D5 | | Sync. Coupling |
| C52 | 20 | | 21R400942 | SI20N750 | TCN-20 | | GP2-333-502 | Sync. Coupling |
| C53 | .05 | 600 | 8R490232 | P688-05 | DF-503 | PTE6S5 | | Sync. Clipper Grid |
| C54 | .005 | 600 | 8R490222 | P688-005 | D6-502 | PTE6D5 | | Sync. Coupling |
| C55 | .005 | 600 | 8R490222 | P688-005 | D6-502 | PTE6D5 | | Vert. Sync. Coupling |
| C56 | .01 | 400 | 8R490226 | P488-01 | | | | Vert. Integrator Net. |
| C57 | .005 | 600 | 8R9869 | P688-005 | D6-502 | PTE6D5 | | Vert. Integrator Net. |
| C58 | .047 | 400 | 8R490232 | P488-047 | | | | Fixed Trimmer |
| C59 | .047 | 400 | 8R490232 | P488-047 | | | | Vert. Discharge |
| C60 | 5000 | | 21A470789 | BPD-005 | DD-502 | TM5D5 | 811-005 | Integrator Net. |
| C61 | .001 | 600 | 8R9866 | P688-001 | D6-102 | PTE6D1 | | Vert. Output Cathode |
| C62 | .001 | 600 | 8R9866 | P688-001 | D6-102 | PTE6D1 | | Horiz. Sync. Coupling |

TV PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (CONT.)

| ITEM No. | RATING CAP. VOLT | REPLACEMENT DATA | | | | | | IDENTIFICATION CODES AND INSTALLATION NOTES |
|----------|------------------|-------------------|------------------|--------------------|---------------------------|---------------|------------------|---|
| | | MOTOROLA PART No. | AEROVOX PART No. | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | ERIE PART No. | SPRAGUE PART No. | |
| C63 | .001 1000 | 8R9877 | P1088-001 | D6-103 | PTE16D1 | MB-D1 | MB-D1 | Horiz. Feedback |
| C64 | .01 400 | 8R490226 | P488-01 | D6-103 | PTE4S1 | 4TM-S1 | 4TM-S1 | Voltage Divider |
| C65 | .0033 400 | 8R490220 | P688-0033 | D6-332 | PTE6D33 | 6TM-D3 | 6TM-D3 | Horiz. AFC Coupling |
| C66 | .01 400 | 8R9858 | P488-01 | D6-103 | PTE4S1 | 4TM-S1 | 4TM-S1 | Horiz. AFC Filter |
| C67 | .0047 60C | 8R9869 | P688-0047 | D6-472 | PTE6D47 | 6TM-D47 | 6TM-D47 | Fixed Trimmer |
| C68 | .220 | 21K77375 | S1220 | D6-221 | GP2K-221 | 5GA-T22 | 5GA-T22 | Horiz. MV Plate |
| C69 | .390 500 | 21R6664 | 1469-0004 | | 5R5T4 | MS-34 | MS-34 | Horiz. MV Feedback |
| C70 | .680 500 | 21R2741 | 1479-0007 | | 5R5T4 | MS-37 | MS-37 | Horiz. Discharge |
| C71 | .5000 | 21A470789 | 5PD-005 | DD-502 | TM5D5 | 5HK-D5 | 5HK-D5 | Horiz. Sweep Coupling |
| C72 | .180 3000 | 21K701873 | | | | | | Damper Plate |
| C73 | .500 20000 | 21A790833 | HV20C | TV3-502 | MM-C2075 | | | HV Filter |

‡ This Item is a single unit in early Models and is 5MFD (Part No. 23A710003)

† Some Models use dual disc (2X1000uMFD) in this application (Part No. 21K400937)

† Not used in early Models

CONTROLS

| ITEM No. | RATING RESISTANCE WATTS | REPLACEMENT DATA | | | | INSTALLATION NOTES |
|----------|-------------------------|-------------------|------------------------------------|--------------------|--------------------|---|
| | | MOTOROLA PART No. | IRC PART No. | CLAROSTAT PART No. | CENTRALAB PART No. | |
| RIA | 2500Ω | 16K702864 | Concentrikit B17-11LX * B13-13TX * | | | Contrast Control - Tapped @ 500Ω - Panel Volume Control - Tapped @ 300KΩ - Rear |
| B | 1Meg | | E187 * | | | Attach per instructions in Concentrikit |
| C | Shaft End | Not Req. | 76-1 | | | Horiz. Hold Control - See Note 1 |
| D | Switch | Not Req. | Q11-128 | AG-49-S | | Attach to R2A per instructions |
| R2A | 100KΩ | 18A702468 | Not Req. | AG-61-S | | Vert. Hold Control - See Note 2 |
| B | Shaft | Not Req. | Q11-137 | RS-2 | | Attach to R3A per instructions |
| R3A | 850KΩ | 18K711278 | Not Req. | AG-51-S | | Brightness Control - See Note 3 |
| B | Shaft | Not Req. | | AG-51-S | | Attach to R4A per instructions |
| R4A | 5Meg | 18A702441 | Not Req. | AG-51-S | | Focus Control |
| B | Shaft | 18A811225 | Not Req. | AG-51-S | AN-69 | Attach to R5A per instructions |
| R5A | 1Meg | 18A702475 | Not Req. | FKS-1/4 | AK-1 | Vert. Linearity Control |
| B | Shaft | Not Req. | AG-8-S | RS-2 | | Attach to R6A per instructions |
| R6A | 750Ω | 18A702443 | Not Req. | AG-5-S | | Vert. Size Control - See Note 4 |
| B | Shaft | Not Req. | Q11-141 | RS-2 | | Attach to R7A per instructions |
| R7A | 5Meg | 18A702443 | Not Req. | RS-2 | | Horiz. Centering Control - Wire Wound |
| B | Shaft | Not Req. | SQ | | | |
| R8 | 50Ω | 1X711613 | | | | |

* Additional Parts to be used with "Concentrikit".

Note 1. Connect a 39KΩ Resistor between the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft end, terminals down).

Note 2. Connect a 330KΩ Resistor between the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft end, terminals down).

Note 3. Connect a 100KΩ Resistor between the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft end, terminals down).

Note 4. Connect a 1Meg Resistor between the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft end, terminals down).

RESISTORS

| ITEM No. | RATING RESISTANCE WATTS | REPLACEMENT DATA | | IDENTIFICATION CODES |
|----------|-------------------------|-------------------|--------------|-----------------------------------|
| | | MOTOROLA PART No. | IRC PART No. | |
| R9 | 22KΩ | 6R6397 | | RF Amp. Grid |
| R10 | 33Ω | 6R2036 | | RF Amp. Cathode |
| R11 | 3300Ω 20% | 6R6036 | BTA-3300 | RF Amp. Screen |
| R12 | 470KΩ 20% | 6R6032 | BTS-470K | AGC Network |
| R13 | 22KΩ 20% | 6R6397 | | RF Coil Shunt |
| R14 | 15KΩ 20% | 6R2109 | BTS-15K | Osc. Grid |
| R15 | 1000Ω 20% | 6R6301 | BTS-1000 | Osc. Plate |
| R16 | 1000Ω 20% | 6R6301 | BTS-1000 | Osc. Plate Decoupling |
| R17 | 220Ω 20% | 6R3933 | BTS-220 | Decoupling |
| R18 | 4700Ω 20% | 6R6039 | BTS-4700 | Mixer Grid |
| R19 | 100KΩ 20% | 6R6075 | | Mixer Grid |
| R20 | 330KΩ 20% | 6R6014 | BTS-330K | Mixer Screen |
| R21 | 1000Ω 20% | 6R6301 | BTS-1000 | AGC Network |
| R22 | 6800Ω | 6R6428 | BTS-6800 | 1st Video IF Amp. Cathode |
| R23 | 47Ω 20% | 6R2108 | BTS-100 | 1st Video IF Amp. Cathode |
| R24 | 1000Ω 20% | 6R6301 | BTS-1000 | 1st Video IF Amp. Decoupling |
| R25 | 8200Ω | 6R2004 | BTS-8200 | 2nd Video IF Amp. Cathode |
| R26 | 82Ω | 6R2035 | BTS-82 | 2nd Video IF Amp. Cathode |
| R27 | 1000Ω 20% | 6R6301 | BTS-1000 | 2nd Video IF Amp. Decoupling |
| R28 | 5600Ω | 6R6117 | BTS-5600 | Video Det. Load |
| R29 | 2.2Meg 20% | 6R3927 | BTS-2.2Meg | AGC Network |
| R30 | 1Meg | 6R6046 | BTS-1Meg | Video Output Grid |
| R31 | 33KΩ 20% | 6R401012 | BTA-33K | Video Output Screen |
| R32 | 4700Ω | 6R5871 | BTS-4700 | Video Output Plate |
| R33 | 100Ω 20% | 6R6018 | BTS-100 | Video Output Plate |
| R34 | 10KΩ 20% | 6R6054 | BTS-10K | Isolation |
| R35 | 150Ω | 6R3992 | BTS-150 | Sound IF Amp. Cathode |
| R36 | 2200Ω 20% | 6R6069 | BTS-2200 | Sound IF Amp. Decoupling |
| R37 | 120Ω | 6R5551 | BTS-120 | Balancing |
| R38 | 33KΩ 20% | 6R6012 | BTS-33K | De-emphasis |
| R39 | 6800Ω | 6R6428 | BTS-6800 | Ratio Det. Diode Load |
| R40 | 6800Ω | 6R6428 | BTS-6800 | Ratio Det. Diode Load |
| R41 | 68KΩ 20% | 6R6001 | BTS-68K | Tone Compensation |
| R42 | 1800Ω | 6R2089 | BTS-1800 | AF Amp. Cathode |
| R43 | 33KΩ | 6R6410 | BTS-33K | AF Amp. Plate |
| R44 | 470KΩ 20% | 6R6032 | BTS-470K | Isolation - See note 1. |
| R45 | 470KΩ 20% | 6R6032 | BTS-470K | Isolation |
| R46 | 2.2Meg 20% | 6R3927 | BTS-2.2Meg | 1st Sync. Clipper Grid |
| R47 | 680KΩ | 6R6475 | BTS-680K | 1st Sync. Clipper Plate |
| R48 | 22KΩ | 6R6028 | BTS-22K | 2nd Sync. Clipper Grid |
| R49 | 2200Ω | 6R6290 | BTS-2200 | 2nd Sync. Clipper Cathode |
| R50 | 6800Ω | 6R6428 | BTS-6800 | 2nd Sync. Clipper Plate |
| R51 | 3900Ω | 6R5659 | BTS-3900 | 2nd Sync. Clipper Plate |
| R52 | 560KΩ | 6R5697 | BTS-560K | Voltage Divider |
| R53 | 22KΩ | 6R6028 | BTS-22K | Integrator Network |
| R54 | 10KΩ 20% | 6R6054 | BTS-10K | Integrator Network |
| R55 | 3300Ω | 6R5581 | BTS-3300 | Vert. Peaking |
| R56 | 1800Ω | 6R2089 | BTS-1800 | Vert. Blanking |
| R57 | 8700Ω | 17K70950 | | Vert. Output Cathode - Wire Wound |
| R58 | 100KΩ 20% | 6R6031 | BTS-100K | Horiz. Phase Det. Diode Load |
| R59 | 100KΩ 20% | 6R6031 | BTS-100K | Horiz. Phase Det. Diode Load |

RESISTORS (CONT.)

| ITEM No. | RATING RESISTANCE WATTS | REPLACEMENT DATA | | IDENTIFICATION CODES |
|----------|-------------------------|-------------------|--------------|------------------------------|
| | | MOTOROLA PART No. | IRC PART No. | |
| R60 | 4.7Meg 20% | 6R2122 | BTS-4.7Meg | Horiz. Phase Det. Diode Load |
| R61 | 4.7Meg 20% | 6R2122 | BTS-4.7Meg | Horiz. AFC Filter |
| R62 | 15KΩ 5% | 6R2119 | BTS-15K 5% | Feedback Network |
| R63 | 150KΩ | 6R40053 | BTA-150K | Feedback Network |
| R64 | 150KΩ | 6R40053 | BTA-150K | Feedback Network |
| R65 | 5600Ω | 6R6117 | BTS-5600 | Horiz. MV Plate |
| R66 | 120KΩ | 6R5651 | BTS-120K | Horiz. MV Plate |
| R67 | 1200Ω | 6R6393 | BTS-1200 | Horiz. MV Cathode |
| R68 | 4700Ω | 6R6010 | BTS-4700 | Horiz. Peaking |
| R69 | 470KΩ | 6R6032 | BTS-470K | Horiz. Output Grid |
| R70 | 2200Ω | 6R6290 | BTS-2200 | Decoupling |
| R71 | 7.5Ω | 17A791166 | | Surge Limiter - Wire Wound |
| R72 | 120Ω | 6R5551 | BTS-120 | Damping |

Note 1. Not used in model #17T5A

TRANSFORMER (FILAMENT)

| ITEM No. | RATING | | | | REPLACEMENT DATA | | | |
|----------|-----------------------------------|---------------|--------|--------|-------------------|------------------|----------------|------------------|
| | PRI. | SEC. 1 | SEC. 2 | SEC. 3 | MOTOROLA PART No. | STANCOR PART No. | MERIT PART No. | CHICAGO PART No. |
| T1 | 117VAC @ .6A Tapped 6.3VAC @ 1.2A | 6.3VAC @ 1.2A | | | 25B710921 | | | |

TRANSFORMER (SWEEP CIRCUITS)

| ITEM No. | RATING | | REPLACEMENT DATA | | | | NOTES |
|----------|---------------|------|--|------------------|----------------|------------------|-------------------------|
| | DC RESISTANCE | SEC. | MOTOROLA PART No. | STANCOR PART No. | MERIT PART No. | CHICAGO PART No. | |
| T2 | 53Ω | 225Ω | 25K702429
25K710730 ① | | | | Vert. Oscillator Trans. |
| T3 | 185Ω | 21Ω | 24C711265 | | | | Horiz. Output Trans. |
| T4 | 730Ω | 0Ω | 25B702445 | | | | Vert. Output Trans. |
| T5A | 31Ω | | 24C703260 | | | | Hor. Deflection Coils |
| B | 3.5Ω | | 24C702555 ②
24K702557 ②
24K703262 ②
24C702958 ② | | | | Vert. Deflection Coils |

① Alternate Transformer

② Alternate Deflection Yoke

TRANSFORMER (AUDIO OUTPUT)

| ITEM No. | RATING | | | | REPLACEMENT DATA | | | | INSTALLATION NOTES |
|----------|-----------|------|---------|------|-------------------|------------------|----------------|------------------|--------------------|
| | IMPEDANCE | | DC RES. | | MOTOROLA PART No. | STANCOR PART No. | MERIT PART No. | CHICAGO PART No. | |
| | PRI. | SEC. | PRI. | SEC. | | | | | |
| T6 | 2.2KΩ | 3.6Ω | 210Ω | .4Ω | 25B710925 | A-3823 | A-2928 | RO-2 | |

SPEAKER

| ITEM No. | RATINGS | | | REPLACEMENT DATA | | | NOTES |
|----------|------------|------------|--|--|----------------------|---------------|---|
| | FIELD RES. | V. C. IMP. | | MOTOROLA PART No. | JENSEN PART No. | QUAM PART No. | |
| SPIA | P. M. | 3.6Ω | | 50K711250 ③
50C701631 ④ ⑤
50K711261 ④ ⑤
50C489002 ⑤
50C701615 ⑤ ⑥
50C711061 ⑤ ⑥
50K703084 ⑦
50K703338 ⑦ ⑧ | ST-810
Mod. P65-V | 6SA2 | ③ Used in model 17F11
④ Alternate 6"X9" P. M. speaker
⑤ Used in models 17T5C, 17T6F, 17T6BF, 17T5A
⑥ Alternate 6" Electro-Dynamic speaker
⑦ Used in models 17K8A, 17K8BA, 17K9A, 17K9BA, 17K10, 17K10A, 17K11A, 17K11BA
⑧ Alternate 8" Electro-Dynamic speaker |
| SPIB | 6"X9" | 3/4" | | | | | |

FILTER CHOKE

| ITEM No. | RATINGS | | REPLACEMENT DATA | | | | INSTALLATION NOTES |
|----------|----------------------|------------------|------------------------------------|-------------------|------------------|----------------|--------------------------|
| | TOTAL DIRECT CURRENT | D. C. RESISTANCE | INDUCTANCE (0 CURRENT 1000 μ) | MOTOROLA PART No. | STANCOR PART No. | MERIT PART No. | |
| L1 | .175ADC | 55Ω | 1 Henry | 25B701075 | C-2327 | C-2994 | Used in Model 17P11 Only |

COILS (RF-IF)

| ITEM No. | USE | DC RES. | | REPLACEMENT DATA | | | NOTES |
|----------|--------------------|---------|------|-------------------|----------------|--------------|-------------------------|
| | | PRI. | SEC. | MOTOROLA PART No. | MERIT PART No. | IRC PART No. | |
| L2 | Ant. Matching coil | 0Ω | | 24A790033 | | | Low Band |
| L3 | Ant. Coils | 0Ω | | 24K703079 | | | High Band |
| L4 | Ant. Coils | 0Ω | | 24K703078 | | | Low Band |
| L5 | Ant. Coils | 0Ω | | 24K703003 | | | Low Band |
| L6 | RF Coil | 0Ω | | 24C703076 | | | Channel 13 |
| L7 | RF Coils | 0Ω | | 24K703002 | | | Low Band |
| L8 | RF Choke | 3Ω | | 24K792577 | | | 3.3 Microhenries |
| L9 | Osc. Coil | 0Ω | | 24K703077 | | | Channel 13 |
| L10 | Osc. Coils | 0Ω | | 24C703001 | | | Low Band |
| L11 | 1st. Video IF | .2Ω | .1Ω | 24B702983 | | | |
| L12 | 2nd. Video IF | .2Ω | .1Ω | 24B702982 | | | |
| L13 | 3rd. Video IF | .4Ω | .4Ω | 24B711412 | | | |
| L14 | RF Choke | 2.6Ω | | 24B711413 | | | |
| L15 | Peaking Coil | 16.5Ω | | 24K711876 | | | Wound on 6.8KΩ Resistor |

COILS (RF-IF)

| ITEM No. | USE | DC RES. | | REPLACEMENT DATA | | | NOTES |
|----------|--------------|---------|------|-------------------|----------------|--------------|--------------------------|
| | | PRI. | SEC. | MOTOROLA PART No. | MERIT PART No. | IRC PART No. | |
| L16 | 4.5MC Trap | 2.3Ω | | 1X792736 | | | |
| L17 | Peaking Coil | 9Ω | | 24B711875 | | | |
| L18 | Sound IF | 1.1Ω | | 1X790341 | | | |
| L19 | Ratio Det. | 2.6Ω | .2Ω | 24B702543 | | | Tap at .3Ω |
| L20 | Horiz. Osc. | 45Ω | | 24K701558 | | | |
| L21 | Horiz. Lin. | 12.5Ω | | 24A710751 | | | Wound on .15MF Capacitor |

SELENIUM RECTIFIER

| ITEM No. | RATING CURRENT | REPLACEMENT DATA | | | | NOTES |
|----------|----------------|------------------------|-------------------|-------------------|------------------|-------|
| | | MOTOROLA PART No. | SYLVANIA PART No. | SELETRON PART No. | FEDERAL PART No. | |
| M1 | .175ADC | 48B700555 or 48B703089 | | | | |

MISCELLANEOUS

| ITEM No. | PART NAME | MOTOROLA PART No. | NOTES |
|----------|------------------|-------------------|-----------------------------|
| M2 | RF Tuner | 1X703205 | Complete with tubes |
| M3A | Crystal | 48C71052 | (1N60)Part of L13 |
| B | Crystal | 48K71077 | Alternate Part of L13 |
| M4A | Centering Magnet | 48A711242 | |
| B | Centering Magnet | 48A711264 | Alternate |
| C | Centering Magnet | 48A711241 | Alternate |
| D | Centering Magnet | 2A470849 | Alternate |
| M5A | Ion Trap | 24K711843 | |
| B | Ion Trap | 24K711842 | Alternate |
| C | Ion Trap | 24K711841 | Alternate |
| Knob | Knob | 36K700680 | Contrast |
| Knob | Knob | 36K700884 | Fine Tuning, Off/On Volume |
| Knob | Knob | 36C700889 | Channel Selector |
| Knob | Knob | 36A485457 | Vert. & Horiz. Hold on rear |
| Knob | Knob | 36K700887 | Contrast |
| Knob | Knob | 36C700888 | Fine Tuning - Off/On Volume |
| Knob | Knob | 36C700886 | Channel Selector |
| Knob | Knob | 36A405457 | Vert. & Horiz. Hold |
| Knob | Knob | 36K700734 | Contrast |
| Knob | Knob | 36C700732 | Fine Tuning, Off/On Volume |
| Knob | Knob | 36C700733 | Channel Selector |
| Knob | Knob | 36A485457 | Vert. & Horiz. Hold |

RADIO PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

| ITEM No. | USE | |
|----------|-----|--|
|----------|-----|--|

TV ALIGNMENT INSTRUCTIONS

TV ALIGNMENT INSTRUCTIONS (CONT.)

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use an isolation transformer to protect the test equipment.

The high voltage shock hazard may be eliminated by removing the horizontal output tube, (V14), from its socket.

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt battery to the ungrounded lead of C30, connect the positive lead to chassis.

Disable the local oscillator by connecting a short across the entire oscillator inductance, (arm of switch to ungrounded plate of fine tuning cap.

Connect an 820Ω resistor across terminals 1 and 4, (primary), of L13.

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE | ADJUST | REMARKS |
|---------------|--|----------------------------|----------------------------|---------|---|--------|---|
| 1. 1000MMF | High side to Point A
Low side to chassis. | 24MC
(10MC swp.) | 21.9MC
24.75MC | Any | Vert. amp. thru 47KΩ to Point B
Low side to chassis. | A1, A2 | Adjust for response curve similar to Fig. 1 centered at 24.75MC |
| 2. " | " | " | 21.9MC | " | " | A3 | Adjust for MINIMUM marker amplitude at the 21.9MC point on response curve. |
| 3. " | High side to Point C
Low side to chassis. | " | 21.9MC
24.75MC | " | " | A4, A5 | Adjust for response curve similar to Fig. 2. |
| 4. " | " | " | 21.9MC
22.9MC
28.4MC | " | " | A6 | Adjust for response curve similar to Fig. 3. The markers should be within the limits shown. |

4.5MC TRAP ADJUSTMENT

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | CHANNEL | CONNECT VTVM | ADJUST | REMARKS |
|---------------|---|----------------------------|---------|--|--------|--------------------------------|
| 1000MMF | High side to Pin 1, (grid), of 6AH6, (V5). Low side to chassis. | 4.5MC (unmod.) | Any | DC probe thru detector (Fig. 4), to pin 11 of picture tube. Common to chassis. | A7 | Adjust for MINIMUM deflection. |

SOUND IF ALIGNMENT

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE | ADJUST | REMARKS |
|---------------|---|----------------------------|----------------------------|---------|---|--------|---|
| 1. 1000MMF | High side to Pin 1, (grid), of 6AH6, (V5). Low side to chassis. | 4.5MC (450KC swp.) | 4.5MC | Any | Vert. amp. to Point D
Low side to chassis. | A8, A9 | Disconnect stabilizer capacitor C6. Adjust for maximum amplitude & symmetry as per Fig. 5. |
| 2. " | " | " | " | " | Vert. amp. to Point E
Low side to chassis. | A10 | Reconnect capacitor C6. Adjust A10 so 4.5MC occurs at center of crossover lines as per Fig. 6. SLIGHTLY retouch A9 for maximum amplitude & straightness of crossover lines. |

OSCILLATOR ALIGNMENT

Remove the short from across the oscillator coils.

Remove the tuner bottom cover.

The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

Set the fine tuning control to the mid-position of its range.

| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE | ADJUST | REMARKS |
|---------------------------|--|----------------------------|----------------------------|---------|---|--------|--|
| Two 120Ω carbon resistors | Across antenna terminals with 120Ω in each lead. | 195MC (10MC swp.) | 197.75MC | 10 | Vert. amp. to Point B
Low side to chassis. | A11 | Adjust to place sound marker slightly higher in frequency than the 21.9MC trap "notch". This is necessary to compensate for the oscillator frequency change when bottom cover is replaced. See Fig. 7. |
| " | " | 177MC (10MC swp.) | 179.75MC | 7 | " | " | Check all high band channels to see if the sound marker can be placed as shown in Fig. 7 within 30 deg. rotation of fine tuning control. If more than 30 deg. rotation is required on any channel, expand or compress turns of L9 until that channel meets the 30 deg. requirement. If L9 is changed it may be necessary to repeat steps 8 & 9 several times to arrive at a compromise which gives best results across the high band channels. |
| " | " | 183MC (10MC swp.) | 185.75MC | 8 | " | " | |
| " | " | 189MC (10MC swp.) | 191.75 MC | 9 | " | " | |
| " | " | 201MC (10MC swp.) | 203.75MC | 11 | " | " | |
| " | " | 207MC (10MC swp.) | 209.75MC | 12 | " | " | |
| " | " | 213MC (10MC swp.) | 215.75MC | 13 | " | " | |
| " | " | 85MC (10MC Swp.) | 87.75MC | 6 | Vert. amp. to Point B
Low side to chassis. | A12 | Expand or compress coil turns to place sound marker slightly above the trap notch |
| " | " | 79MC (10MC swp.) | 81.75MC | 5 | | A13 | |
| " | " | 69MC (10MC swp.) | 71.75MC | 4 | | A14 | |
| " | " | 63MC (10MC swp.) | 65.75MC | 3 | | A15 | |
| " | " | 57MC (10MC swp.) | 59.75MC | 2 | | A16 | |

| RF ALIGNMENT | | | | | | | |
|--|--|---|--|--------------------------|---|--|---|
| Replace the short across the oscillator coils.
Remove the bias battery and short C30.
Notice that for the low channels the antenna coils are tuned to the video carrier frequency of each channel and the RF coils are tuned to the sound carrier frequency.
Turn A18 so the screw is centered in the coil.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms. | | | | | | | |
| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | CHANNEL | CONNECT SCOPE | ADJUST | REMARKS |
| 11. Two 120Ω carbon resistors | Across antenna terminals with 120Ω in each lead. | 177MC (10MC swp.) | 175.25MC
179.75MC | 7 | Vert. amp. thru 47KΩ to Point C
Low side to chassis. | A17 | Adjust for response curve within the limits of Fig. 8. |
| 12. " | " | 213MC (10MC swp.) | 211.25MC
215.75MC | 13 | " | A18 | Adjust for response curve within the limits of Fig. 8. If necessary repeat steps 11 & 12 until both channels fall within the limits shown. |
| 13. " | " | 207MC (10MC swp.)
201MC (10MC swp.)
195MC (10MC swp.)
189MC (10MC swp.)
183MC (10MC swp.) | 205.25MC
209.75MC
199.25MC
203.75MC
193.25MC
197.75MC
187.25MC
191.75MC
181.25MC
185.75MC | 12
11
10
9
8 | " | " | Check all high band channels for response within the limits of Fig. 8. If necessary retouch A17 & A18 as needed to obtain optimum response across the high band channels. The peak may be sharpened or broadened by altering the high freq. matching bus, (A19) |
| 14. " | " | 85MC (10MC swp.)
79MC (10MC swp.)
69MC (10MC swp.)
63MC (10MC swp.)
57MC (10MC swp.) | 83.25MC
87.75 MC
77.25MC
81.75MC
67.25MC
71.75MC
61.25MC
65.75MC
55.25MC
59.75MC | 6
5
4
3
2 | " | A20
A21
A22
A23
A24
A25
A26
A27
A28
A29 | Expand or compress coil turns for response curve similar to Fig. 9. Notice that the antenna coils are tuned to the video carrier frequency and the RF coils are tuned to the sound carrier frequency. |
| Remove shorts from Osc. Coils and C30. | | | | | | | |

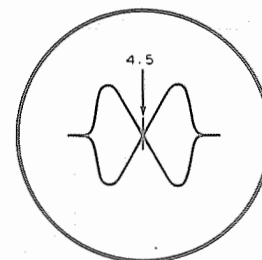


FIG. 6

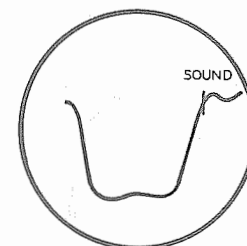


FIG. 7

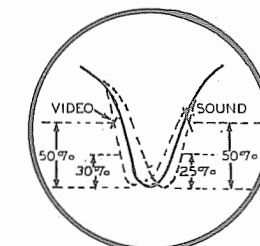


FIG. 8

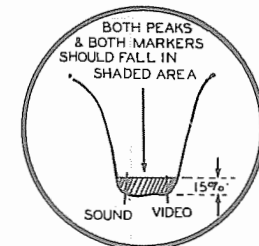
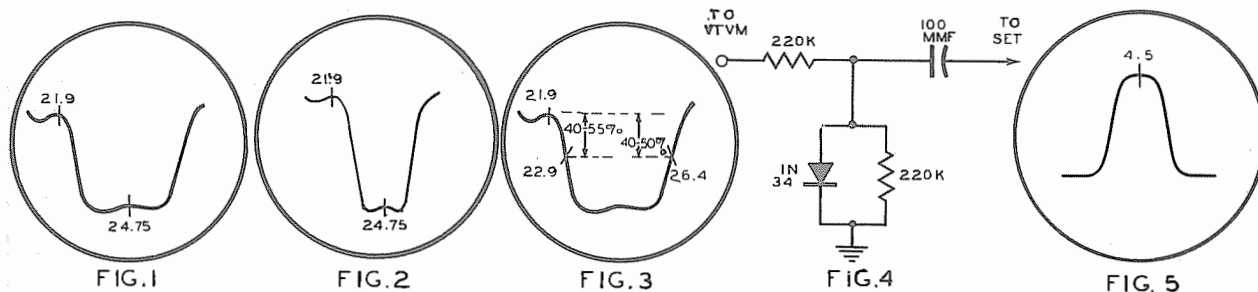


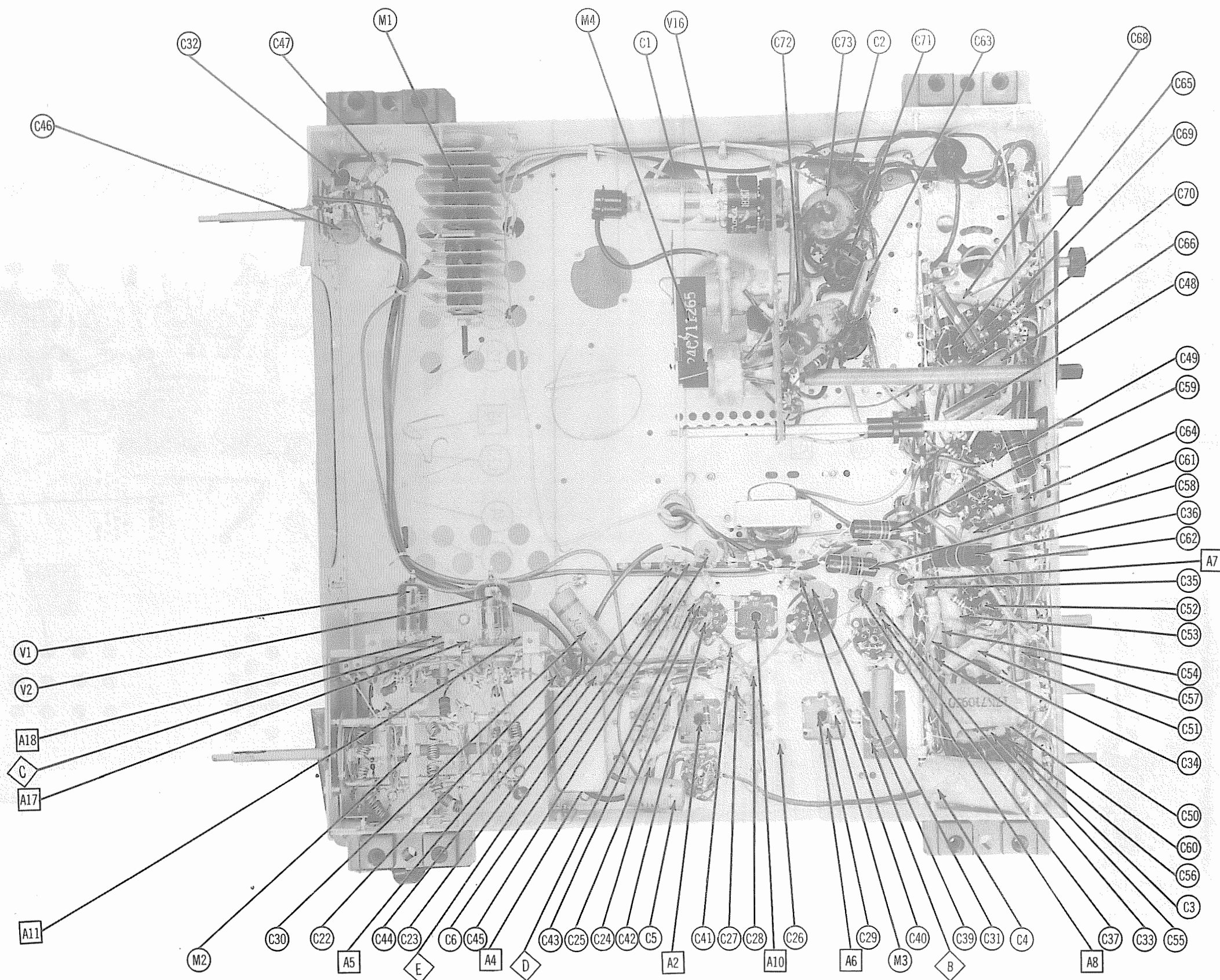
FIG. 9

RADIO ALIGNMENT INSTRUCTIONS

| ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT | | | | | | | |
|--|---|----------------------------|------------------|---------------------------|--------------------|--------------------|--|
| To set pointer turn tuning gang fully closed and set the right hand edge of the pointer even with the left hand edge of the 55 at the low frequency end of the dial scale.
Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. | | | | | | | |
| DUMMY ANTENNA | SIGNAL GENERATOR COUPLING | SIGNAL GENERATOR FREQUENCY | BAND SWITCH POS. | RADIO DIAL SETTING | OUTPUT METER | ADJUST | REMARKS |
| 15. .1MFD | High side to Pin 7, (grid) of 6BE6, (V19), Low side to chassis. | 455KC (400V mod.) | AM | Tuning gang fully open. | Across voice coil. | A30, A31, A32, A33 | Adjust for maximum output. |
| 16. " | " | 1620KC | " | " | " | A34 | " |
| 17. " | Loop | 1400KC | " | Tune for max. output | " | A35 | Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. |
| IF AFTER ALIGNMENT IS COMPLETED, THE SET IS STILL BADLY OFF CALIBRATION PERFORM THE FOLLOWING IN PLACE OF 16 & 17 ABOVE. | | | | | | | |
| 16A. " | Loop | 1620KC | AM | Tuning gang fully open. | Across voice coil | A34 | Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. |
| 17A. " | Loop | 535KC | " | Tuning gang fully closed. | " | A36 | Adjust for max. output. Repeat steps 16A & 17A until no further improvement can be made. |
| 18. " | " | 1400KC | " | Tune for max. output. | " | A35 | Adjust for maximum output. |



MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA, 17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F



MOTOROLA MODELS 17F11, 17K8A, BA, 17K9A, BA,
17K10, M, 17K11A, BA, 17T5A, 17T5C, 17T6BF, F

CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION