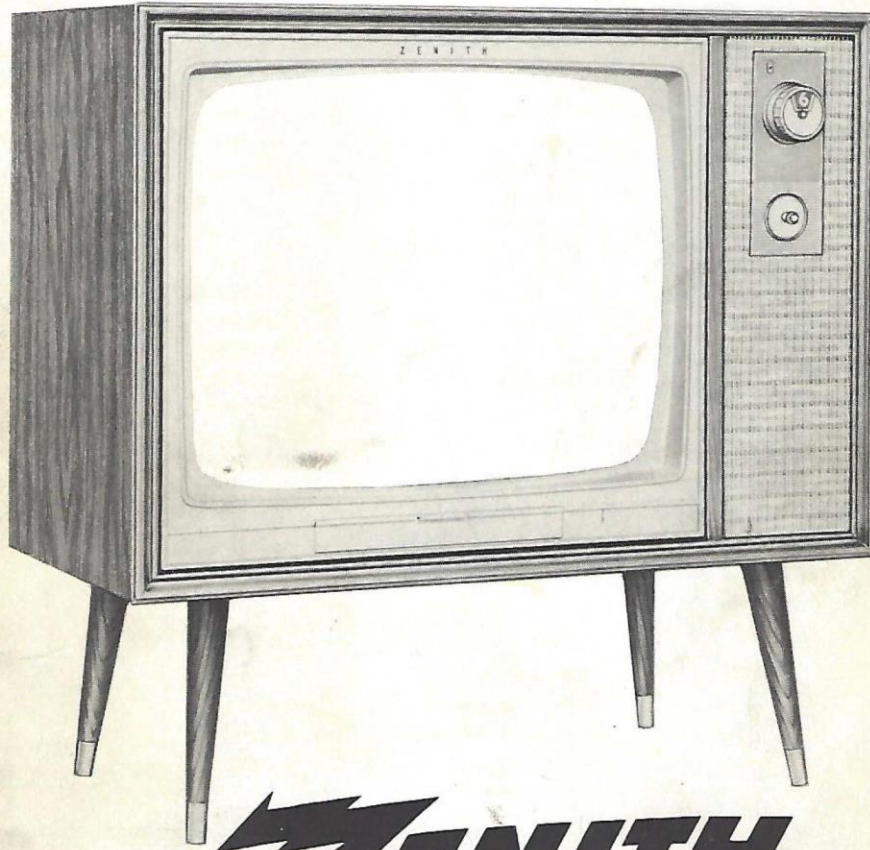


SERVICE MANUAL



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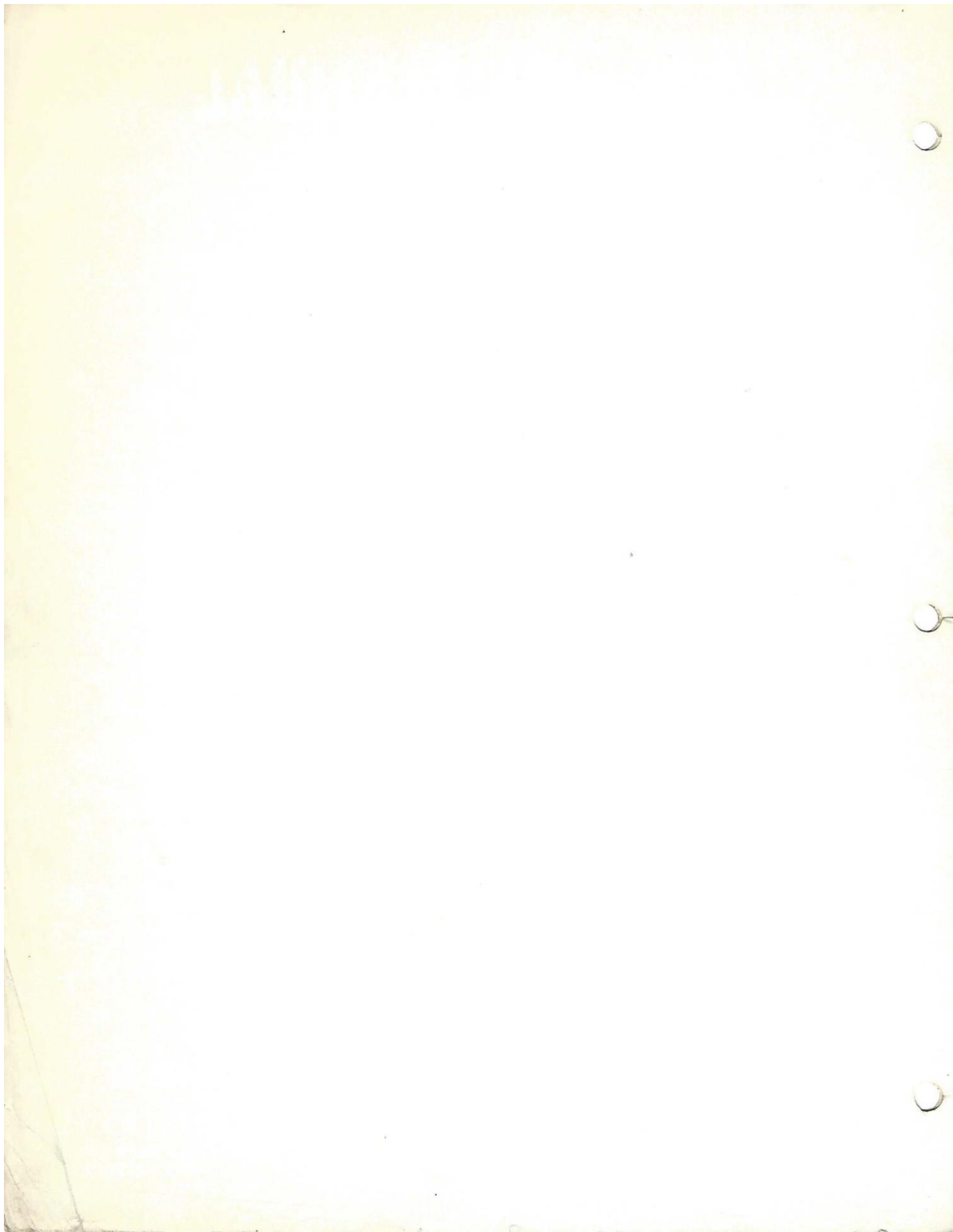
CHASSIS 16E20, 16E21, 16E21Q, 16D21, 16D21Q, 16E25, 16E25Q, 16D25,
16D25Q, 16E27, 16E27Q, 18E20, 18E20Q, 18D20 AND 18D20Q

ZENITH RADIO CORPORATION

6001 DICKENS AVENUE CHICAGO 39, ILLINOIS

TV-24

PRICE 60 CENTS



MODEL AND CHASSIS INFORMATION

MODEL	TYPE	CHASSIS	TUNER	PICTURE TUBE
E1416G	Table	16E20	Bandswitch	14AUP4
E1801B,L	Table	16E20	Bandswitch	17CRP4
E1803C,L	Table	16E20	Bandswitch	17CRP4
E1810B	Table	16E25 or 16D25	Bandswitch	17DQP4
E1811C	Table	16E25 or 16D25	Bandswitch	17DQP4
E1812L	Table	16E25 or 16D25	Target Turret (small)	17DQP4
E1814P	Table	16E25 or 16D25	Target Turret (small)	17DQP4
E2010C	Table	16E25Q or 16D25Q	Target Turret (small)	17DQP4
E2015L	Table	16E25Q or 16D25Q	Target Turret (small)	17DQP4
E2301R,Y	Table	16E21 or 16D21	Bandswitch	21CXP4
E2302R	Table	16E21 or 16D21	Bandswitch	21CXP4
E2315L,Y	Table	16E21	Bandswitch	21CXP4
E2316E,R,W	Table	16E21	Target Turret	21CXP4
E2345E,R,W	Console	16E21 or 16D21	Target Turret	21CXP4
E2346E,R,W	Console	16E21	Target Turret	21CXP4
E2347E,L,M,R,W	Console	16E21 or 16D21	Target Turret	21CXP4
E2348E,R,W	Console	16E21 or 16D21	Target Turret	21CXP4
E2350H,M,R,W	Console	16E21 or 16D21	Target Turret	21CXP4
E2384H,R	Console/Phono	16E21/5B28	Target Turret	21CXP4
E2458E,R,W	Console	16E27	Bull's Eye Turret	21CXP4
E2460R,M	Console	16E27	Bull's Eye Turret	21CXP4
E2747E,R,M,W	Console	18E20 or 18D20	Target Turret	23JP4
E2755E,R,W	Console	18E20 or 18D20	Target Turret	23JP4
E2764W	Console	18E20 or 18D20	Target Turret	23JP4
E3000R,Y	Table	16E21Q	Target Turret	21CXP4
E3002E,R,W	Table	16E21Q or 16D21Q	Target Turret	21CXP4
E3004E,R,W	Console	16E21Q	Target Turret	21CXP4
E3005E,M,R,W	Console	16E21Q or 16D21Q	Target Turret	21CXP4
E3006E,R,W,Y	Console	16E21Q	Target Turret	21CXP4
E3007E,R,M,W	Console	16E21Q or 16D21Q	Target Turret	21CXP4
E3008R	Console	16E21Q	Target Turret	21CXP4
E3009E,W,Y	Console	16E21Q	Target Turret	21CXP4
E3012H,R	Console	16E27Q	Bull's Eye Turret	21CXP4
E3013H	Console	16E27Q	Bull's Eye Turret	21CXP4
E3014W	Console	16E27Q	Bull's Eye Turret	21CXP4
E3015L	Console	16E27Q	Bull's Eye Turret	21CXP4
E3354E,R,W	Console	18E20Q or 18D20Q	Target Turret	23JP4
E3356E,H,R,W	Console	18E20Q or 18D20Q	Target Turret	23JP4

Suffix "Q" following the chassis number identifies a receiver equipped with Zenith's Space Command remote control. REFER TO THE SPACE COMMAND SERVICE MANUAL FOR INFORMATION NOT INCLUDED IN THIS MANUAL.

Suffix "U" is added to the chassis and model number if the receiver is factory equipped with a UHF continuous tuner.

Refer to Service Manual TV-23 for service information on "D" chassis not included in this manual.

SPECIFICATIONS

POWER SUPPLY
117 Volts, 60 Cycles AC

CHASSIS	WATTS
16D21 & U	215
16D21Q	295*
16D25 & U	210
16D25Q	290*
16E21 & U	215
16E21Q	295
16E21/5B28	320
16E25 & U	210
16E25Q	290*
16E27	240
16E27Q	320*
18E20 & U	245
18E20Q	325*

*With Space Command motor drive in operation.

TV AUDIO OUTPUT

All Chassis Except 16E27

1.6 Watts Undistorted
2.8 Watts Maximum

(5B28 dual channel amplifier, 5 watts undistorted output each channel.)

16E27 Chassis

2.8 Watts Undistorted
5.0 Watts Maximum

ADJUSTMENTS

BANDSWITCH TUNER

Oscillator adjustment screws are accessible from the front of the cabinet. The knobs and trim plate for each model is slightly different and to gain accessibility to the adjustment screws refer to the instruction booklet shipped with the receiver.

Set the fine tuning control to a position where the index hole in the drive cam is directly over the small hole just below the channel 13 adjustment screw (see Fig. 1). Without further adjustment of the fine tuning control, insert a 68-33 alignment tool into the tuner and adjust each operating channel to resonance starting with the highest channel and following each lower channel in sequence. (Series inductance circuit.) Be certain not to move the fine tuning shaft when switching channels. It will be noted that turning the oscillator screw to one side of resonance results in a faded, washed-out picture with the spacings between the wedge lines "fogged" and turning in the opposite direction causes the spaces between the lines to clear up,

however, going beyond this point will cause the picture to take on a "wormy" appearance from sound getting into the picture. Correct adjustment is obtained by adjusting for a "wormy" picture and then back down the adjustment screw slightly until the picture clears up. (If more than one turn of the screw is required to tune in a channel or if adjustment cannot be made, it may be necessary to touch up the channel 13 screw to bring channels 7 thru 13 within range and 6 for channels 2 thru 6.)

TARGET TUNER

Oscillator adjustment screws are accessible from the front of the cabinet. The knobs and trim plate for each model is slightly different and to gain accessibility to the adjustment screws refer to the instruction booklet shipped with the receiver.

1. To adjust oscillator slugs, turn the fine tuning control to the center of its mechanical range.

2. Without further adjustment of the control, insert a 68-33 alignment wrench (68-35 for the 175-148 tuner) through the hole provided in the front of the tuner and adjust each operating channel to resonance. It will be noted that turning the adjustment screw to one side of resonance results in a faded, washed-out picture with the spacings between the wedge lines "fogged" and turning the screw in the opposite direction causes the spaces to clear up, however, going beyond this point will cause the picture to take on a "wormy" appearance from sound getting into the picture. Correct adjustment is obtained by adjusting for a "wormy" picture and then back down the adjustment screw slightly, until the picture clears up.

BULLS EYE TUNER

To adjust the receiver for bull's eye tuning, set the fine tuning control to its approximate center position. Without further adjustment of this control insert a 68-31 alignment wrench through the hole provided at the rear of the tuner and adjust each operating channel to resonance. It will be noted that turning the adjustment screw to one side of resonance results in a faded, washed-out picture with the spacings between the wedge lines "fogged" and turning the screw in the opposite direction causes the spaces between the lines to clear up, however, going beyond this point will cause the picture to take on a "wormy" appearance from sound getting into the picture. Correct adjustment is obtained by adjusting for a "wormy" picture and then back down the adjustment screw slightly until the picture clears up.

AGC ADJUSTMENT

Tune in a strong TV signal and slowly turn the delay control until a point is reached where the picture distorts and buzz is heard in the sound. The control should then be backed down from this position and set at a point comfortably below the level of intercarrier buzz, picture distortion and improper sync. This setting will correspond to approximately 3 V. peak to peak output from the video detector.

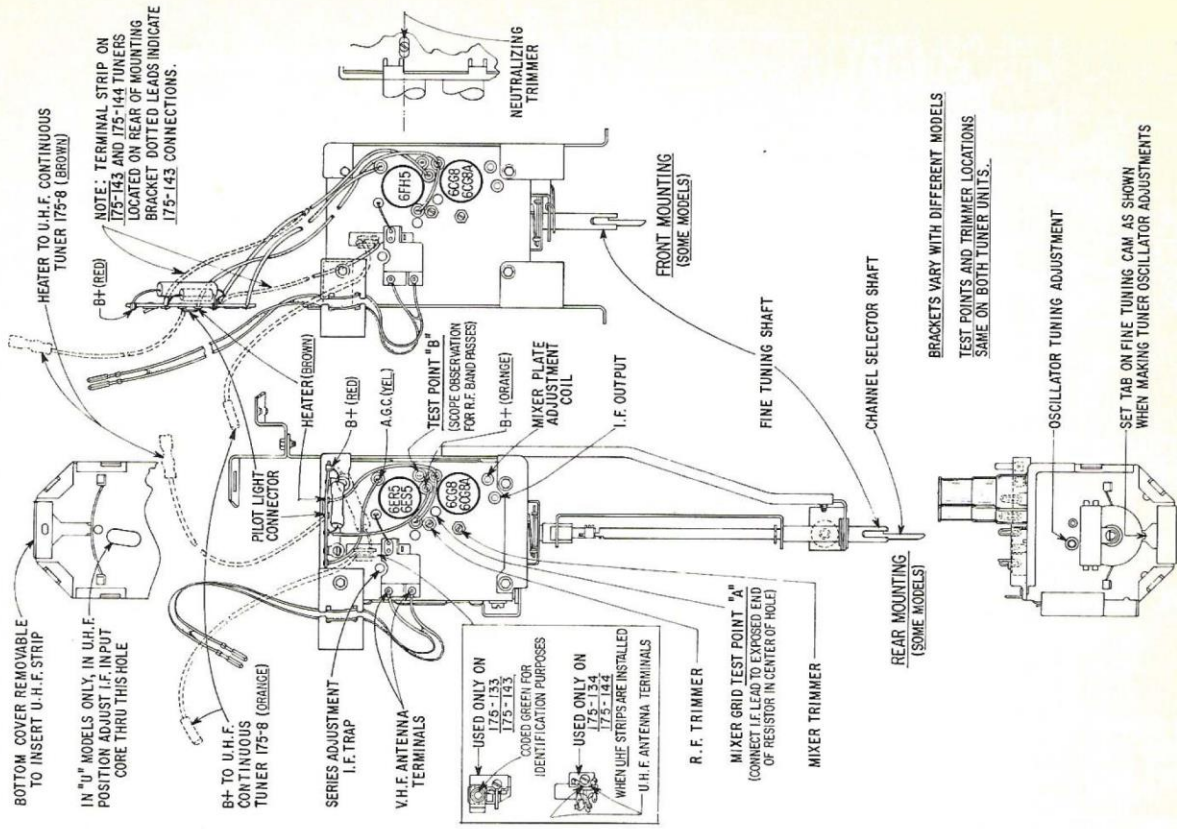


Fig. 2 Tube and Trimmer Layout, Target Tuner

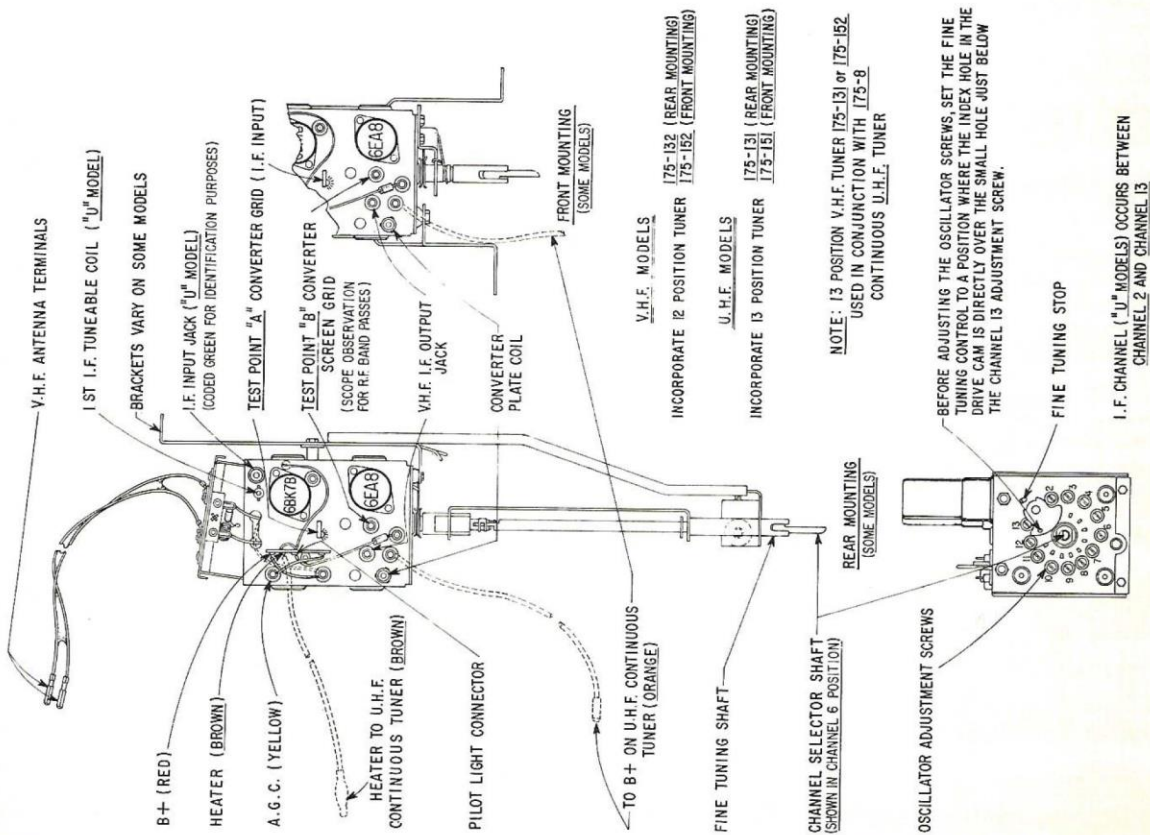


Fig. 1 Tube and Trimmer Layout, Bandswitch Tuner

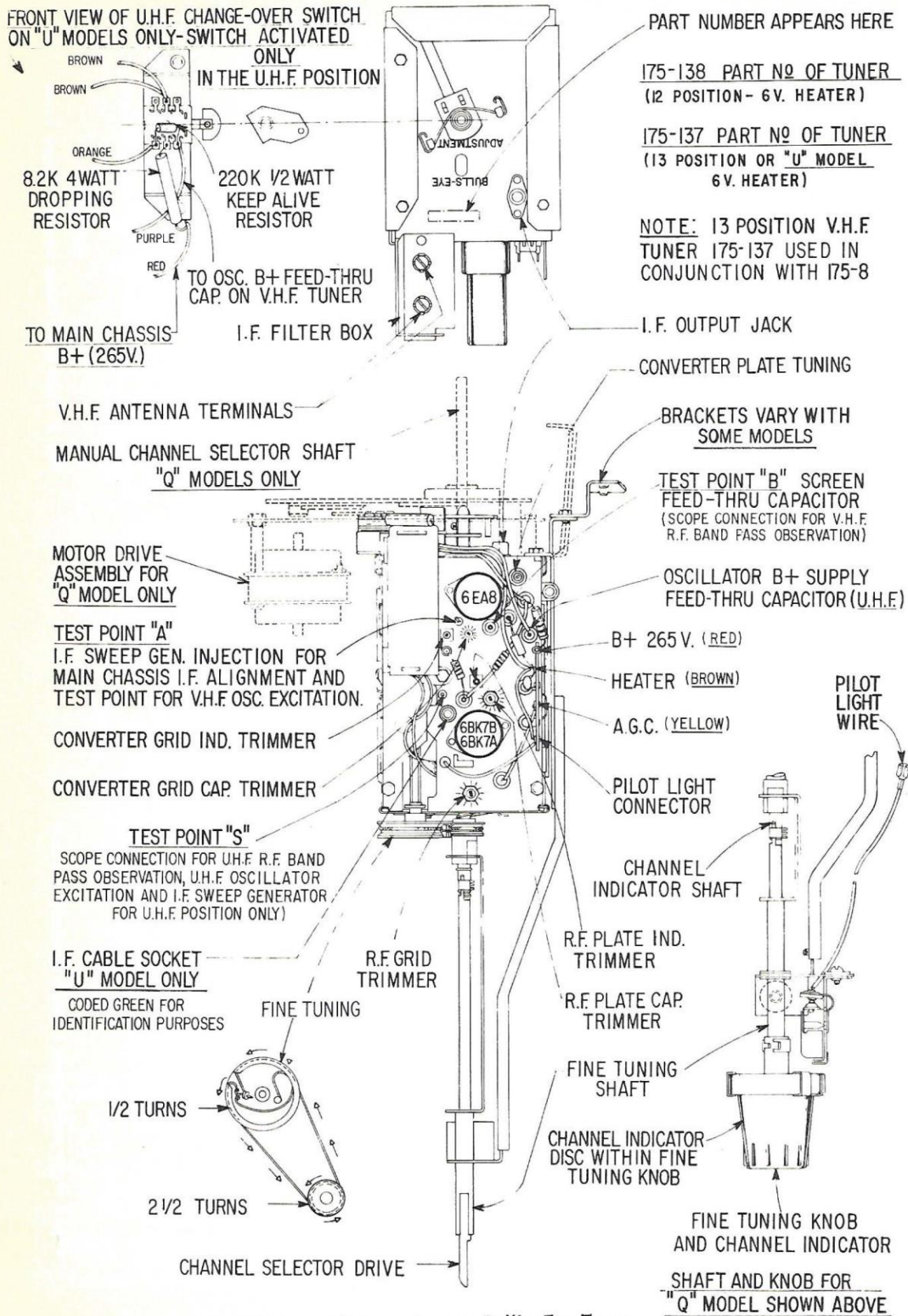


Fig. 3 Tube and Trimmer Layout, Bull's Eye Tuner

CAUTION: Misadjustment of the AGC control can result in a washed-out picture, distorted picture, buzz in the sound or complete loss of picture and sound.

FRINGE LOCK ADJUSTMENT

The fringe lock adjustment is made to obtain best possible synchronization under weak and noisy signal conditions. To adjust, first check the AGC adjustment and proceed as follows:

1. Turn the fringe lock control fully clockwise and then back it off approximately 1/4 turn. Adjust the vertical and horizontal hold controls and check operation of the receiver to see that it syncs normally when the turret is switched from channel to channel.
2. If the picture jitters or shows evidence of delay, tearing, split phase, etc., back down the fringe lock control further, a few degrees at a time, each time readjusting the hold controls and switching from channel to channel until normal sync action is obtained. It will be found that under normal signal conditions, the correct adjustment will be near the counterclockwise position of the control.
3. In fringe and noisy areas, the best adjustment will be found at or near the maximum clockwise position of the control; however, do not automatically turn the fringe lock fully clockwise in fringe areas. Follow the procedure outlined. In areas where both local and fringe signals are received, a compromise setting should be made for best overall performance.

AFC ADJUSTMENT

The horizontal hold control is equipped with a stop which limits knob rotation to approximately 270 degrees. To adjust the AFC, remove the knob and turn the shaft to a position where it is virtually impossible to disrupt horizontal synchronization when switching from channel to channel. After adjustment, install the knob with its pointer centered between the stops.

WIDTH ADJUSTMENT

To obtain proper width, slide and turn the metal sleeve along the neck of the picture tube. A setting will be found which results in proper width and linearity. In the 16D25, 18E20 and 18D20 chassis the width control is at the rear of the chassis or on the side of the high voltage compartment shield. Adjustment is made by sliding the iron core slug in or out of the width coil.

CENTERING ADJUSTMENT

The centering assembly is built into the yoke housing. This assembly is made of two magnetic rings which can be rotated by means of tabs. Centering is accomplished by gradually rotating the tabs with respect to each other, then rotating both tabs simultaneously until the picture is centered.

CORRECTOR MAGNET ADJUSTMENT

Two corrector magnets are used to obtain straight, sharply focused sweep lines across the face of the picture tube. The magnets are mounted on the deflection coil mounting brackets and can be moved in and out or up and down by bending the flexible arms which support them. Adjustment has been made at the factory and should not require readjustment unless accidentally bent out of position. If this occurs, proceed as follows:

1. With the vertical and horizontal size controls reduce the size of the picture to a point where the four corners and sides of the picture are visible. (In some receivers it may not be possible to reduce the picture size sufficiently to see all sides and it may be necessary to shift the picture with the centering control to view one side at a time.)
2. Bend the corrector magnet arms until the corners become right angles and the top of the raster is parallel with the bottom and the left side is parallel with the right side. After adjustment, the picture should be restored to normal size.

NOTE: Misadjustment of the corrector magnets may cause pincushioning, barreling, keystoneing, poor linearity, etc.

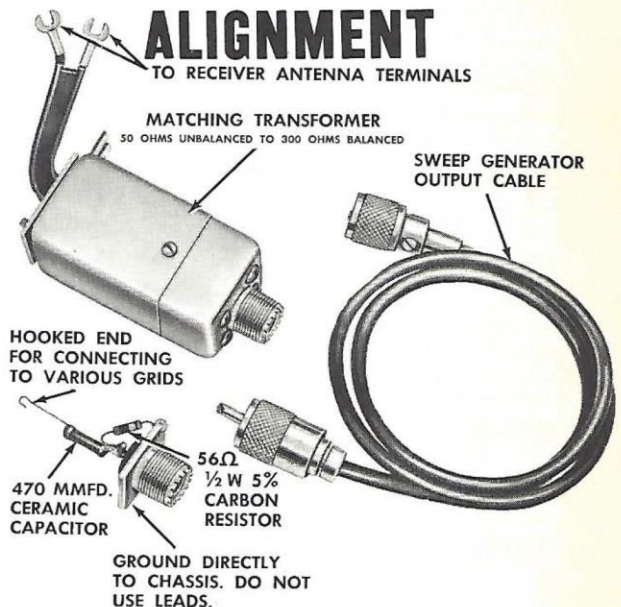


Fig. 4 IF-RF Alignment Fixtures

A suitable VHF and UHF sweep generator in conjunction with an accurate marker must be used for alignment work. It is extremely important to terminate the output cable properly and to check if the attenuator is reactive. If the attenuator is reactive or if the output cable is improperly terminated, correct alignment cannot be made since the degree of attenuation may change the shape as well as the amplitude of the response curve. The attenuator should only vary the amplitude and not the shape of the response curve.

SOUND ALIGNMENT

Proper alignment of the 4.5 Mc intercarrier sound channel can only be made if the signal to the receiver antenna terminals is reduced to a level below the limiting point of the 6BN6 Gated Beam Detector. This level can be easily identified by the "hiss" which then accompanies the sound. Various methods may be used to reduce the signal level; however, a step attenuator is recommended for most satisfactory results.

1. Connect the step attenuator between the antenna and the receiver antenna terminals.
2. Tune in a tone modulated TV signal. Adjust the step attenuator until the signal is reduced to a level where a "hiss" is heard in the sound.
3. Adjust the sound take-off coil (top and bottom cores), intercarrier transformer, quadrature coil and buzz control for the best quality sound and minimum buzz. It must be remembered that any of these adjustments may cause the "hiss" to disappear and further reduction of the signal will be necessary to prevent the "hiss" from disappearing during alignment.

VIDEO IF ALIGNMENT

Refer to the schematic and the tube and trimmer layout for reference test points.

1. Slowly turn the channel selector until the tuner rotor is made to rest between two channels. This will prevent an erroneous response.
2. Connect an oscilloscope through a 10,000 ohm isolation resistor to terminal "C" (detector). Connect the ground lead to chassis.
3. Feed the sweep generator through the special terminating network shown in Fig. 4 to point "G" (Pin 1 of the 3rd IF). Adjust generator to obtain a response similar to Fig. 5 with a detector output of 3 volts peak to peak. Do not exceed this level during any of the adjustments.
4. Set the marker generator to 45.75 Mc and alternately adjust the top and bottom cores of the 4th IF for maximum gain and symmetry with the 45.75 Mc marker positioned as shown in Fig. 5. The 39.75 Mc

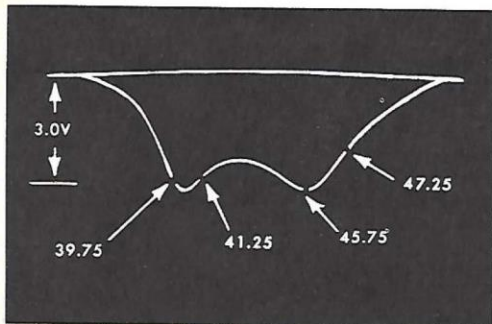


Fig. 5 4th IF Response

marker can fall within ± 0.5 Mc of the specified frequency. If the correct response cannot be obtained, check the position of the cores to see that they are not butted but are entering their respective windings from the opposite ends of the coils.

5. Connect the sweep generator to terminal "A" (mixer grid, see Fig. 1, 2 or 3 depending on tuner). Connect terminal "F" to chassis and connect a jumper between terminal "E" and the junction of the 56 (68 in 16E20 and 16E25) and 1500 ohm resistors in the cathode of the 1st IF. Adjust sweep to obtain a response similar to Fig. 8. Switch oscilloscope to 10 X gain to "blow up" the traps.

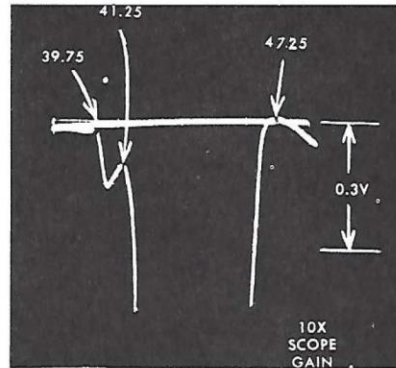


Fig. 6 Expanded View of Traps

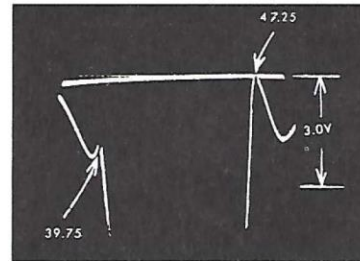


Fig. 7 Further Expansion of Fig. 6 for Detail View of the 39.75 and 47.25 Mc Traps.

6. Refer to Fig. 6 and 7 and adjust the 39.75 Mc 41.25 Mc. and the two 47.25 Mc traps for minimum marker amplitude. (16E20 and 16E25 chassis have one 47.25 Mc trap.) It can be seen that high oscilloscope gain must be used to "run" the response off the screen in order to view a "blow up" of the traps.

7. Disconnect the jumper between "E" and the 56 and 1500 ohm cathode resistors. Connect this jumper between "E" and chassis. Adjust sweep generator for 3 volts peak to peak output. Alternately adjust the 2nd, 3rd, 1st IF and the converter plate coil until an overall response similar to Fig. 8 (Fig. 9 for 16E20 and 16E25 chassis) is obtained. It will be found that the 2nd IF affects the low side (42.75 Mc) and the 3rd IF the high side of the response. If the receiver is equipped with a target tuner, adjust the IF trap L1 (when used) for minimum response at 45.5 Mc. After alignment remove all jumpers and check operation.

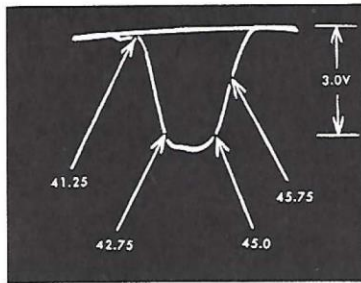


Fig. 8 Overall IF Response

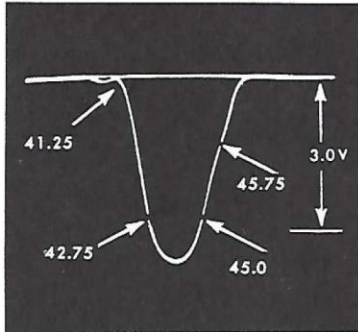


Fig. 9 Overall IF Response 16E20 and 16E25 Chassis Only

BANDSWITCH TUNER ALIGNMENT

The tuner has been carefully aligned at the factory and normally does not require readjustment in the field. If a component is replaced in a tuned circuit and alignment becomes necessary, proceed as follows:

1. Connect the negative lead of a 2 volt bias battery to the AGC feed through (see Fig. 1) and the positive lead to chassis.
2. Connect a calibrated oscilloscope to the converter screen grid feed through capacitor. Use a 10K isolation resistor.
3. Use a matching transformer (50 to 300 ohms) similar to Fig. 4 and feed the output from the sweep generator to the antenna terminals of the tuner.
4. Turn the channel selector to channel 13 and adjust the sweep generator to obtain a response

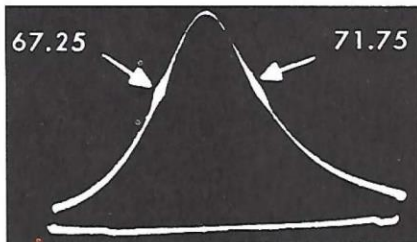


Fig. 10 Channel 4 RF Response. This is Representative of Other channels.

curve similar to Fig. 10. Spread or squeeze the channel 13 RF plate inductance (center wafer of switch) until the 211.25 Mc video and 215.75 Mc sound markers fall symmetrically on the response curve. A stamped inductance is used in the antenna circuit on channels 7, 8, 9, 10, 11, 12 and 13. No adjustment is required.

5. Repeat step 4 on channels 12, 11, 10, 9, 8 and 7. In addition, on channels 6, 5, 4, 3 and 2, it will be necessary to adjust the antenna circuit for maximum amplitude of the response curve. This is done by spreading or squeezing each coil if necessary. (It may be desirable to insert a 68-14 tuning wand into the field of the coil to determine if adjustment is necessary. An increase in amplitude with brass indicates too much inductance necessitating spreading of the turns. An increase in amplitude with iron indicates too little inductance and the coil must be squeezed. At resonance, a reduction in amplitude will be noted with both iron and brass.)

6. Install the tuner in the receiver. Connect a calibrated signal generator to the antenna terminals. (A TV signal can be used when available.) Switch selector to channel 13 and turn the fine tuning control until the index hole in the fine tuning cam is directly over the small hole just below the channel 13 oscillator adjustment screw. Adjust channel 13 to resonance. Adjust each successive lower channel to resonance.

NOTE: In the 13 position tuner, adjust the UHF IF core (Fig. 1) to obtain the most satisfactory picture with least noise on a UHF station.

ALIGNMENT PROCEDURE TARGET TUNER

1. Connect negative lead of a 0 to 15 volts bias supply to the AGC terminal (Fig. 2) and the positive lead to chassis.
2. Connect the oscilloscope through a 10K isolation resistor between terminal "B" and chassis.
3. Feed the sweep generator to the antenna terminals. Use a matching transformer similar to Fig. 4.
4. Switch receiver and sweep generator to channel 10. Set bias for -2.5 volts. Do not exceed the 0.1 volt peak to peak output during alignment (Fig. 11).
5. Adjust the RF plate and mixer grid trimmers for a pattern similar to Fig. 11. Spread or squeeze the antenna coil for maximum amplitude of the response curve.

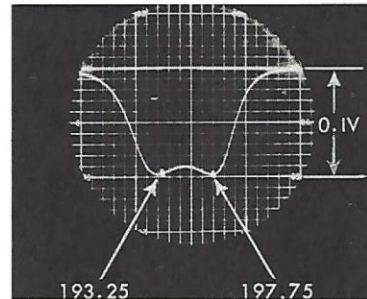


Fig. 11 Channel 10 RF Response, Target Tuner

6. To neutralize the RF amplifier, increase the bias for minimum amplitude of the response curve. Without changing the bias, adjust the neutralizing trimmer also to obtain minimum response (channel 10 only).

NOTE: There is some interaction between the plate and neutralizing trimmers and it may be necessary to repeat steps 4, 5 and 6 until correct results are obtained.

7. Switch the receiver and sweep generator to channel 2. Spread or squeeze the antenna coil for maximum gain. Similarly adjust the other channels. (It may be desirable to insert a 68-14 tuning wand into the field of the coil to determine if adjustment is necessary. An increase in amplitude with brass indicates too much inductance necessitating spreading of the turns. An increase in amplitude with iron indicates too little inductance and the coil must be squeezed. At resonance, a reduction in amplitude will be noted with both iron and brass.)

8. The converter plate coil and the series IF trap are adjusted as part of the IF alignment (see step 7, video IF alignment). The IF trap is factory adjusted for minimum response at 45.5 Mc. If necessary, it can be adjusted in the field for minimum interference from police and other interfering signals within the pass band of the IF amplifier. Misadjustment of this trap can cause a "suck-out" on channel 2.

NOTE: In the 13 position tuner, adjust the IF input core (Fig. 2) to obtain the most satisfactory picture with least noise while receiving a UHF signal. (Use 68-30 wrench.)

BULLS EYE TURRET TUNER ALIGNMENT

The turret tuner has been accurately aligned at the factory and normally does not require readjustment in the field unless tampered with. If alignment is necessary, proceed as follows:

1. Connect the negative lead of a 2.5 volts bias supply to the AGC feed through capacitor (Fig. 3) and the positive lead to chassis.
2. Connect a calibrated oscilloscope to the feed through terminal "B" through a 10K isolation resistor. This terminal is the screen of the 6EA8 mixer.
3. Use a matching transformer (50 to 300 ohms) similar to Fig. 4 and feed the output from the sweep generator to the antenna terminals of the receiver.
4. Turn the channel selector to channel 4 and adjust the sweep generator until a response curve somewhat similar to Fig. 12 is obtained.
5. Refer to Fig. 3 and adjust the converter grid capacitor, the RF plate capacitor and the RF grid capacitor until a response curve similar to Fig. 12 is obtained.

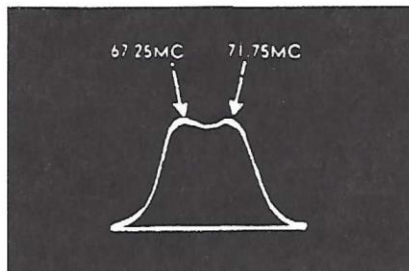


Fig. 12 Channel 4 RF Response, Bull's Eye Tuner

6. Turn the channel selector to channel 11 and adjust the sweep generator until a response somewhat similar to Fig. 13 is obtained. Adjust the RF plate and converter grid inductance trimmers to obtain symmetry.

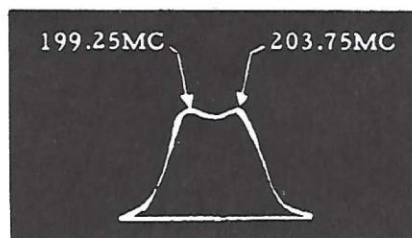


Fig. 13 Channel 11 Response, Bull's Eye Tuner

7. Repeat steps 5 and 6 until the best overall symmetry is obtained.

ALIGNMENT PROCEDURE UHF CONTINUOUS TUNER

Adjustments in the field should not be attempted unless adequate test equipment is available. If alignment becomes necessary, use a sweep generator, marker and oscilloscope.

MECHANICAL ALIGNMENT

The tuner and drive assembly is mechanically aligned when the tuner plates are positioned 2 degrees from full mesh at the same time the indicator dial is on channel 14 and the drive mechanism is against the low frequency stop.

Some models are equipped with a planetary drive and the tuning action is checked with the drive lug centered in the elongated slot of the drive gear. If the drive slips when the receiver is tuned, tighten all three screws on the planetary a quarter turn at a time until proper action is obtained. Care must be exercised not to tighten the screws beyond the non-slip point as rough tuning action will be experienced with possible damage to the planetary.

UHF OSCILLATOR ALIGNMENT

1. Pull the IF cable from the UHF tuner socket.

2. Connect a VTVM (1.5 V. scale) between chassis and test point "X".
3. Feed an unmodulated signal 473.5 Mc (center of channel 14) to the antenna terminals of the UHF tuner.
4. Set the tuning dial to channel 14 and adjust the low frequency trimmer for maximum indication on the VTVM. Use just enough signal from the generator to obtain an indication.
5. Set the dial to channel 83 and the generator to 887.5 Mc (center of channel 83) and adjust the high frequency trimmer for maximum indication on the meter.

OSCILLATOR INJECTION

The oscillator pickup loop (L5) is the short wire inside the oscillator gang section to which the crystal is connected. Injection is varied by moving this lead in or out of the oscillator section. To check oscillator injection proceed as follows:

1. Connect a 5600 ohm 1/2W resistor to test point "X". Connect the opposite end of the 5600 ohm resistor through a 0-50 micro-amp. meter to ground. Set tuning gang near mid-range.
2. Remove B+ from the UHF oscillator and check reading. Apply B+ and note reading. The difference between the two readings should be between 10 and 40 micro-amps for proper injection.

RF ALIGNMENT

When adjusting the mixer and antenna sections of the tuner, switch the oscilloscope alternately between test points "X" and "B" (on the 13 position VHF tuner). Correct alignment is indicated when the response at "X" coincides as nearly as possible with the response at "B". Use a SPDT switch to switch the oscilloscope and a 10K isolation resistor at each test point. (As a convenience, an electronic switch can be used to display both response curves simultaneously on the oscilloscope screen as in Fig. 14.) After provisions have been made for switching the oscilloscope, proceed as follows:

1. Through a suitable matching network (transformer or pad to obtain balanced 300 ohm output from the sweep generator) connect the generator to the antenna terminals of the UHF tuner.
2. Connect the negative lead of a 1 volt bias supply to the AGC feed through capacitor (yellow lead on the 13 position tuner) and the positive lead to chassis.
3. Set the UHF tuner dial, sweep generator and marker on channel 83. Switch the oscilloscope to "X" and adjust the sweep and marker to obtain a response similar to Fig. 14. Alternately switch the oscilloscope between "X" and "B" and note if the response at "X" falls at approximately the same position on the screen as the response at "B".

If the response at "X" does not coincide with the response at "B", bend the mixer and/or antenna tabs until the response is similar to Fig. 14 and centered about the response at "B".

4. After channel 83 has been aligned, each consecutive lower channel (to 14) should be checked for correct alignment. If misalignment is noted on any intermediate lower channel, correction is made by bending the antenna and/or mixer rotor plates (each rotor equally at the point of engagement with the stator) until proper alignment is obtained. It may be necessary to repeat the operation for optimum results.

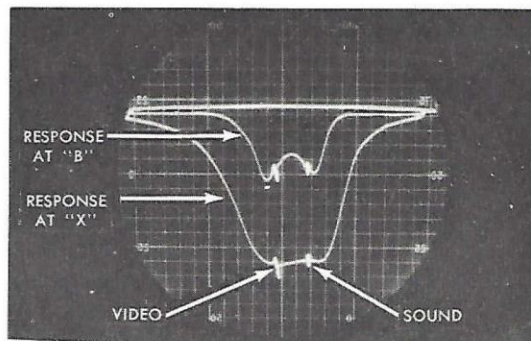


Fig. 14 UHF Response Curve

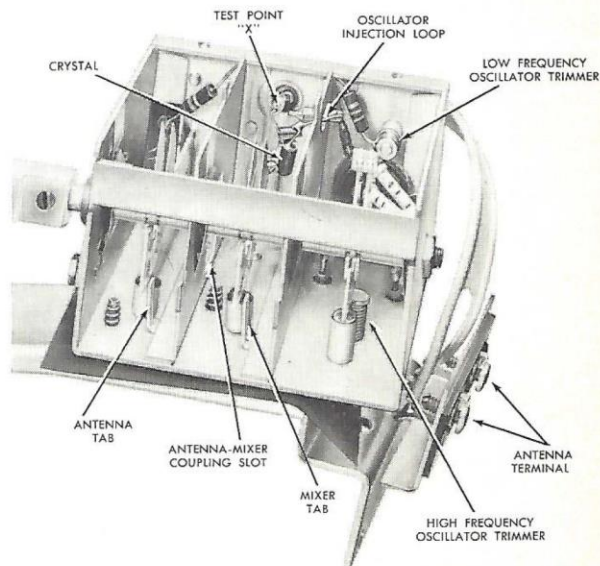


Fig. 15 175-8 UHF Continuous Tuner

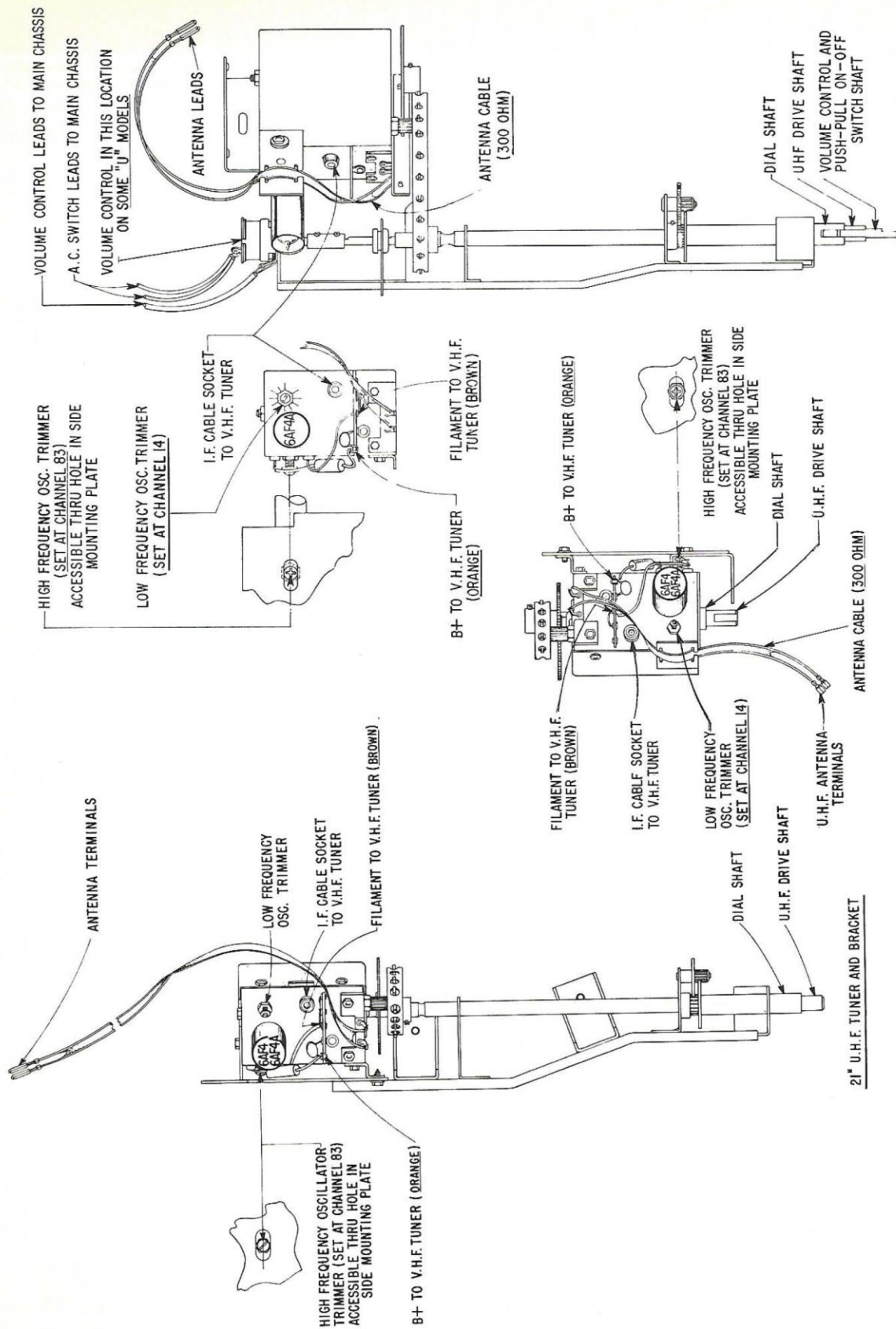


Fig. 16 Tube and Trimmer and Mechanical Layout 175-8 UHF Continuous Tuner

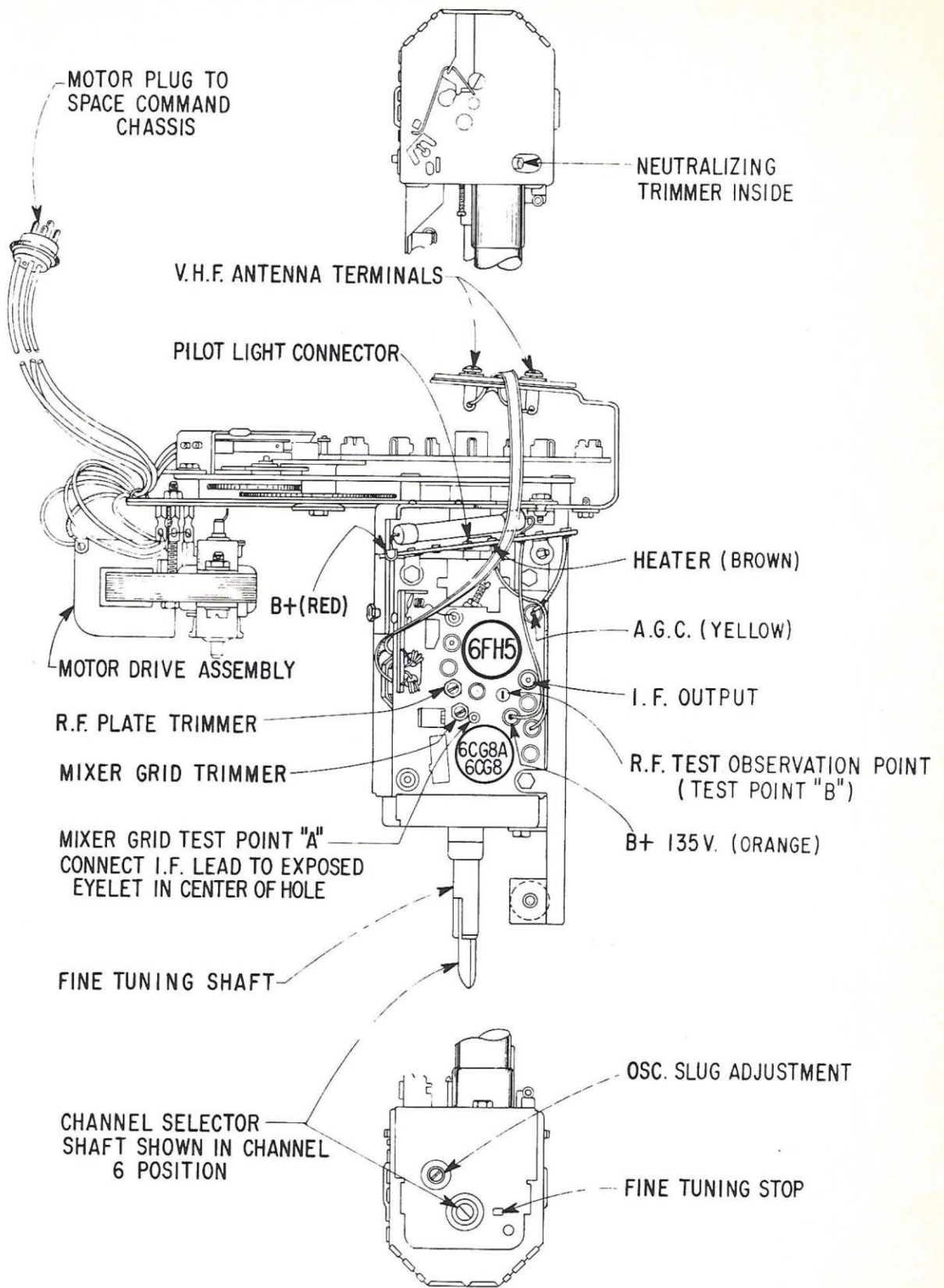


Fig. 17 Tube and Trimmer Layout 175-148 Target Tuner

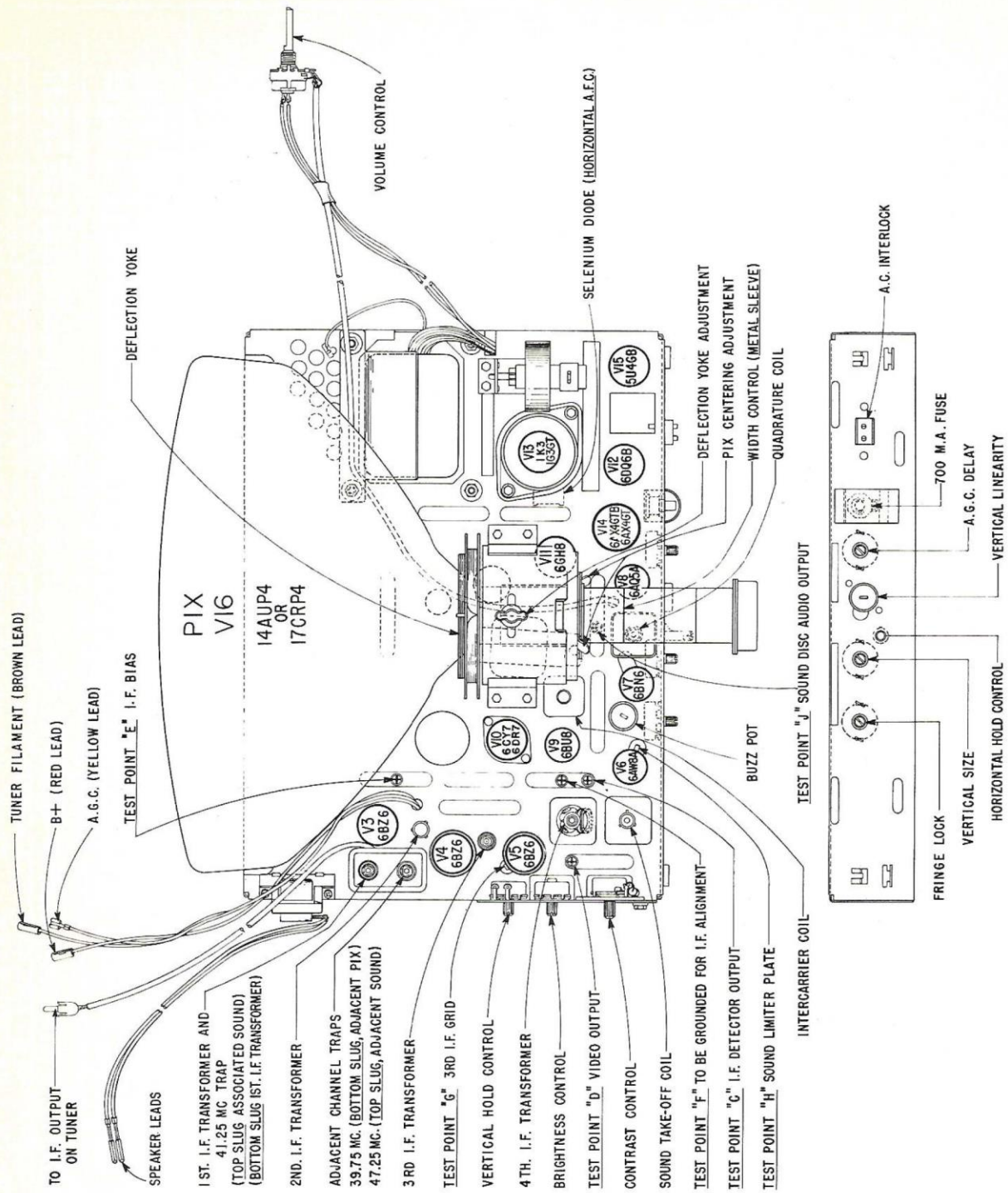


Fig. 18 Tube and Trimmer Layout 16E20 Chassis

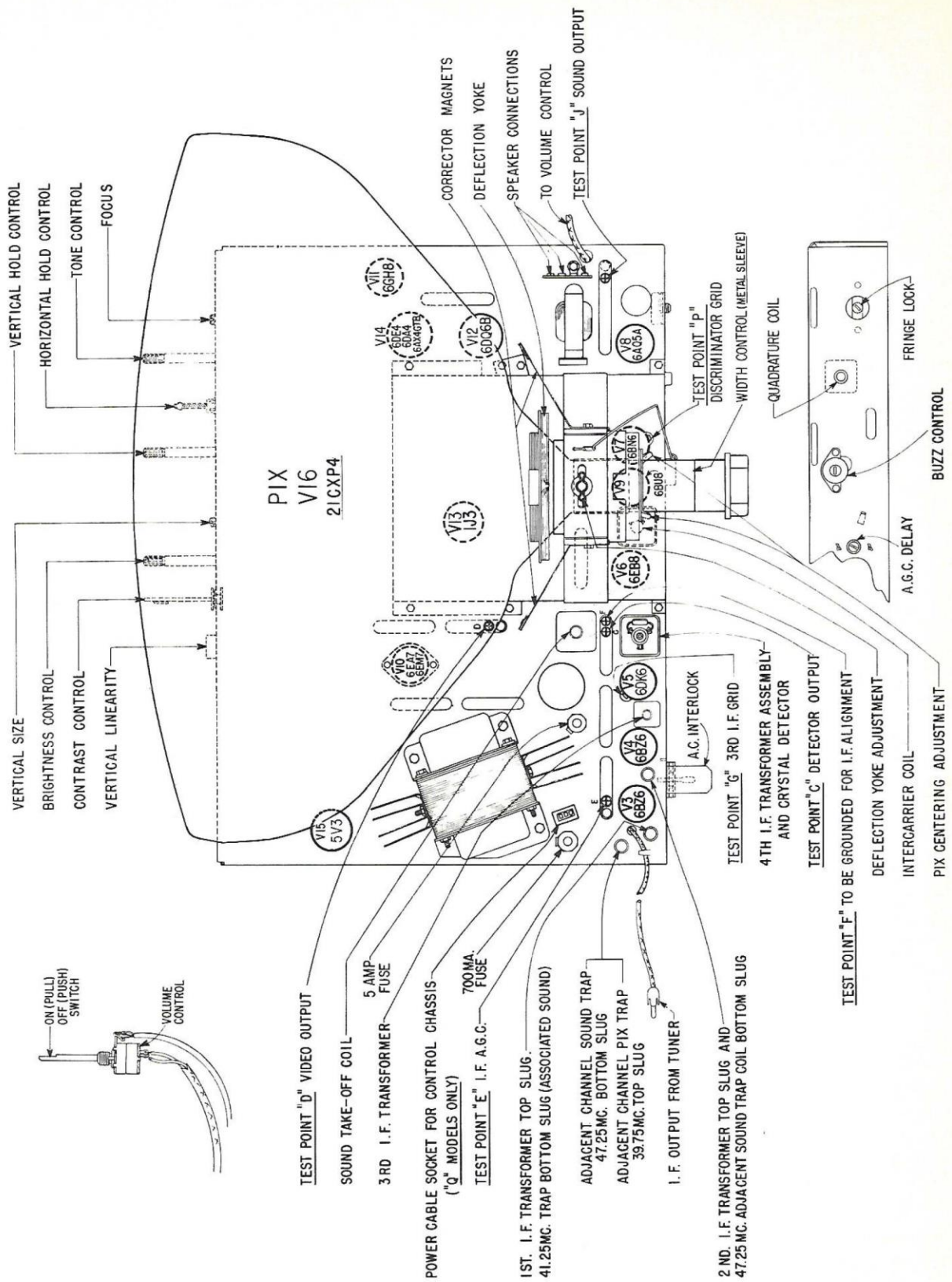


Fig. 19 Tube and Trimmer Layout 16E21, 16E21Q, 16D21 and 16D21Q Chassis

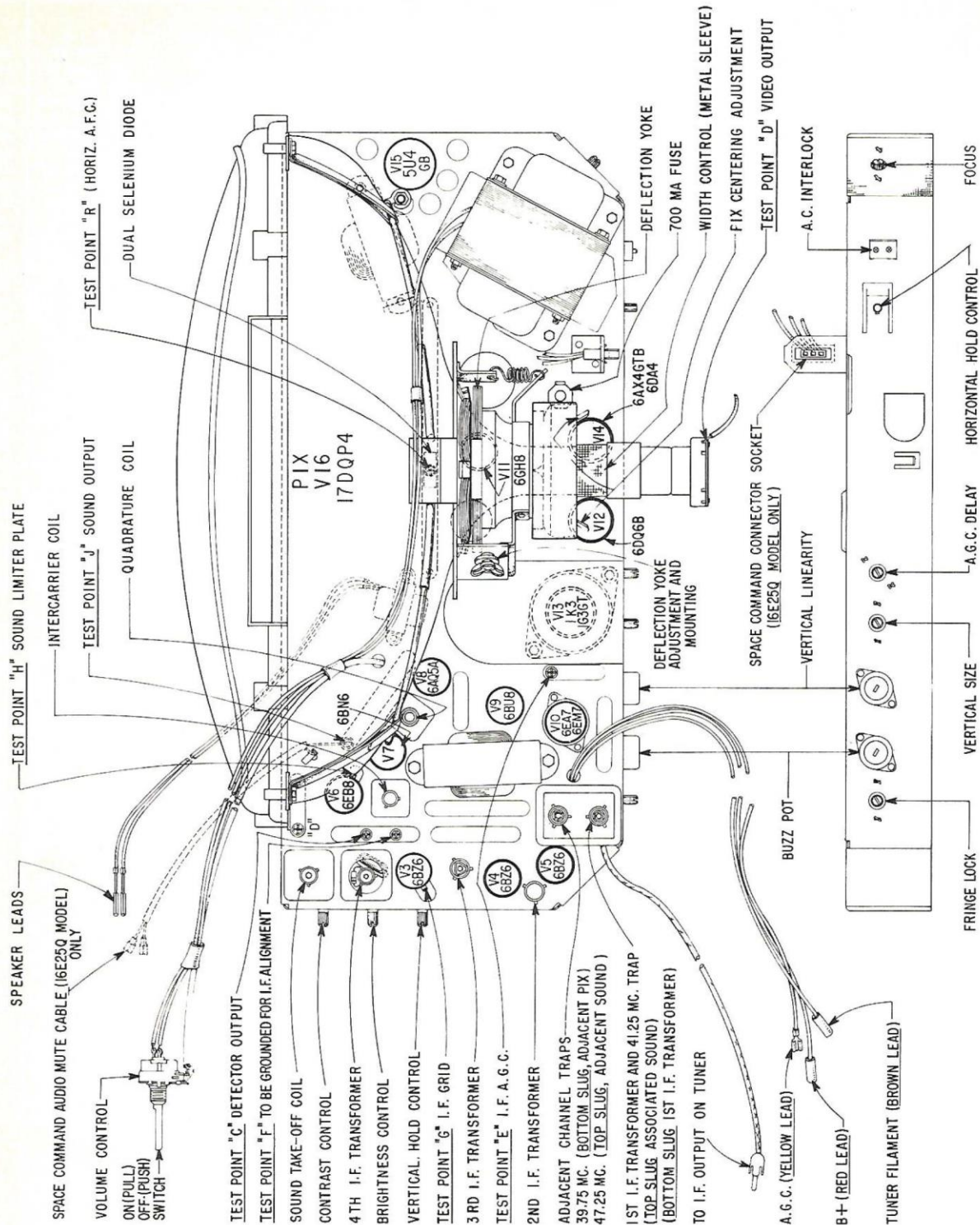
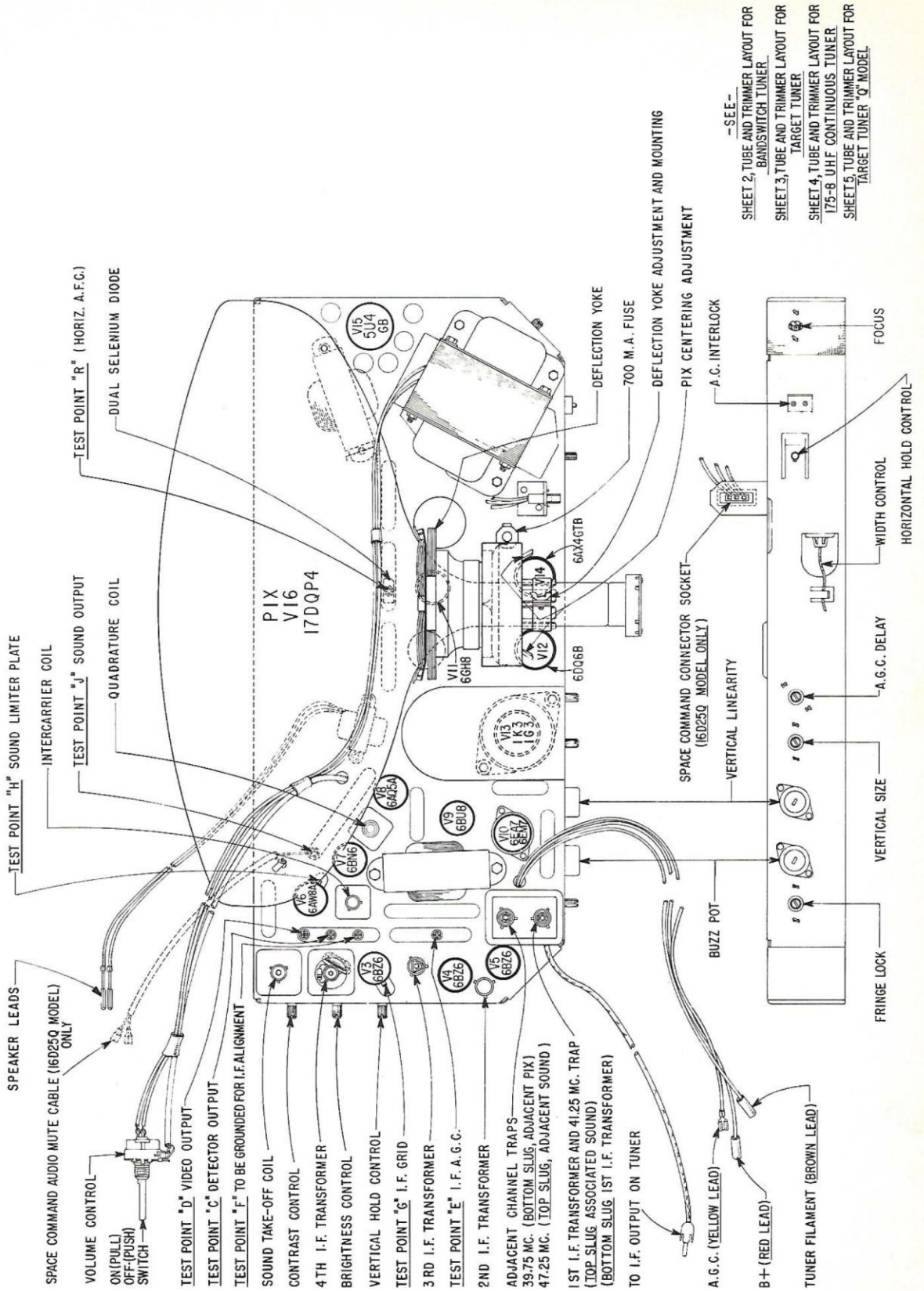


Fig. 20 Tube and Trimmer Layout 16E25 and 16E25Q Chassis



-SEE-
 SHEET 2, TUBE AND TRIMMER LAYOUT FOR
 BANDSWITCH TUNER
 SHEET 3, TUBE AND TRIMMER LAYOUT FOR
 TARGET TUNER
 SHEET 4, TUBE AND TRIMMER LAYOUT FOR
 175-8 UHF CONTINUOUS TUNER
 SHEET 5, TUBE AND TRIMMER LAYOUT FOR
 TARGET TUNER Q MODEL

Fig. 21 Tube and Trimmer Layout 16D25 and 16D25Q Chassis

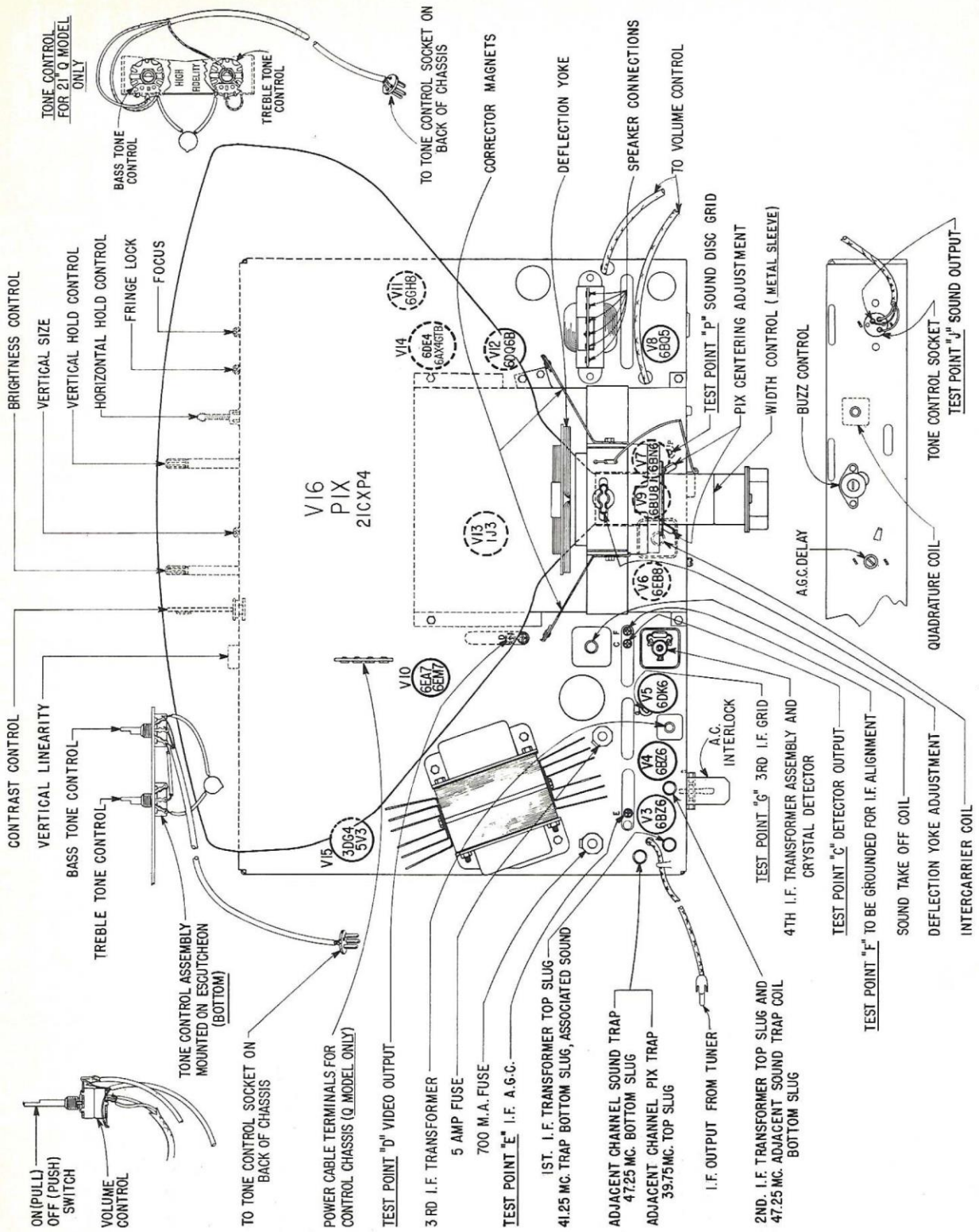


Fig. 22 Tube and Trimmer Layout 16E27 and 16E27Q Chassis

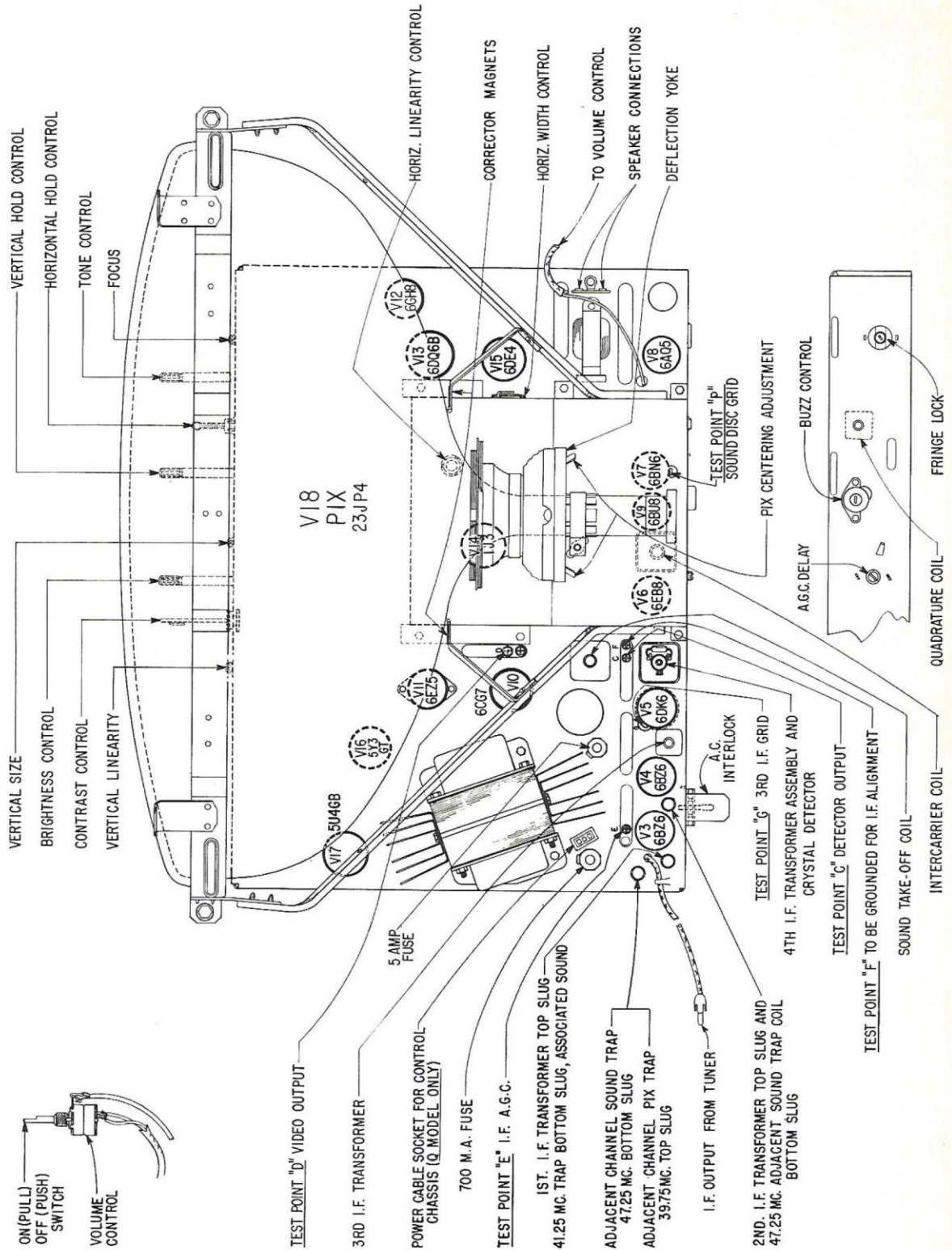
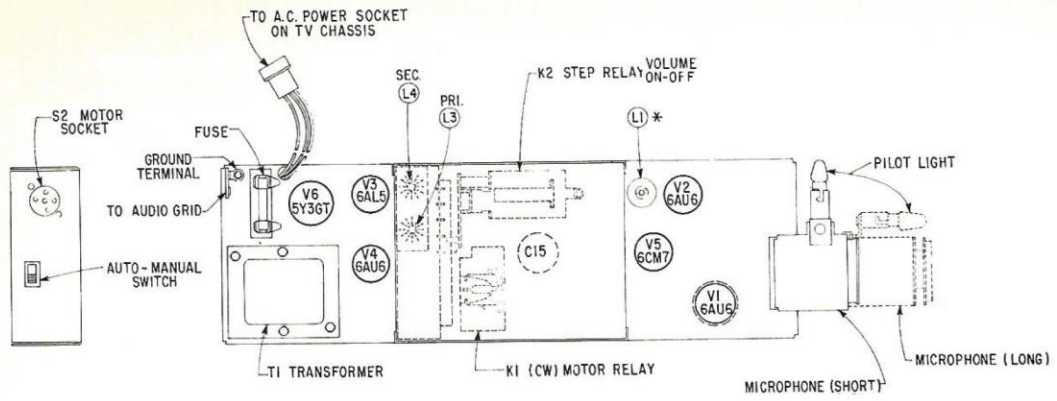
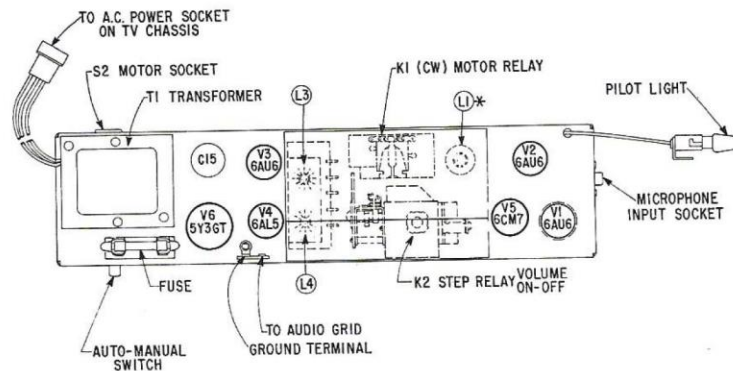


Fig. 23 Tube and Trimmer Layout 18E20, 18E20Q, 18D20 and 18D20Q Chassis



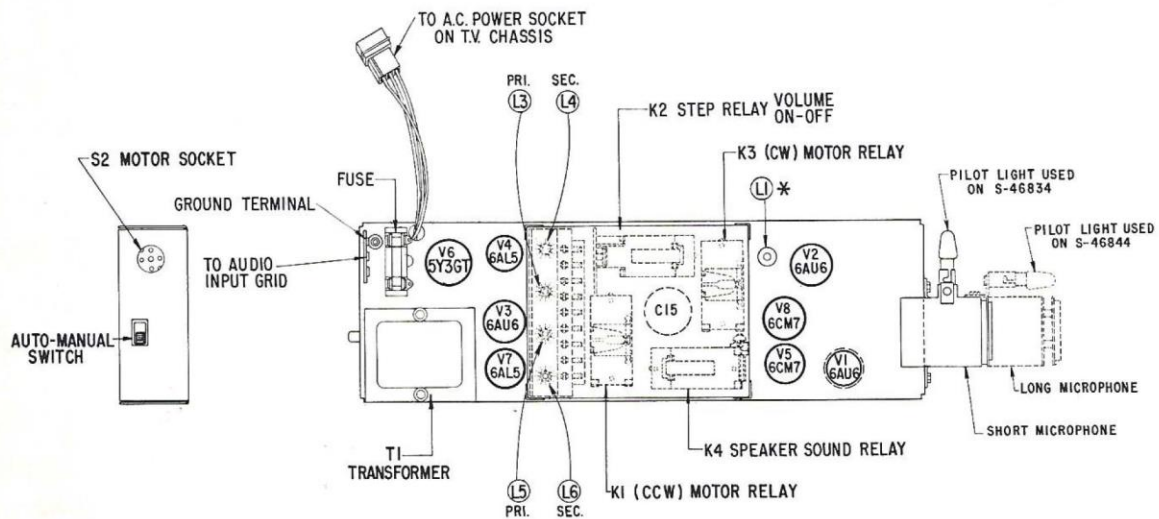
* NOTE: IMPORTANT
FACTORY SET DO NOT ADJUST.

Fig. 24 Tube and Trimmer Layout S-48573 Space Command Control Chassis



* NOTE: IMPORTANT
FACTORY SET DO NOT ADJUST.

Fig. 25 Tube and Trimmer Layout S-48583 Space Command Control Chassis



* NOTE: IMPORTANT
FACTORY SET DO NOT ADJUST.

Fig. 26 Tube and Trimmer Layout S-48434 Space Command Control Chassis

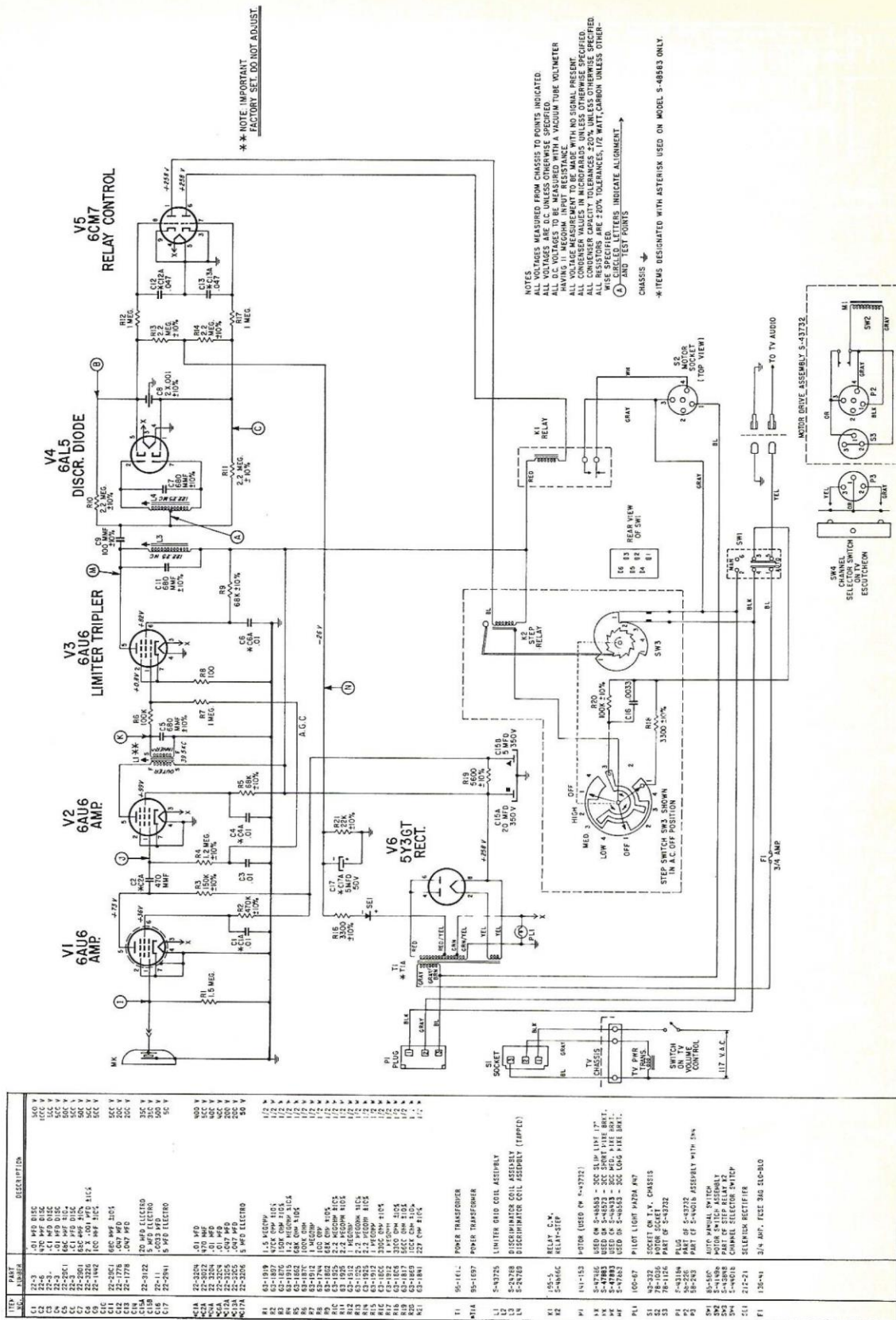


Fig. 27 Schematic Diagram S-48563, S-48573, S-48583 and S-48433 Space Command '300' Remote Control Chassis

ITEM	PART	DESCRIPTION	QTY
1	1-4	1-4 600V 512K	1000
2	1-4	1-4 600V 512K	1000
3	1-4	1-4 600V 512K	1000
4	1-4	1-4 600V 512K	1000
5	1-4	1-4 600V 512K	1000
6	1-4	1-4 600V 512K	1000
7	1-4	1-4 600V 512K	1000
8	1-4	1-4 600V 512K	1000
9	1-4	1-4 600V 512K	1000
10	1-4	1-4 600V 512K	1000
11	1-4	1-4 600V 512K	1000
12	1-4	1-4 600V 512K	1000
13	1-4	1-4 600V 512K	1000
14	1-4	1-4 600V 512K	1000
15	1-4	1-4 600V 512K	1000
16	1-4	1-4 600V 512K	1000
17	1-4	1-4 600V 512K	1000
18	1-4	1-4 600V 512K	1000
19	1-4	1-4 600V 512K	1000
20	1-4	1-4 600V 512K	1000
21	1-4	1-4 600V 512K	1000
22	1-4	1-4 600V 512K	1000
23	1-4	1-4 600V 512K	1000
24	1-4	1-4 600V 512K	1000
25	1-4	1-4 600V 512K	1000
26	1-4	1-4 600V 512K	1000
27	1-4	1-4 600V 512K	1000
28	1-4	1-4 600V 512K	1000
29	1-4	1-4 600V 512K	1000
30	1-4	1-4 600V 512K	1000
31	1-4	1-4 600V 512K	1000
32	1-4	1-4 600V 512K	1000
33	1-4	1-4 600V 512K	1000
34	1-4	1-4 600V 512K	1000
35	1-4	1-4 600V 512K	1000
36	1-4	1-4 600V 512K	1000
37	1-4	1-4 600V 512K	1000
38	1-4	1-4 600V 512K	1000
39	1-4	1-4 600V 512K	1000
40	1-4	1-4 600V 512K	1000
41	1-4	1-4 600V 512K	1000
42	1-4	1-4 600V 512K	1000
43	1-4	1-4 600V 512K	1000
44	1-4	1-4 600V 512K	1000
45	1-4	1-4 600V 512K	1000
46	1-4	1-4 600V 512K	1000
47	1-4	1-4 600V 512K	1000
48	1-4	1-4 600V 512K	1000
49	1-4	1-4 600V 512K	1000
50	1-4	1-4 600V 512K	1000
51	1-4	1-4 600V 512K	1000
52	1-4	1-4 600V 512K	1000
53	1-4	1-4 600V 512K	1000
54	1-4	1-4 600V 512K	1000
55	1-4	1-4 600V 512K	1000
56	1-4	1-4 600V 512K	1000
57	1-4	1-4 600V 512K	1000
58	1-4	1-4 600V 512K	1000
59	1-4	1-4 600V 512K	1000
60	1-4	1-4 600V 512K	1000
61	1-4	1-4 600V 512K	1000
62	1-4	1-4 600V 512K	1000
63	1-4	1-4 600V 512K	1000
64	1-4	1-4 600V 512K	1000
65	1-4	1-4 600V 512K	1000
66	1-4	1-4 600V 512K	1000
67	1-4	1-4 600V 512K	1000
68	1-4	1-4 600V 512K	1000
69	1-4	1-4 600V 512K	1000
70	1-4	1-4 600V 512K	1000
71	1-4	1-4 600V 512K	1000
72	1-4	1-4 600V 512K	1000
73	1-4	1-4 600V 512K	1000
74	1-4	1-4 600V 512K	1000
75	1-4	1-4 600V 512K	1000
76	1-4	1-4 600V 512K	1000
77	1-4	1-4 600V 512K	1000
78	1-4	1-4 600V 512K	1000
79	1-4	1-4 600V 512K	1000
80	1-4	1-4 600V 512K	1000
81	1-4	1-4 600V 512K	1000
82	1-4	1-4 600V 512K	1000
83	1-4	1-4 600V 512K	1000
84	1-4	1-4 600V 512K	1000
85	1-4	1-4 600V 512K	1000
86	1-4	1-4 600V 512K	1000
87	1-4	1-4 600V 512K	1000
88	1-4	1-4 600V 512K	1000
89	1-4	1-4 600V 512K	1000
90	1-4	1-4 600V 512K	1000
91	1-4	1-4 600V 512K	1000
92	1-4	1-4 600V 512K	1000
93	1-4	1-4 600V 512K	1000
94	1-4	1-4 600V 512K	1000
95	1-4	1-4 600V 512K	1000
96	1-4	1-4 600V 512K	1000
97	1-4	1-4 600V 512K	1000
98	1-4	1-4 600V 512K	1000
99	1-4	1-4 600V 512K	1000
100	1-4	1-4 600V 512K	1000

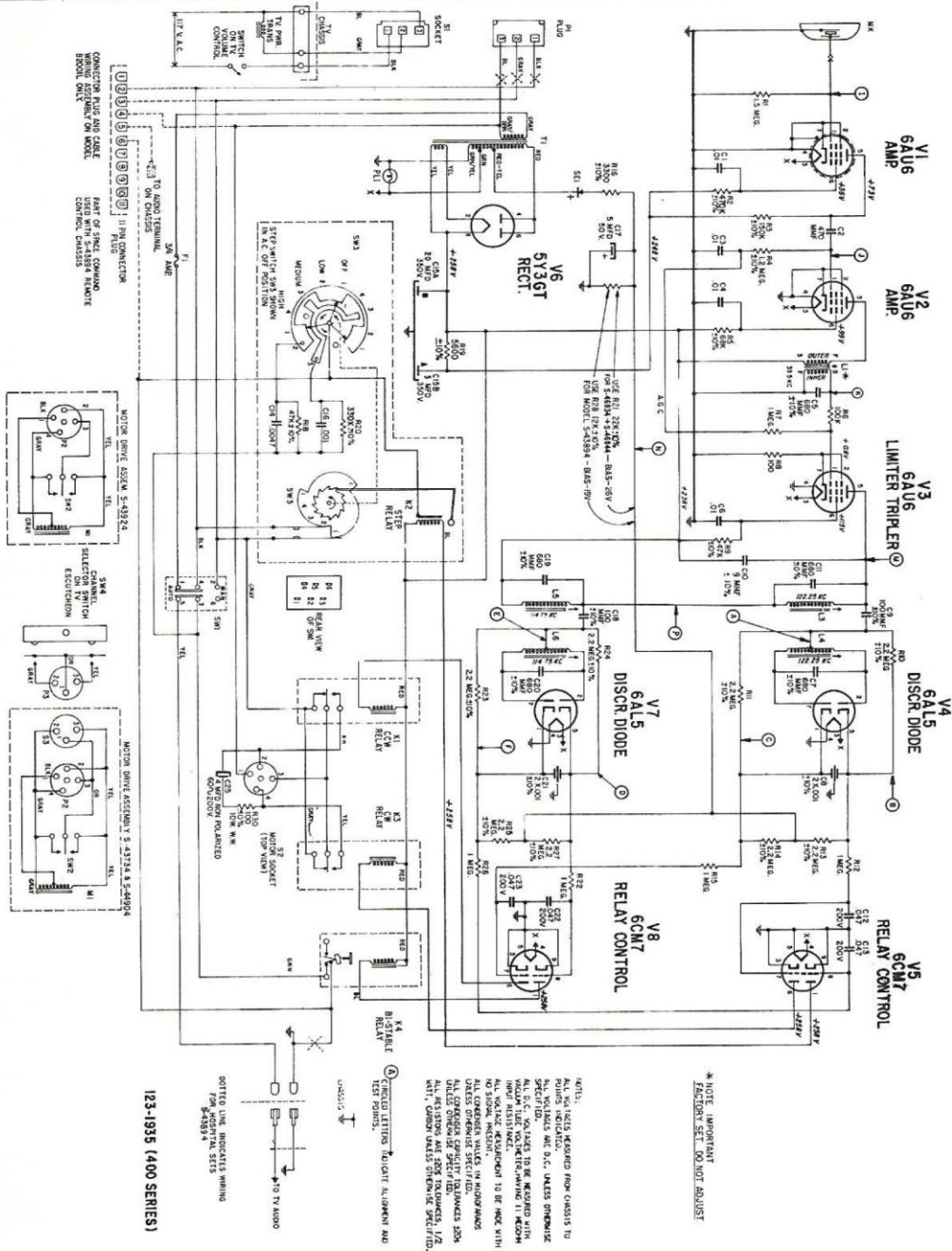


Fig. 28 Schematic Diagram S-48434 Space Command "400" Remote Control Chassis

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
C1	22-2102	75 MF DISC	500 Y
C2	22-141	.0015 MF DISC	500 Y
C3	22-18	100 MF DISC	500 Y
C4	22-2102	75 MF DISC	200 Y
C5	22-2102	75 MF DISC	500 Y
C6	22-112	1000 MF DISC	500 Y
C7	22-9	100 MF DISC	500 Y
C8	22-2101	100 MF DISC	200 Y
C9			
C10	22-2796	100 MF DISC	400 Y
C11	22-2102	75 MF DISC	500 Y
C12	22-18	100 MF DISC	500 Y
C13	22-18	100 MF DISC	500 Y
C14	22-2102	75 MF DISC	500 Y
C15	22-2102	75 MF DISC	500 Y
C16	22-1104	40 MF ELECTROLYTIC	20 Y
C17	22-2796	100 MF DISC	400 Y
C18	22-2209	500 MF	500 Y
C19	22-118	1000 MF DISC	500 Y
C20	22-18	100 MF DISC	500 Y
C21	22-1104	40 MF ELECTROLYTIC	500 Y
C22	22-2792	1 MF	600 Y
C23	22-2792	1 MF	600 Y
C24	22-2792	1 MF	600 Y
C25	22-2209	500 MF	500 Y
C26	22-2102	75 MF DISC	500 Y
C27	22-2102	75 MF DISC	500 Y
C28	22-2796	100 MF DISC	30 Y
C29	22-2796	100 MF DISC	30 Y
C30	22-1104	40 MF ELECTROLYTIC	400 Y
C31	22-2102	75 MF DISC	400 Y
C32	22-1104	40 MF ELECTROLYTIC	300 Y
C33	22-1104	40 MF ELECTROLYTIC	25 Y
R1	100K	100K	100K
R2	100K	100K	100K
R3	100K	100K	100K
R4	100K	100K	100K
R5	100K	100K	100K
R6	100K	100K	100K
R7	100K	100K	100K
R8	100K	100K	100K
R9	100K	100K	100K
R10	100K	100K	100K
R11	100K	100K	100K
R12	100K	100K	100K
R13	100K	100K	100K
R14	100K	100K	100K
R15	100K	100K	100K
R16	100K	100K	100K
R17	100K	100K	100K
R18	100K	100K	100K
R19	100K	100K	100K
R20	100K	100K	100K
R21	100K	100K	100K
R22	100K	100K	100K
R23	100K	100K	100K
R24	100K	100K	100K
R25	100K	100K	100K
R26	100K	100K	100K
R27	100K	100K	100K
R28	100K	100K	100K
R29	100K	100K	100K
R30	100K	100K	100K
R31	100K	100K	100K
R32	100K	100K	100K
R33	100K	100K	100K
R34	100K	100K	100K
R35	100K	100K	100K
R36	100K	100K	100K
R37	100K	100K	100K
R38	100K	100K	100K
R39	100K	100K	100K
R40	100K	100K	100K
R41	100K	100K	100K
R42	100K	100K	100K
R43	100K	100K	100K
R44	100K	100K	100K
R45	100K	100K	100K
R46	100K	100K	100K
R47	100K	100K	100K
R48	100K	100K	100K
R49	100K	100K	100K
R50	100K	100K	100K
R51	100K	100K	100K
R52	100K	100K	100K
R53	100K	100K	100K
R54	100K	100K	100K
R55	100K	100K	100K
R56	100K	100K	100K
R57	100K	100K	100K
R58	100K	100K	100K
R59	100K	100K	100K
R60	100K	100K	100K
R61	100K	100K	100K
R62	100K	100K	100K
R63	100K	100K	100K
R64	100K	100K	100K
R65	100K	100K	100K
R66	100K	100K	100K
R67	100K	100K	100K
R68	100K	100K	100K
R69	100K	100K	100K
R70	100K	100K	100K
R71	100K	100K	100K
R72	100K	100K	100K
R73	100K	100K	100K
R74	100K	100K	100K
R75	100K	100K	100K
R76	100K	100K	100K
R77	100K	100K	100K
R78	100K	100K	100K
R79	100K	100K	100K
R80	100K	100K	100K
R81	100K	100K	100K
R82	100K	100K	100K
R83	100K	100K	100K
R84	100K	100K	100K
R85	100K	100K	100K
R86	100K	100K	100K
R87	100K	100K	100K
R88	100K	100K	100K
R89	100K	100K	100K
R90	100K	100K	100K
R91	100K	100K	100K
R92	100K	100K	100K
R93	100K	100K	100K
R94	100K	100K	100K
R95	100K	100K	100K
R96	100K	100K	100K
R97	100K	100K	100K
R98	100K	100K	100K
R99	100K	100K	100K
R100	100K	100K	100K

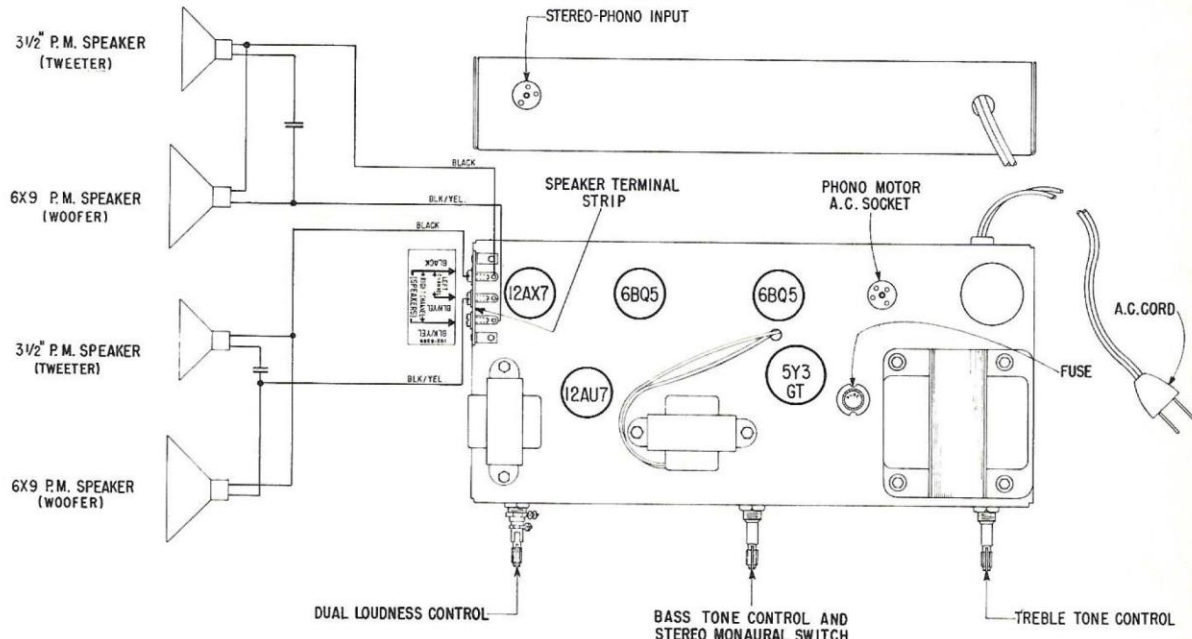
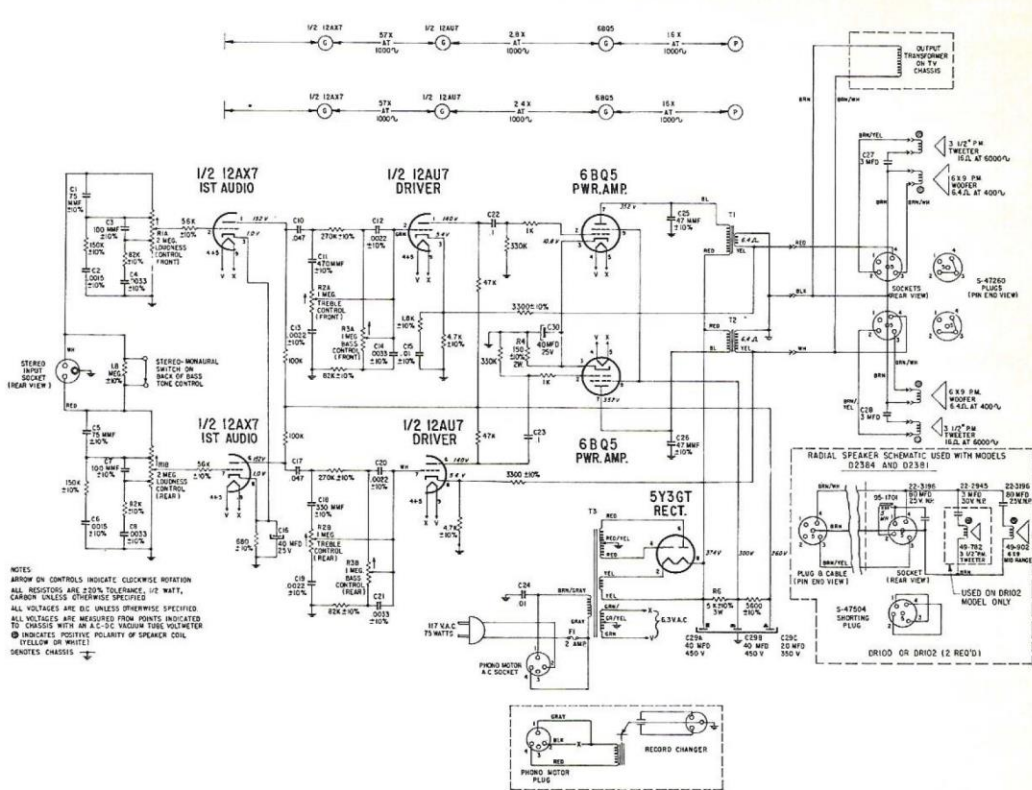


Fig. 29 Schematic Diagram and Tube and Trimmer Layout 5B28 Audio Amplifier Used in Models E2384H & R

NUMERICAL PARTS LIST

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
16E20 CHASSIS PARTS					
12-1955	Chassis mtg. bracket (4 used)	.15	22-3126	.15 mfd. molded - 200 V.	.35
12-2707	Yoke mtg. bracket - extension (2 used)	.20	or 22-2147	.15 mfd. molded - 200 V.	.35
12-2708	Horizontal oscillator coil mtg. bracket	.15	22-3139	20 mmf. ceramic disc - 500 V.	.25
12-2735	Output transformer mtg. bracket	.10	22-3217	470 mmf. ceramic disc - 1 K V.	.25
19-238	Coil mtg. clip (1 used on S-42872 & 1 part of ea. S-41883, S-42874, S-42875, S-45539, S-47968 & S-48046)	.10	22-3221	5.5 mmf. ceramic disc - 500 V.	.25
19-271	Capacitor retaining clip (used on 22-2147 only)	.10	22-3226	2 x .001 mfd. ceramic disc - 500 V. (3 used)	.40
19-277	Coil shield mtg. clip (2 part of ea. S-22338, S-24738, S-42875, S-42876 & S-43624)	.03	22-3239	.1 mfd. molded - 400 V.	.10
19-325	Coil mtg. clip (part of S-45679)	.10	24-884	Sweep housing cover - rear	.10
19-344	Coil mtg. clip (part of S-45229)	.05	24-940	Sweep housing cover - top	.10
22-3	.01 mfd. ceramic disc - 500 V. (6 used)	.30	43-325	High voltage socket housing	.40
22-6	470 mmf. ceramic disc - 1 K V. (2 used)	.25	43-370	Sweep transformer housing	.45
22-8	.0022 mfd. ceramic disc - 500 V.	.25	52-823	2 conductor shielded lead	.70
22-11	.0033 mfd. ceramic disc - 500 V.	.25	57-2635	Socket cushion & insulating plate (used on 43-325)	.10
22-12	.0015 mfd. ceramic disc - 500 V.	.25	58-209	2 prong plug (AC)	.35
22-14	.0047 mfd. ceramic disc - 500 V. (2 used)	.25	62-21	Fuse holder	.40
22-16	470 mmf. ceramic disc - 500 V. (2 used)	.25	63-957	33 K ohm 1W Ins. 10%	.25
22-17	.001 mfd. ceramic disc - 1 K V. (5 used)	.25	63-965	1000 ohm 1W Ins. 10%	.25
22-23	2 x .0015 mfd. ceramic disc - 500 V.	.40	63-1071	10 K ohm 1W Ins. 10%	.25
22-25	2 x 51 mfd. ceramic disc - 500 V.	.40	63-1566	22 K ohm 2W Ins. 10%	.34
22-1516	4.7 mmf. gimmick - 500 V. (2 used)	.25	63-1719	27 ohm 1/2W Ins. 10%	.17
22-1778	.047 mfd. molded - 200 V.	.30	63-1729	47 ohm 1/2W Ins. 10%	.17
22-2061	.1 mfd. molded - 400 V.	.45	63-1736	68 ohm 1/2W Ins. 10%	.17
22-2343	3.3 mmf. gimmick - 500 V.	.26	63-1744	100 ohm 1/2W Ins. 20% (2 used)	.17
22-2383	4.5 mmf. ceramic disc - 500 V.	.25	63-1747	120 ohm 1/2W Ins. 10%	.17
22-2460	50 mmf. gimmick - 500 V.	.25	63-1758	220 ohm 1/2W Ins. 20% (2 used)	.17
22-2467	47 mmf. ceramic disc - 500 V.	.25	63-1764	330 ohm 1/2W Ins. 10%	.17
22-2480	470 mmf. mica - 500 V.	.50	63-1765	330 ohm 1/2W Ins. 20%	.17
22-2565	.01 mfd. paper - 200 V.	.25	63-1779	680 ohm 1/2W Ins. 20%	.17
22-2572	.068 mfd. molded - 200 V.	.45	63-1786	1000 ohm 1/2W Ins. 20% (2 used)	.17
22-2596	2.4 mmf. gimmick - 500 V.	.25	63-1792	1500 ohm 1/2W Ins. 10%	.17
22-2621	.022 mfd. molded - 400 V.	.25	63-1796	1800 ohm 1/2W Ins. 10%	.17
22-2668	680 mmf. mica - 500 V.	.30	63-1803	2700 ohm 1/2W Ins. 10%	.17
22-2697	130 mmf. ceramic disc - 4 K V.	.50	63-1827	10 K ohm 1/2W Ins. 10%	.17
22-2742	7.5 mmf. gimmick - 500 V.	.20	63-1834	15 K ohm 1/2W Ins. 10%	.17
22-2744	Electrolytic - 10/400 4/350 20/25	2.25	63-1842	22 K ohm 1/2W Ins. 20%	.17
22-2926	220 mmf. mica - 500 V.	.25	63-1848	33 K ohm 1/2W Ins. 10%	.17
22-3022	470 mmf. mica - 500 V.	.35	63-1852	39 K ohm 1/2W Ins. 10% (2 used)	.17
22-3035	12 mmf. ceramic disc - 500 V. (2 used)	.25	63-1855	47 K ohm 1/2W Ins. 10% (2 used)	.17
22-3040	.015 mfd. molded - 1 K V.	.45	63-1859	56 K ohm 1/2W Ins. 10% (2 used)	.17
22-3065	27 mmf. gimmick - 500 V. (2 used)	.20	63-1862	68 K ohm 1/2W Ins. 10% (4 used)	.17
22-3093	3300 mmf. mica - 300 V.	1.00	63-1866	82 K ohm 1/2W Ins. 10% (2 used)	.17
22-3123	Electrolytic - 40/400 80/400 100/50	5.00	63-1869	100 K ohm 1/2W Ins. 10% (2 used)	.17
			63-1870	100 K ohm 1/2W Ins. 20% (2 used)	.17
			63-1876	150 K ohm 1/2W Ins. 10%	.17
			63-1880	180 K ohm 1/2W Ins. 10%	.17
			63-1883	220 K ohm 1/2W Ins. 10% (3 used)	.17
			63-1890	330 K ohm 1/2W Ins. 10% (3 used)	.17
			63-1894	390 K ohm 1/2W Ins. 10%	.17
			63-1898	470 K ohm 1/2W Ins. 20%	.17
			63-1905	680 K ohm 1/2W Ins. 20%	.17
			63-1911	1 megohm 1/2W Ins. 10% (2 used)	.17
			63-1912	1 megohm 1/2W Ins. 20%	.17
			63-1925	2.2 megohm 1/2W Ins. 10%	.17
			63-1926	2.2 megohm 1/2W Ins. 20%	.17
			63-2290	680 ohm 1W Ins. 10%	.25
			63-2309	120 K ohm 2W Ins. 10%	.34

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
63-2847	18 K ohm 1/2W Ins. 10%	.17	126-905	Transformer shield	
63-3195	18 K ohm 1/2W Ins. 10%	.17	136-38	Fuse - 70 MA slo-blo	.35
63-3262	AGC control	1.40	149-211	Iron core (1 part of S-45229 & 2 part of ea. S-41883 & S-48046)	.10
63-3262	Vertical hold control	1.40	149-213	Iron core (part of S-42872)	.10
63-3607	230 K ohm 1/2W Ins. 20%	.17	149-214	Iron core (1 part of ea. S-42874, S-42875 & S-45539; 2 part of S-47967)	.10
63-4008	33 K ohm 1/2W Ins. 10%	.17	149-220	Iron core (part of S-45679)	.45
63-4049	Brightness control	1.40	188-161	Clamping ring (used on 76-987)	.03
63-4050	Fringe lock control	1.40	199-245	Insulating sleeve	.05
63-4076	Contrast control	1.40	199-246	Insulating sleeve	.05
63-4077	2.2 megohm 1/2W Ins. 10%	.17	S-21888	Choke coil (part of S-47967)	.50
63-4078	6.8 megohm 1/2W Ins. 10%	.17	S-22338	Coil shield & mtg. clip assembly	.25
63-4080	3.3 megohm 1/2W Ins. 10%	.17	S-23237	Yoke cover & centering device (part of 95-1648)	.95
63-4370	4700 ohm 3W Ins. 10%	.45	S-24738	Coil shield & mtg. clip assembly (quadrature coil)	.35
63-4374	3.9 megohm 1/2W Ins. 10%	.17	S-41879	Detector series peaking coil (part of S-47967)	.50
63-4389	8.2 megohm 1/2W Ins. 10%	.17	S-41883	Adj. channel trap coil	1.00
63-4420	10 K ohm 1W Ins. 10%	.25	S-42872	Sound take-off winding	1.25
63-4446	Vertical linearity control	1.40	S-42874	2nd I.F. transformer	1.00
63-4458	15 K ohm 3W Ins. 10%	.45	S-42875	Intercarrier coil winding, capacitor & shield assembly	2.00
63-4472	5600 ohm 1/2W Ins. 10%	.17	S-42876	Coil shield & mtg. clip assembly (1st I.F. & trap)	.40
63-4482	100 K ohm 1/2W Ins. 10%	.17	S-42897	Yoke mtg. bracket assembly	.65
63-4647	Vertical size control	1.40	S-43118	Anode lead	.45
63-4661	Volume control & switch		S-43624	Coil shield & mtg. clip assembly (4th I.F. coil)	.35
76-987	Horizontal hold control shaft	.20	S-45229	Quadrature coil	.75
78-755	Octal tube socket (6DQ6B)	.20	S-45510	Horizontal sweep transformer	9.00
78-781	7 contact molded tube socket (6AQ5A)	.25	S-45539	3rd I.F. transformer	1.25
78-834	Octal tube socket (6AX4GTB)	.30	S-45587	Control mtg. strip	.40
78-917	7 contact wafer tube socket (V3 & V4 - 6BZ6) (2 used)	.30	S-45679	Horizontal oscillator coil	1.50
78-1072	7 contact molded tube socket (6BN6)	.25	S-47418	Shielded lead & plug assembly	
78-1091	7 contact wafer tube socket (V5 - 6BZ6)	.35	S-47905	Video peaking coil	1.00
78-1093	9 contact wafer tube socket (6BU8)	.20	S-47906	Detector shunt peaking coil	1.00
78-1132	C.R. tube socket & wire	.80	S-47967	4th I.F. winding, capacitor & wire assembly	3.50
78-1133	9 contact wafer tube socket (6GH8)	.25	S-48046	1st I.F. & trap coil winding, capacitor & wire assembly	2.00
78-1137	9 contact wafer tube socket (6AW8)	.30			
78-1156	9 contact molded tube socket (6CY7)				
78-1164	Octal tube socket (5U4GB)				
83-2098	Insulating strip (part of S-42875)	.05			
83-2377	15 lug terminal strip - grip type	.45			
83-2378	6 lug terminal strip - grip type (2 used)	.15			
83-2379	5 lug terminal strip (2 used)	.15			
83-2768	8 lug terminal strip - grip type	.20			
83-2769	10 lug terminal strip - grip type	.25			
83-2846	Insulating strip (1st I.F. & trap coil)	.05			
83-3051	12 lug terminal strip - grip type	.30			
83-3052	Fuse protective strip	.05			
83-3118	5 lug terminal strip	.10			
86-300	Connector terminal	.05			
86-304	Connector terminal (2 used)	.05			
86-329	Connector terminal (2 used)	.03			
87-4	Integrator unit	.20			
87-5	Integrator unit	.20			
95-1581	Filter choke	3.00			
95-1646	Vertical output transformer	4.00			
95-1647	Audio output transformer	2.25			
95-1648	Deflection yoke	15.00			
95-1649	Power transformer	15.50			
103-20	Dual selenium diode	1.50			
103-23	Crystal diode	.75			
125-26	Rubber grommet (2 used)	.03			
125-94	Rubber grommet (used on 43-370)	.03			
125-99	Rubber grommet (used on 43-370)	.05			
126-837	Tube shield & base (2 used)	.10			
				TUBES	
				5U4GB	6DQ6B
				1K3	6GH8
				or 1G3GT	6CY7
				6BN6	or 6DR7
				3 - 6BZ6	6AX4GTB
				6BU8	or 6AX4GT
				6AQ5A	17CRP4 (CRT)
				6AW8A	14AUP4 (CRT - E1416G)
				CABINET HARDWARE FOR 16E20	
			54-348	8-32 "KEPS" nut (4 mt. 95-1649)	.05
			93-842	.062 steel washer (used on 112-1149)	.03
			93-1183	Fibre washer (2 used)	.03
			93-1200	Insulating washer (used on 95-1648)	.15
			93-1203	Fibre washer (used on S-45679)	.03

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
112-1139	6-20 x 1/2 phils. pan hd. self-tap. screw (2 used on S-45510)	.03	22-3066	10 mmf. gimmick - 500 V.	.20
112-1145	8-18 x 1/4 phils. rd. hd. self-tap. screw (2 used on 95-1647)	.03	22-3072	4.3 mmf. gimmick - 500 V.	.20
112-1149	8-32 thumb screw (used on 95-1648)	.08	22-3093	3300 mmf. mica - 300 V.	1.00
114-78	8-18 x 5/16 x 1/4 hex. hd. self-tap. screw (1 used on ea. S-45679, 95-1581 & 95-1646; 2 used on ea. 43-370, S-42897, S-45510 & S-45587)	.03	22-3125	.1 mfd. molded - 600 V.	.45
114-573	8-18 x 5/16 hex. washer hd. self-tap. screw (1 used on ea. 12-2707 & 2 on 24-884)	.03	22-3126	.15 mfd. molded - 200 V.	.35
114-593	8-18 x 1/2 hex. hd. self-tap. screw - flat washer att. (2 mt. 43-325)	.03	22-3135	.1 mfd. molded - 400 V.	.35
			22-3137	Electrolytic - 80/400 40/400 100/50	5.00
16E21 & 16E21Q CHASSIS PARTS			22-3139	20 mmf. ceramic disc - 500 V.	.25
12-1955	Chassis mtg. bracket (4 used)	.15	22-3217	470 mmf. ceramic disc - 1 K V.	.25
12-2434	C.R. tube support bracket	.15	22-3219	.22 mfd. molded - 600 V.	.25
15-196	Polyethylene cap	.15	22-3221	5.5 mmf. ceramic disc - 500 V.	.25
19-238	Coil mtg. clip (1 part of ea. S-41883, S-43125, S-43443, S-43717, S-46741, S-47967 & S-48046)	.10	22-3222	.001 mfd. ceramic disc - 1 K V.	.25
19-271	Capacitor mtg. clip (2 used)	.10	22-3226	2 x .001 mfd. ceramic disc - 500 V. (2 used)	.40
19-277	Shield can mtg. clip (2 part of ea. S-42294, S-43624 & S-46741)	.03	22-3239	.1 mfd. molded - 400 V. (3 used)	.45
19-325	Coil mtg. clip (part of S-45679)	.10	24-846	Sweep housing cover (rear - bottom)	.10
19-355	Coil mtg. clip (part of S-47702)	.05	43-332	Socket contact housing (16E21Q)	.15
22-3	.01 mfd. ceramic disc - 500 V. (6 used)	.30	52-832	2 conductor shielded lead (AC)	.70
22-6	470 mmf. ceramic disc - 1 K V. (4 used)	.25	52-833	2 conductor shielded lead	1.10
22-8	.0022 mfd. ceramic disc - 500 V.	.25	58-209	2 prong plug - AC (part of S-46799)	.35
22-11	.0033 mfd. ceramic disc - 500 V.	.25	62-21	Fuse holder	.40
22-16	470 mmf. ceramic disc - 500 V. (3 used)	.25	62-24	Fuse holder	
22-17	.001 mfd. ceramic disc - 1 K V. (4 used)	.25	63-1566	22 K ohm 2W Ins. 10%	.34
22-23	2 x .0015 mfd. ceramic disc - 500 V.	.40	63-1574	1000 ohm 1W Ins. 20%	.25
22-25	2 x 51 mmf. ceramic disc - 500 V.	.40	63-1708	15 ohm 1/2W Ins. 10%	.17
22-1516	4.7 mmf. gimmick - 500 V. (2 used)	.25	63-1715	22 ohm 1/2W Ins. 10%	.17
22-1762	1.0 mmf. gimmick - 500 V.	.25	63-1733	56 ohm 1/2W Ins. 10%	.17
22-1778	.047 mfd. molded - 200 V.	.30	63-1744	100 ohm 1/2W Ins. 20% (2 used)	.17
22-1841	.1 mfd. molded - 600 V.	.45	63-1747	120 ohm 1/2W Ins. 10%	.17
22-2343	3.3 mmf. gimmick - 500 V.	.26	63-1758	220 ohm 1/2W Ins. 20% (2 used)	.17
22-2383	4.5 mmf. ceramic disc - 500 V.	.25	63-1765	330 ohm 1/2W Ins. 20%	.17
22-2460	50 mmf. gimmick - 500 V. (2 used)	.25	63-1779	680 ohm 1/2W Ins. 20%	.17
22-2467	47 mmf. ceramic disc - 500 V.	.25	63-1786	1000 ohm 1/2W Ins. 20% (2 used)	.17
22-2480	470 mmf. mica - 500 V.	.50	63-1792	1500 ohm 1/2W Ins. 10%	.17
22-2510	.033 mfd. molded - 200 V.	.30	63-1803	2700 ohm 1/2W Ins. 10%	.17
22-2513	7 mmf. ceramic disc - 500 V.	.25	63-1810	3900 ohm 1/2W Ins. 10%	.17
22-2572	.068 mfd. molded - 200 V.	.45	63-1834	15 K ohm 1/2W Ins. 10%	.17
22-2621	.022 mfd. molded - 400 V.	.25	63-1838	18 K ohm 1/2W Ins. 10%	.17
22-2622	.0022 mfd. ceramic disc - 500 V.	.25	63-1842	22 K ohm 1/2W Ins. 20%	.17
22-2656	.0068 mfd. molded - 200 V.	.25	63-1845	27 K ohm 1/2W Ins. 10%	.17
22-2694	110 mmf. ceramic disc - 4 K V.	.50	63-1848	33 K ohm 1/2W Ins. 10%	.17
22-2742	7.5 mmf. gimmick - 500 V.	.20	63-1852	39 K ohm 1/2W Ins. 10%	.17
22-2744	Electrolytic - 10/400 4/350 20/25	2.25	63-1855	47 K ohm 1/2W Ins. 10% (2 used)	.17
22-2901	680 mmf. mica - 500 V.	.25	63-1859	56 K ohm 1/2W Ins. 10% (3 used)	.17
22-3022	470 mmf. mica - 500 V.	.35	63-1862	68 K ohm 1/2W Ins. 10%	.17
22-3035	12 mmf. ceramic disc - 500 V. (2 used)	.25	63-1866	82 K ohm 1/2W Ins. 10% (2 used)	.17
22-3040	.015 mfd. molded - 1 K V.	.45	63-1869	100 K ohm 1/2W Ins. 10% (3 used)	.17
22-3065	27 mmf. gimmick - 500 V.	.20	63-1870	100 K ohm 1/2W Ins. 20% (3 used)	.17
			63-1873	120 K ohm 1/2W Ins. 10% (2 used)	.17
			63-1876	150 K ohm 1/2W Ins. 10%	.17
			63-1880	180 K ohm 1/2W Ins. 10%	.17
			63-1884	220 K ohm 1/2W Ins. 20% (2 used)	.17
			63-1890	330 K ohm 1/2W Ins. 10% (3 used)	.17
			63-1891	330 K ohm 1/2W Ins. 20%	.17
			63-1894	390 K ohm 1/2W Ins. 10%	.17
			63-1904	680 K ohm 1/2W Ins. 10%	.17
			63-1905	680 K ohm 1/2W Ins. 20%	.17
			63-1911	1 megohm 1/2W Ins. 10%	.17
			63-1912	1 megohm 1/2W Ins. 20%	.17
			63-1925	2.2 megohm 1/2W Ins. 10%	.17
			63-1926	2.2 megohm 1/2W Ins. 20%	.17
			63-2149	470 K ohm 1W Ins. 20%	.25

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
63-2309*	120 K ohm 2W Ins. 10%	.34	86-328	Terminal - wire retaining (2 part of S-46588, 3 part of S-46848 & 1 part of S-46849)	
63-2315	1.5 megohm 1W Ins. 20%	.25	87-4	Integrator unit	.20
63-2380	5600 ohm 1/2W Ins. 10%	.17	87-5	Integrator unit	.20
63-2398	470 ohm 1W Ins. 10%	.25	95-1569	Audio output transformer	2.50
63-2848	22 K ohm 1/2W Ins. 10% (2 used)	.17	95-1654	Deflection yoke	15.00
63-3205	6.8 ohm 1/2W.WW 10%	.17	95-1656	Vertical output transformer	4.50
63-3284	Buzz control	.60	95-1680	Power transformer	19.00
63-3607	230 K ohm 1/2W Ins. 20%	.17	95-1681	Filter choke	3.00
63-4012	Fringe lock control	1.40	103-20	Dual selenium diode	1.50
63-4055	7500 ohm 4W Ins. 10%	.34	103-23	Crystal diode	.75
63-4077	2.2 megohm 1/2W Ins. 10%	.17	125-94	Rubber grommet (used on S-46848)	.03
63-4080	3.3 megohm 1/2W Ins. 10%	.17	126-837	Tube shield & base (used on 78-1091)	.10
63-4093	27 K ohm 2W Ins. 10% (2 used)	.34	126-866	Interstage shield	.10
63-4095	AGC control	1.40	126-921	Coil shield	.10
63-4098	8200 ohm 3W Ins. 10% (2 used)	.45	136-38	Fuse - 700 MA slo-blo	.35
63-4389	8.2 megohm 1/2W Ins. 10%	.17	136-42	Fuse - 5 amp. slo-blo	
63-4441	6.8 megohm 1/2W Ins. 10%	.17	149-171	Iron core sleeve	.10
63-4455	Focus control	1.40	149-211	Iron core (1 part of S-47702, & 2 part of ea. S-41883, S-43443 & S-48046)	.10
63-4478	18 K ohm 1/2W Ins. 20%	.17	149-213	Iron core (2 part of S-43125)	.10
63-4482	100 K ohm 1/2W Ins. 10%	.17	149-214	Iron core (1 part of ea. S-43717, S-46741 & S-47967)	.10
63-4489	Contrast control	1.40	149-220	Iron core (part of S-45679)	.45
63-4620	Vertical linearity control	1.40	188-191	Corona ring	.20
63-4628	150 K ohm 1/2W Ins. 20%	.17	199-206	Shield paper sleeve	.05
63-4660	Vertical size control	1.40	199-245	Insulating sleeve	.05
63-4661	Volume control & switch		199-246	Insulating sleeve	.05
63-4676	Brightness control	1.40	S-21888	Choke coil (part of S-47967)	.50
63-4677	Vertical hold control	1.40	S-22777	Spook choke coil	.30
63-4679	Tone control	1.40	S-41879	Detector series peaking coil (part of S-47967)	.50
63-4693	22 K ohm 1W Ins. 20%	.25	S-41883	Adj. channel trap coil	1.00
64-734	Brass eyelet (used on 76-995)	.03	S-42294	Coil shield & mtg. clip assembly (1 part of S-43717 & 1 used on S-43125)	.30
76-995	Contrast control shaft	.15	S-43117	H.V. socket & bracket assembly	1.10
78-755	Octal tube socket (6DQ6B)	.20	S-43118	Anode lead	.45
78-834	Octal tube socket (6DE4)	.30	S-43125	Sound take-off coil	1.00
78-917	Wafer tube socket - 7 contact (2 used) (6BZ6)	.30	S-43443	2nd I.F. & trap coil assembly	2.25
78-1055	High voltage socket (1J3) (part of S-43117)	1.25	S-43618	Video series peaking coil	.50
78-1091	7 contact wafer tube socket (6DK6)	.35	S-43619	Detector shunt peaking coil	.50
78-1092	7 contact wafer tube socket (6BN6)	.35	S-43624	Coil shield & mtg. clip assembly (4th I.F.)	.35
78-1102	Octal tube socket (6EA7)	.20	S-43717	Intercarrier coil, shield, capacitor & wire assembly	2.25
78-1133	9 contact wafer tube socket (6GH8)	.25	S-45396	Shielded lead & plug assembly	.80
78-1134	C.R. tube socket & wire (21CXP4)	.95	S-45679	Horizontal oscillator coil	1.50
78-1139	9 contact wafer tube socket (6BU8)	.20	S-46005	Corrector magnet (2 used)	.50
78-1148	9 contact wafer tube socket (6EB8)	.20	S-46588	Yoke mtg. bracket	.75
78-1159	7 contact molded tube socket (6AQ5A)	.20	S-46741	3rd I.F. transformer & shield assembly	2.50
78-1164	Octal tube socket (5V3)		S-46799	A.C. plug & bracket assembly	.40
80-1225	Retaining spring (used on 76-995)	.03	S-46848	Sweep transformer housing	1.50
83-2350	2 lug terminal strip	.05	S-46849	Sweep housing cover (front)	.25
83-2377	15 lug terminal strip - grip type (2 used)	.45	S-47071	Horizontal sweep transformer	9.00
83-2383	3 lug terminal strip	.05	S-47702	Quadrature coil	
83-2768	8 lug terminal strip - grip type (3 used)	.20	S-47967	4th I.F. transformer	3.50
83-2769	10 lug terminal strip - grip type (2 used)	.25	S-48046	1st I.F. & trap coil assembly	2.00
83-3144	3 lug terminal strip	.10	S-49185	Control mtg. bracket & plate assembly	
83-3374	2 lug terminal strip (mts. 136-43)				
86-254	Connector terminal (2 used on 16E21Q)	.05			
86-300	Connector terminal	.05			
86-303	Socket terminal (3 used in 43-332)	.04			
86-304	Connector terminal (2 used)	.05			

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
TUBES					
	1J3	or 6AX4GTB	22-1778	.047 mfd. molded - 200 V.	.30
	5V3	6DK6	22-2061	.1 mfd. molded - 400 V.	.45
	6AQ5A	6DQ6B	22-2343	3.3 mmf. gimmick - 500 V.	.26
	6BN6	6GH8	22-2383	4.5 mmf. ceramic disc - 500 V.	.25
	6BU8	6EB8	22-2460	50 mmf. gimmick - 500 V. (2 used)	.25
2 -	6BZ6	6EA7	22-2467	47 mmf. ceramic disc - 500 V.	.25
	6DE4	or 6EM7	22-2480	470 mmf. mica - 500 V.	.50
or	6DA4	21CXP4 (CRT)	22-2510	.033 mfd. molded - 200 V.	.30
			22-2572	.068 mfd. molded - 200 V.	.45
			22-2621	.022 mfd. molded - 400 V.	.25
			22-2656	.0068 mfd. molded - 200 V.	.25
			22-2667	330 mmf. mica - 500 V.	.25
			22-2742	7.5 mmf. gimmick - 500 V.	.20
			22-2744	Electrolytic - 10/400 4/350 20/25	2.25
			22-2926	220 mmf. mica - 500 V.	.25
			22-3022	470 mmf. mica - 500 V.	.35
			22-3035	12 mmf. ceramic disc - 500 V. (2 used)	.25
			22-3040	.015 mfd. molded - 1 K V.	.45
			22-3065	27 mmf. gimmick - 500 V.	.20
			22-3066	10 mmf. gimmick - 500 V.	.20
			22-3072	4.3 mmf. gimmick - 500 V.	.20
			22-3125	.1 mfd. molded - 600 V. (2 used)	.45
			22-3126	.15 mfd. molded - 200 V.	.35
			22-3139	20 mmf. ceramic disc - 500 V.	.25
			22-3179	1500 mmf. mica - 500 V.	.60
			22-3180	2200 mmf. mica - 500 V.	.75
			22-3212	Electrolytic - 40/400 80/400 100/50 10/25	5.00
			22-3214	220 mmf. ceramic disc - 4 K V.	.50
			22-3217	470 mmf. ceramic disc - 1 K V.	.25
			22-3218	.033 mfd. molded - 400 V.	.35
			22-3221	5.5 mmf. ceramic disc - 500 V.	.25
			22-3226	2 x .001 mfd. ceramic disc - 500 V. (2 used)	.40
			22-3239	.1 mfd. molded - 400 V. (2 used)	
			22-3242	.068 mfd. molded - 600 V.	
			24-959	Sweep housing cover - rear	.10
			24-960	Sweep housing cover - top	.15
			43-325	High voltage socket housing	.40
			43-332	Socket contact housing (16E25Q)	.15
			43-406	Sweep transformer housing	.60
			52-831	2 conductor shielded lead	.65
			52-879	Shielded lead (16E25Q)	.50
			57-2635	Socket cushion & insulating plate	.10
			58-209	2 prong plug (AC)	.35
			62-21	Fuse holder	.40
			63-965	1000 ohm 1W Ins. 10%	.25
			63-1211	82 K ohm 2W Ins. 10%	.34
			63-1566	22 K ohm 2W Ins. 10%	.34
			63-1708	15 ohm 1/2W Ins. 10%	.17
			63-1719	27 ohm 1/2W Ins. 10%	.17
			63-1736	68 ohm 1/2W Ins. 10%	.17
			63-1744	100 ohm 1/2W Ins. 20% (2 used)	.17
			63-1747	120 ohm 1/2W Ins. 10%	.17
			63-1757	220 ohm 1/2W Ins. 10%	.17
			63-1765	330 ohm 1/2W Ins. 20%	.17
			63-1772	470 ohm 1/2W Ins. 20% (2 used)	.17
			63-1779	680 ohm 1/2W Ins. 20%	.17
			63-1786	1000 ohm 1/2W Ins. 20%	.17
			63-1792	1500 ohm 1/2W Ins. 10%	.17
			63-1803	2700 ohm 1/2W Ins. 10%	.17
			63-1810	3900 ohm 1/2W Ins. 10%	.17
			63-1813	4700 ohm 1/2W Ins. 10%	.17
CHASSIS HARDWARE FOR 16E21 & 16E21Q					
93-842	Steel washer (used on 112-1149)	.03			
93-1200	Insulating washer (used on 95-1654)	.15			
93-1266	Washer				
112-1149	8-32 thumb screw	.08			
112-1299	10-16 x 5/16 phil. rd. hd. self-tap. screw (mts. 83-3374)				
114-15	10-16 x 5/16 x 5/16 hex. hd. self-tap. screw (3 used on 95-1680)	.03			
114-78	8-18 x 5/16 x 1/4 hex. hd. self-tap. screw (1 used on ea. 83-2383, 95-1656 & 95-1681; 2 on ea. S-43117, S-47071 & S-49185 & 4 used on S-46848)	.03			
114-456	8-32 x 1/4 hex. hd. mach. screw - flat washer att. (used on S-47071)	.03			
114-564	8-18 x 5/16 hex. hd. self-tap. screw - flat washer att. (2 used on 12-2434 & 4 on S-46588)	.03			
114-688	8-18 x 5/16 hex. washer hd. self-tap. screw (2 used on S-46799)	.03			
114-696	10-16 x 1/4 x 5/16 hex. hd. self-tap. screw (1 mts. ea. S-46005)				
16E25 & 16E25Q CHASSIS PARTS					
12-1955	Chassis mtg. bracket (4 used)	.15			
12-2807	Socket mtg. bracket (mts. 43-332)	.10			
19-238	Coil mtg. clip (1 used on S-42872 & 1 part of ea. S-41883, S-42874, S-45539, S-47968, S-48046, S-48193 & S-48196)	.10			
19-277	Coil shield mtg. clip (2 part of ea. S-22338, S-22341, S-43624 & S-46555)	.03			
19-325	Coil mtg. clip (part of S-47150)	.10			
19-344	Coil mtg. clip (part of S-45229)	.05			
22-3	.01 mfd. ceramic disc - 500 V. (7 used)	.30			
22-6	470 mmf. ceramic disc - 1 K V. (2 used)	.25			
22-11	.0033 mfd. ceramic disc - 500 V. (3 used)	.25			
22-12	.0015 mfd. ceramic disc - 500 V.	.25			
22-16	470 mmf. ceramic disc - 500 V. (2 used)	.25			
22-17	.001 mfd. ceramic disc - 1 K V. (8 used)	.25			
22-25	2 x 51 mmf. ceramic disc - 500 V.	.40			
22-1516	4.7 mmf. gimmick - 500 V. (2 used)	.25			

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
63-1820	6800 ohm 1/2W Ins. 10%	.17	83-2098	Insulating strip	.05
63-1834	15 K ohm 1/2W Ins. 10%	.17	83-2379	5 lug terminal strip - grip type	.15
63-1842	22 K ohm 1/2W Ins. 20%	.17	83-2768	8 lug terminal strip - grip type	.20
63-1848	33 K ohm 1/2W Ins. 10%	.17	83-2769	10 lug terminal strip - grip type	.25
63-1852	39 K ohm 1/2W Ins. 10%	.17	83-2770	7 lug terminal strip - grip type	.20
63-1855	47 K ohm 1/2W Ins. 10% (2 used)	.17	83-2846	Insulating strip (1st I.F. & trap coil)	.05
63-1859	56 K ohm 1/2W Ins. 10% (2 used)	.17	83-3051	12 lug terminal strip - grip type	.30
63-1862	68 K ohm 1/2W Ins. 10% (3 used)	.17	83-3141	Contrast control mtg. strip	.15
63-1866	82 K ohm 1/2W Ins. 10% (2 used)	.17	83-3142	4 lug terminal strip - grip type	.10
63-1869	100 K ohm 1/2W Ins. 10% (3 used)	.17	83-3205	Lead support strip (used on 78-1149)	.05
63-1870	100 K ohm 1/2W Ins. 20% (3 used)	.17	83-3309	16 lug terminal strip - grip type	.05
63-1876	150 K ohm 1/2W Ins. 10% (2 used)	.17	86-300	Connector terminal	.05
63-1880	180 K ohm 1/2W Ins. 10%	.17	86-303	Socket terminal (3 used in 43-332)	.04
63-1883	220 K ohm 1/2W Ins. 10%	.17	86-304	Connector terminal (2 used on 16E25; 4 used on 16E25Q)	.05
63-1884	220 K ohm 1/2W Ins. 20% (2 used)	.17	86-312	Terminal	.03
63-1890	330 K ohm 1/2W Ins. 10% (4 used)	.17	86-328	Terminal (wire retaining)	.03
63-1891	330 K ohm 1/2W Ins. 20% (2 used)	.17	86-329	Connector terminal (2 used)	.03
63-1894	390 K ohm 1/2W Ins. 10%	.17	87-4	Integrator unit	.20
63-1897	470 K ohm 1/2W Ins. 10%	.17	87-5	Integrator unit	.20
63-1904	680 K ohm 1/2W Ins. 10%	.17	95-1663	Filter choke	3.00
63-1905	680 K ohm 1/2W Ins. 20%	.17	95-1665	Audio output transformer	2.50
63-1911	1 megohm 1/2W Ins. 10% (3 used)	.17	95-1667	Power transformer	19.00
63-1926	2.2 megohm 1/2W Ins. 20% (2 used)	.17	95-1700	Vertical output transformer	6.50
63-2290	680 ohm 1W Ins. 10%	.25	95-1721	Deflection yoke	
63-2380	5600 ohm 1/2W Ins. 10%	.34	103-20	Dual selenium diode	1.50
63-2843	8200 ohm 1/2W Ins. 10%	.34	103-23	Crystal diode (part of S-47967)	.75
63-2848	22 K ohm 1/2W Ins. 10%	.34	125-69	Rubber grommet	.10
63-3284	Buzz control	.60	125-94	Rubber grommet (over S-46563)	.03
63-3993	1 megohm 1/2W Ins. 10%	.34	126-837	Tube shield & base	.10
63-4008	33 K ohm 1/2W Ins. 10%	.34	136-38	Fuse - 700 MA slo-blo	.35
63-4050	Fringe lock control	1.40	149-131	Iron core (part of S-47150)	.20
63-4055	7500 ohm 4W Ins. 10% (2 used)	.65	149-211	Iron core (1 part of S-45229 & 2 part of ea. S-41883 & S-48046)	.10
63-4093	27 K ohm 2W Ins. 10%	.34	149-213	Iron core (2 part of S-42872)	.10
63-4095	AGC control	1.40	159-214	Iron core (1 part of ea. S-42874, S-45539 & S-48196; 2 part of S-47967)	.10
63-4389	8.2 megohm 1/2W Ins. 10%	.17	149-245	Iron core (part of S-48193)	
63-4427	5600 ohm 3W Ins. 10%	.45	188-161	Shaft clamping ring (used on 76-987)	.03
63-4455	Focus control	1.40	199-246	Insulating sleeve	.05
63-4482	100 K ohm 1/2W Ins. 10%	.17	S-16011	Video shunt peaking coil	.50
63-4483	1.5 megohm 1/2W Ins. 10%	.17	S-21888	Choke coil (part of S-47967)	.50
63-4485	Vertical linearity control	1.40	S-22338	Coil shield & mtg. clip assembly	.25
63-4491	Vertical hold control	1.40	S-22341	Coil shield & mtg. clip assembly (part of S-48196 - intercarrier coil)	
63-4492	Brightness control	1.40	S-22777	Spook choke coil	.30
63-4493	Contrast control	1.40	S-41879	Detector series peaking coil (part of S-47967)	.50
63-4619	15 megohm 1/2W Ins. 10%	.17	S-41883	Adj. channel trap coil	1.00
63-4647	Vertical size control	1.40	S-42872	Sound take-off winding	1.25
63-4648	Thermal resistor (part of 95-1721)	.90	S-42874	2nd I.F. transformer	1.00
63-4661	Volume control & switch		S-43618	Video series peaking coil	.50
63-4667	820 K ohm 1/2W Ins. 20%	.17	S-43619	Detector shunt peaking coil	.50
76-987	Horizontal hold control shaft	.20	S-43624	Coil shield & mtg. clip assembly (4th I.F. coil)	.35
78-755	Octal tube socket (6DQ6B)	.20	S-45229	Quadrature coil	.75
78-781	7 contact molded tube socket (6AQ5A)	.25	S-45539	3rd I.F. transformer	1.25
78-834	Octal tube socket (6AX4GTB)	.30	S-46555	Coil shield & mtg. clip assembly (quadrature coil)	.25
78-917	7 contact wafer tube socket (2 used) (6BZ6 - V3 & V4)	.30	S-46558	Coil shield & lug assembly (1st I.F. & trap)	.25
78-1072	7 contact molded tube socket (6BN6)	.25	S-46563	Anode lead	.50
78-1102	Octal tube socket (6EA7)	.20			
78-1139	9 contact wafer tube socket (6BU8)	.20			
78-1145	9 contact wafer tube socket (6EB8)	.30			
78-1146	9 contact wafer tube socket (6GH8)	.20			
78-1147	7 contact wafer tube socket (6BZ6 - V5)	.35			
78-1149	C.R. tube socket & wire	1.00			
78-1164	Octal tube socket (5U4GB)				

Part No.	Description	Suggested Retail Price
S-47150	Horizontal oscillator coil	1.50
S-47218	Shielded lead & plug assembly	.90
S-47967	4th I.F. transformer	3.50
S-48046	1st I.F. & trap coil winding, capacitor & wire assembly	2.00
S-48191	Yoke cover & centering device (part of 95-1721)	
S-48193	Horizontal choke coil	
S-48197	Horizontal sweep transformer	
S-48196	Intercarrier coil winding, capacitor & shield assembly	

TUBES

6EA7		6BU8
1K3	3 -	6BZ6
or 1G3GT		6EB8
6BN6		6AX4GTB
6GH8	or	6DA4
5U4GB		6DQ6B
6AQ5A		17DQP4 (CRT)

CHASSIS HARDWARE FOR 16E25 & 16E25Q

54-271	6-32 x 1/4 hex. palnut (2 used)	.03
93-1203	Fibre washer (used on S-47150)	.03
93-1404	Armita washer	
112-830	Spade lug (2 part of S-46558)	.03
112-1139	6-20 x 1/2 phils. pan hd. self-tap. screw (2 used on S-48197)	.03
114-15	10-16 x 5/16 x 5/16 hex. hd. self-tap. screw (3 used on 95-1667)	.03
114-78	8-18 x 5/16 x 1/4 hex. hd. self-tap. screw (6 used on 16E25; 7 on 16E25Q)	.03
114-573	8-18 x 5/16 hex. washer hd. self-tap. screw (fastens 83-3205 to 24-959 & 24-960 assembly)	.03
114-593	8-18 x 1/2 hex. hd. self-tap. screw - flat washer att. (2 mt. 43-325)	.03

16E27 & 16E27Q CHASSIS PARTS

12-1955	Chassis mtg. bracket (4 used)	.15
12-2434	C.R. tube support bracket	.15
12-2807	Socket mtg. bracket (mts. 43-332) (16E27Q)	.10
15-196	Polyethylene cap	.15
19-238	Coil mtg. clip (1 used on S-46740 & 1 part of ea. S-41883, S-43125, S-43443, S-43717, S-47968 & S-48046)	.10
19-271	Capacitor mtg. clip (3 used)	.10
19-277	Shield can mtg. clip (2 part of ea. S-42294, S-43624 & S-46741)	.03
19-325	Coil mtg. clip (part of S-47150)	.10
19-355	Coil mtg. clip (part of S-47702)	.05
22-3	.01 mfd. ceramic disc - 500 V. (6 used)	.30
22-5	100 mmf. ceramic disc - 500 V.	.25
22-6	470 mmf. ceramic disc - 1 K V. (3 used)	.25
22-9	100 mmf. ceramic disc - 500 V.	.25
22-11	.0033 mfd. ceramic disc - 500 V.	.25
22-16	470 mmf. ceramic disc - 500 V. (4 used)	.25

Part No.	Description	Suggested Retail Price
22-17	.001 mfd. ceramic disc - 1 K V. (4 used)	.25
22-23	2 x .0015 mfd. ceramic disc - 500 V.	.40
22-25	2 x 51 mmf. ceramic disc - 500 V.	.40
22-1516	4.7 mmf. gimmick - 500 V. (2 used)	.25
22-1762	1.0 mmf. gimmick - 500 V.	.25
22-1778	.047 mfd. molded - 200 V. (2 used)	.30
22-1841	.1 mfd. molded - 600 V.	.45
22-2147	.15 mfd. molded - 200 V.	.35
22-2343	3.3 mmf. gimmick - 500 V.	.26
22-2383	4.5 mmf. ceramic disc - 500 V.	.25
22-2460	50 mmf. gimmick - 500 V. (2 used)	.25
22-2467	47 mmf. ceramic disc - 500 V.	.25
22-2480	470 mmf. mica - 500 V.	.50
22-2510	.033 mfd. molded - 200 V.	.30
22-2513	7 mmf. ceramic disc - 500 V.	.25
22-2572	.068 mfd. molded - 200 V.	.45
22-2621	.022 mfd. molded - 400 V.	.25
22-2656	.0068 mfd. molded - 200 V. (2 used)	.25
22-2662	90 mmf. ceramic disc - 4 K V.	.50
22-2667	330 mmf. mica - 500 V.	.25
22-2742	7.5 mmf. gimmick - 500 V.	.20
22-2975	.22 mfd. molded - 200 V.	.40
22-2992	100 mmf. ceramic disc - 500 V.	.25
22-3022	470 mmf. mica - 500 V.	.35
22-3035	12 mmf. ceramic disc - 500 V. (2 used)	.25
22-3040	.015 mfd. molded - 1 K V.	.45
22-3065	27 mmf. gimmick - 500 V.	.20
22-3066	10 mmf. gimmick - 500 V.	.20
22-3072	4.3 mmf. gimmick - 500 V.	.20
22-3125	.1 mfd. molded - 600 V.	.45
22-3135	.1 mfd. molded - 400 V.	.35
22-3137	Electrolytic - 80-400 40/400 100/50	5.00
22-3139	20 mmf. ceramic disc - 500 V.	.25
22-3162	Electrolytic - 50/25 40/450	2.75
22-3179	1500 mmf. mica - 300 V.	.60
22-3180	2200 mmf. mica - 500 V.	.75
22-3201	2 x 4 mfd. electrolytic - 150 & 350 V.	
22-3217	470 mmf. ceramic disc - 1 K V.	.25
22-3219	.22 mfd. molded - 600 V.	
22-3221	5.5 mmf. ceramic disc - 500 V.	.25
22-3222	.001 mfd. ceramic disc - 1 K V.	.25
22-3226	2 x .001 mfd. ceramic disc - 500 V. (2 used)	.40
22-3239	.1 mfd. molded - 400 V. (3 used)	
24-846	Sweep housing cover (rear - bottom)	.10
43-332	Socket contact housing (16E27Q)	.15
52-832	2 conductor shielded lead (AC)	.70
52-834	2 conductor shielded lead	.95
52-835	2 conductor shielded lead	1.00
58-209	2 prong plug - AC (part of S-46799)	.35
62-21	Fuse holder	.40
62-24	Fuse holder	
63-1055	22 K ohm 1W Ins. 20%	.25
63-1566	22 K ohm 2W Ins. 10%	.34
63-1708	15 ohm 1/2W Ins. 10%	.17
63-1715	22 ohm 1/2W Ins. 10%	.17
63-1733	56 ohm 1/2W Ins. 10%	.17
63-1744	100 ohm 1/2W Ins. 20% (2 used)	.17
63-1757	220 ohm 1/2W Ins. 10%	.17
63-1758	220 ohm 1/2W Ins. 20% (2 used)	.17

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
63-1765	330 ohm 1/2W Ins. 20%	.17	63-4677	Vertical hold control	
63-1771	470 ohm 1/2W Ins. 10%	.17	64-734	Brass eyelet (used on 76-995)	.03
63-1772	470 ohm 1/2W Ins. 20%	.17	76-995	Contrast control shaft	.15
63-1779	680 ohm 1/2W Ins. 20%	.17	78-755	Octal tube socket (6DQ6B)	.20
63-1786	1000 ohm 1/2W Ins. 20% (2 used)	.17	78-834	Octal tube socket (6DE4)	.30
63-1792	1500 ohm 1/2W Ins. 10%	.17	78-917	7 contact wafer tube socket (2 used 6BZ6)	.30
63-1803	2700 ohm 1/2W Ins. 10%	.17	78-1055	High voltage socket (1J3)	1.25
63-1806	3300 ohm 1/2W Ins. 10%	.17	78-1089	9 contact molded tube socket (6BQ5)	.25
63-1810	3900 ohm 1/2W Ins. 10%	.17	78-1091	7 contact wafer tube socket (6DK6)	.35
63-1813	4700 ohm 1/2W Ins. 10%	.17	78-1092	7 contact wafer tube socket (6BN6)	.35
63-1828	10 K ohm 1/2W Ins. 20%	.17	78-1099	3 contact socket	.20
63-1834	15 K ohm 1/2W Ins. 10% (2 used)	.17	78-1102	Octal tube socket (6EA7)	.20
63-1842	22 K ohm 1/2W Ins. 20%	.17	78-1133	9 contact wafer tube socket (6GH8)	.25
63-1845	27 K ohm 1/2W Ins. 10%	.17	78-1134	C.R. tube socket & wire	.95
63-1848	33 K ohm 1/2W Ins. 10%	.17	78-1139	9 contact wafer tube socket (6BU8)	.20
63-1852	39 K ohm 1/2W Ins. 10%	.17	78-1148	9 contact wafer tube socket (6EB8)	.20
63-1855	47 K ohm 1/2W Ins. 10% (2 used)	.17	78-1164	Octal tube socket (5V3)	
63-1859	56 K ohm 1/2W Ins. 10% (3 used)	.17	80-1225	Retaining spring (used on 76-995)	.03
63-1862	68 K ohm 1/2W Ins. 10%	.17	83-2350	2 lug terminal strip	.05
63-1866	82 K ohm 1/2W Ins. 10% (2 used)	.17	83-2377	15 lug terminal strip - grip type (2 used)	.45
63-1869	100 K ohm 1/2W Ins. 10% (4 used)	.17	83-2378	6 lug terminal strip - grip type	.15
63-1870	100 K ohm 1/2W Ins. 20% (3 used)	.17	83-2768	8 lug terminal strip - grip type (3 used)	.20
63-1873	120 K ohm 1/2W Ins. 10% (2 used)	.17	83-2769	10 lug terminal strip - grip type (2 used)	.25
63-1876	150 K ohm 1/2W Ins. 10%	.17	83-3144	3 lug terminal strip	.10
63-1877	150 K ohm 1/2W Ins. 20%	.17	83-3261	6 lug terminal strip	.10
63-1880	180 K ohm 1/2W Ins. 10%	.17	83-3311	4 lug terminal strip	.10
63-1884	220 K ohm 1/2W Ins. 20% (2 used)	.17	86-254	Connector terminal (2 used on 16E27Q)	.05
63-1890	330 K ohm 1/2W Ins. 10% (3 used)	.17	86-300	Connector terminal	.05
63-1891	330 K ohm 1/2W Ins. 20%	.17	86-303	Socket terminal (3 used in 43-332)	.04
63-1894	390 K ohm 1/2W Ins. 10%	.17	86-304	Connector terminal (2 used)	.05
63-1904	680 K ohm 1/2W Ins. 10%	.17	86-328	Terminal - wire retaining (1 part of S-46849, 2 part of S-46588 & 3 part of S-46848)	
63-1905	680 K ohm 1/2W Ins. 20%	.17	87-4	Integrator	.20
63-1911	1 megohm 1/2W Ins. 10% (2 used)	.17	87-5	Integrator	.20
63-1912	1 megohm 1/2W Ins. 20%	.17	95-1559	Filter choke	4.50
63-1919	1.5 megohm 1/2W Ins. 20%	.17	95-1654	Deflection yoke	15.00
63-1925	2.2 megohm 1/2W Ins. 10%	.17	95-1656	Vertical output transformer	4.50
63-1926	2.2 megohm 1/2W Ins. 20% (2 used)	.17	95-1703	Audio output transformer	4.75
63-2149	470 K ohm 1W Ins. 20%	.25	95-1726	Power transformer	
63-2309	120 K ohm 2W Ins. 10%	.34	103-20	Dual selenium diode	1.50
63-2380	5600 ohm 1/2W Ins. 10%	.17	103-23	Crystal Diode	.75
63-2398	470 ohm 1W Ins. (2 used)	.25	125-94	Rubber grommet (used on S-43118)	.03
63-2847	18 K ohm 1/2W Ins. 10%	.17	126-837	Tube shield & base	.10
63-2848	22 K ohm 1/2W Ins. 10% (2 used)	.17	126-856	Interstage shield	.10
63-3205	6.8 ohm 1/2W.WW 10%	.17	126-921	Coil shield (quadrature coil)	.10
63-3284	Buzz control	.60	136-38	Fuse - 700 MA slo-blo	.35
63-3607	230 K ohm 1/2W Ins. 20%	.17	136-42	Fuse - 5 amp. slo-blo	
63-4012	Fringe lock control	1.40	149-131	Iron core (part of S-47150)	.20
63-4055	7500 ohm 4W Ins. 10%	.65	149-171	Iron core sleeve	.10
63-4077	2.2 megohm 1/2W Ins. 10%	.17	149-211	Iron core (1 part of S-47702 & 2 part of ea. S-41883, S-43443 & S-48046)	.10
63-4080	3.3 megohm 1/2W Ins. 10%	.17	149-213	Iron core (2 part of S-43125)	.10
63-4093	27 K ohm 2W Ins. 10% (2 used)	.34	149-214	Iron core (1 part of ea. S-43717 & S-46741 & 2 part of S-47967)	.10
63-4095	AGC control	1.40	188-191	Corona ring	.20
63-4098	8200 ohm 3W Ins. 10% (2 used)	.45			
63-4389	8.2 megohm 1/2W Ins. 10%	.17			
63-4455	Focus control	1.40			
63-4482	100 K ohm 1/2W Ins. 10%	.17			
63-4489	Contrast control	1.40			
63-4619	15 megohm 1/2W Ins. 10%	.17			
63-4620	Vertical linearity control	1.40			
63-4628	150 K ohm 1/2W Ins. 20%	.17			
63-4659	Volume control & switch				
63-4660	Vertical size control	1.40			
63-4676	Brightness control	1.40			

Part No.	Description	Suggested Retail Price
199-245	Insulating sleeve	.05
199-246	Insulating sleeve	.05
S-16011	Video shunt peaking coil	.50
S-21888	Choke coil	.50
S-22777	Spook choke coil	.30
S-23004	Shielded lead & plug assembly	.65
S-41879	Detector series peaking coil (part of S-47967)	.50
S-41883	Adj. channel trap coil	1.00
S-42294	Coil shield & mtg. clip assembly (1 part of S-43717 & 1 used on S-43126)	.30
S-43117	H.V. socket & bracket assembly	1.10
S-43118	Anode lead	.45
S-43125	Sound take-off coil (part of S-43126)	1.00
S-43126	Sound take-off coil & capacitor assembly	2.00
S-43443	2nd I.F. trap coil	2.25
S-43618	Video series peaking coil	.50
S-43619	Detector shunt peaking coil	.50
S-43624	Coil shield & mtg. clip assembly (4th I.F.)	.35
S-43717	Intercarrier coil, shield, capacitor & wire assembly	2.25
S-46005	Corrector magnet (2 used)	.50
S-46588	Yoke mtg. bracket	.75
S-46592	Horizontal sweep transformer	
S-46741	3rd I.F. transformer & shield assembly	2.50
S-46799	A.C. plug & bracket assembly	.40
S-46848	Sweep transformer housing	1.50
S-46849	Sweep transformer cover (front)	.25
S-47150	Horizontal oscillator coil	1.50
S-47702	Quadrature coil	
S-47967	4th I.F. transformer	3.50
S-48046	1st I.F. & trap coil assembly	2.00
S-49185	Control mtg. bracket & plate assembly	

TUBES

1J3	6EA7
3DG4	6DE4
or 5V3	or 6AX4GTB
6BN6	6DK6
6BQ5	6DQ6B
6BU8	6GH8
2 - 6BZ6	6EB8
21CXP4 (CRT)	

CHASSIS HARDWARE FOR 16E27 & 16E27Q

93-842	Steel washer (used on 112-1149)	.03
93-1200	Insulating washer (used on 95-1654)	.15
93-1266	Washer	
112-1149	8-32 thumb screw (used on 95-1654)	.08
114-15	10-16 x 5/16 hex. hd. self-tap. screw (3 used on 95-1726)	.03
114-78	8-18 x 5/16 x 1/4 hex. hd. self-tap. screw (1 used on ea. 16E27Q, 83-3311, 95-1559, 95-1703 & 95-1656; 2 mt. ea. S-43117, S-46592 & S-49185; 4 mt. S-46848)	.03

Part No.	Description	Suggested Retail Price
114-456	8-32 x 1/4 hex. hd. mach. screw - flat washer att. (used on S-46592)	.03
114-564	8-18 x 5/16 hex. hd. self-tap. screw - flat washer att. (2 used on 12-2434 & 4 on S-46588)	.03
114-688	8-18 x 5/16 hex. washer hd. self-tap. screw (2 used on S-46799)	.03
114-696	10-16 x 1/4 x 5/16 hex. hd. self-tap. screw (1 mts. ea. S-46005)	

18E20 & 18E20Q CHASSIS PARTS

12-1718	Horizontal width coil mtg. bracket	.15
12-1955	Chassis mtg. bracket (4 used)	.15
15-196	Polyethylene cap	.15
19-238	Coil mtg. clip (1 used on S-47967 & 1 part of ea. S-41883, S-43125, S-46571, S-46741 & S-48046 & 2 part of S-43717)	.10
19-271	Capacitor mtg. clip (3 used)	.10
19-277	Shield can mtg. clip (2 part of ea. S-42294, S-43624 & S-46741)	.03
19-325	Coil mtg. clip (part of S-47150)	.10
19-355	Coil mtg. clip (part of S-47702)	.05
22-3	.01 mfd. ceramic disc - 500 V. (5 used)	.30
22-6	470 mmf. ceramic disc - 1 K V. (2 used)	.25
22-8	.0022 mfd. ceramic disc - 500 V.	.25
22-11	.0033 mfd. ceramic disc - 500 V.	.25
22-16	470 mmf. ceramic disc - 500 V. (5 used)	.25
22-17	.001 mfd. ceramic disc - 1 K V. (3 used)	.25
22-23	2 x .0015 mfd. ceramic disc - 500 V.	.40
22-24	2 x .0047 mfd. ceramic disc - 1 K V.	.40
22-25	2 x 51 mmf. ceramic disc - 500 V.	.40
22-1516	4.7 mmf. gimmick - 500 V. (2 used)	.25
22-1762	1.0 mmf. gimmick - 500 V.	.25
22-1778	.047 mfd. molded - 200 V.	.30
22-1841	.1 mfd. molded - 600 V.	.45
22-2147	.15 mfd. molded - 200 V.	.35
22-2343	3.3 mmf. gimmick - 500 V.	.26
22-2383	4.5 mmf. ceramic disc - 500 V.	.25
22-2460	50 mmf. gimmick - 500 V. (2 used)	.25
22-2467	47 mmf. ceramic disc - 500 V.	.25
22-2480	470 mmf. mica - 500 V.	.50
22-2501	.0068 mfd. molded - 400 V. (2 used)	.30
22-2510	.033 mfd. molded - 200 V.	.30
22-2513	7 mmf. ceramic disc - 500 V.	.25
22-2572	.068 mfd. molded - 200 V.	.45
22-2621	.022 mfd. molded - 400 V.	.25
22-2622	.0022 mfd. ceramic disc - 500 V.	.25
22-2635	.033 mfd. molded - 400 V.	.30
22-2667	330 mmf. mica - 500 V.	.25
22-2742	7.5 mmf. gimmick - 500 V.	.20
22-2869	145 mmf. ceramic disc - 4 K V.	.50
22-3022	470 mmf. mica - 500 V.	.35
22-3035	12 mmf. ceramic disc - 500 V. (2 used)	.25
22-3065	27 mmf. gimmick - 500 V.	.20
22-3066	10 mmf. gimmick - 500 V.	.20
22-3072	4.3 mmf. gimmick - 500 V.	.20

Part No.	Description	Suggested Retail Price	Part No.	Description	Suggested Retail Price
22-3135	.1 mfd. molded - 400 V. (2 used)	.35	63-1915	1.2 megohm 1/2W Ins. 10%	.17
22-3139	20 mmf. ceramic disc - 500 V.	.25	63-1926	2.2 megohm 1/2W Ins. 20% (2 used)	.17
22-3179	1500 mmf. mica - 300 V.	.60	63-1929	2.7 megohm 1/2W Ins. 10%	.17
22-3180	2200 mmf. mica - 500 V.	.75	63-1974	3300 ohm 1W Ins. 10% (part of 95-1695)	.25
22-3200	.068 molded - 600 V.		63-2149	470 K ohm 1W Ins. 20%	.25
22-3217	470 mmf. ceramic disc - 1 K V.	.25	63-2285	220 ohm 1W Ins. 20%	.25
22-3219	.22 mfd. molded - 600 V.		63-2286	330 ohm 1W Ins. 20%	.25
22-3221	5.5 mmf. ceramic disc - 500 V.	.25	63-2290	680 ohm 1W Ins. 10%	.25
22-3222	.001 mfd. ceramic disc - 1 K V.	.25	63-2309	120 K ohm 2W Ins. 10%	.34
22-3226	2 x .001 mfd. ceramic disc - 500 V. (2 used)	.40	63-2380	5600 ohm 1/2W Ins. 10%	.17
22-3227	.022 mfd. molded - 200 V.		63-2848	22 K ohm 1/2W Ins. 10% (2 used)	.17
22-3228	Electrolytic - 40/400 80/400 200/50		63-3162	330 ohm 1/2W Ins. 10%	.17
22-3239	.1 mfd. molded - 400 V.		63-3284	Buzz control	.60
22-3243	Electrolytic - 10/400 25/25 5/25		63-3607	230 K ohm 1/2W Ins. 20%	.17
22-3244	Electrolytic - 80/400 4/350		63-4012	Fringe lock control	1.40
24-846	Sweep housing cover (rear-bottom)	.10	63-4055	7500 ohm 4W Ins. 10%	.65
43-332	Socket contact housing (18E20Q)	.15	63-4080	3.3 megohm 1/2W Ins. 10%	.17
52-832	2 conductor shielded lead (AC)	.70	63-4093	27 K ohm 2W Ins. 10% (2 used)	.34
52-833	2 conductor shielded lead	1.10	63-4095	AGC control	1.40
58-209	2 prong plug - AC (part of S-46799)	.35	63-4097	10 K ohm 3W Ins. 10%	.45
62-21	Fuse holder	.40	63-4098	8200 ohm 3W Ins. 10%	.45
62-24	Fuse holder		63-4389	8.2 megohm 1/2W Ins. 10%	.17
63-1566	22 K ohm 2W Ins. 10%	.34	63-4455	Focus control	1.40
63-1574	1000 ohm 1W Ins. 20%	.25	63-4478	18 K ohm 1/2W Ins. 20%	.17
63-1708	15 ohm 1/2W Ins. 10%	.17	63-4482	100 K ohm 1/2W Ins. 10%	.17
63-1715	22 ohm 1/2W Ins. 10%	.17	63-4484	3900 ohm 4W 10%	.65
63-1733	56 ohm 1/2W Ins. 10%	.17	63-4489	Contrast control	1.40
63-1744	100 ohm 1/2W Ins. 20% (3 used)	.17	63-4619	15 megohm 1/2W Ins. 10%	.17
63-1747	120 ohm 1/2W Ins. 10%	.17	63-4628	150 K ohm 1/2W Ins. 20%	.17
63-1758	220 ohm 1/2W Ins. 20%	.17	63-4635	Vertical size control	1.40
63-1765	330 ohm 1/2W Ins. 20%	.17	63-4636	Vertical linearity control	
63-1779	680 ohm 1/2W Ins. 20%	.17	63-4637	Voltage dependant resistor	
63-1786	1000 ohm 1/2W Ins. 20% (3 used)	.17	63-4648	Thermal resistor (part of 95-1695)	.90
63-1792	1500 ohm 1/2W Ins. 10%	.17	63-4661	Volume control & switch	
63-1803	2700 ohm 1/2W Ins. 10%	.17	63-4674	9.1 ohm 1/2W Ins. 10%	.17
63-1806	3300 ohm 1/2W Ins. 10%	.17	63-4676	Brightness control	1.40
63-1810	3900 ohm 1/2W Ins. 10%	.17	63-4678	Vertical hold control	1.40
63-1820	6800 ohm 1/2W Ins. 10%	.17	63-4679	Tone control	1.40
63-1827	10 K ohm 1/2W Ins. 10%	.17	63-4693	22 K ohm 1W Ins. 20%	.25
63-1834	15 K ohm 1/2W Ins. 10%	.17	76-995	Contrast control shaft	.15
63-1841	22 K ohm 1/2W Ins. 10%	.17	78-755	Octal tube socket (5Y3) (6DQ6B)	.20
63-1845	27 K ohm 1/2W Ins. 10%	.17	78-834	Octal tube socket (6DE4)	.30
63-1847	33 K ohm 1/2W Ins. 5%	.34	78-917	7 contact wafer tube socket (2 used) (6BZ6)	.30
63-1848	33 K ohm 1/2W Ins. 10%	.17	78-1055	High voltage socket (1J3) (part of S-43117)	1.25
63-1852	39 K ohm 1/2W Ins. 10%	.17	78-1091	7 contact wafer tube socket (6DK6)	.35
63-1855	47 K ohm 1/2W Ins. 10% (2 used)	.17	78-1092	7 contact wafer tube socket (6BN6)	.35
63-1859	56 K ohm 1/2W Ins. 10% (2 used)	.17	78-1093	9 contact wafer tube socket (6CG7)	.20
63-1866	82 K ohm 1/2W Ins. 10%	.17	78-1102	Octal tube socket (6EZ5)	.20
63-1869	100 K ohm 1/2W Ins. 10% (3 used)	.17	78-1133	9 contact wafer tube socket (6GH8)	.25
63-1870	100 K ohm 1/2W Ins. 20% (3 used)	.17	78-1139	9 contact wafer tube socket (6BU8)	.20
63-1873	120 K ohm 1/2W Ins. 10% (3 used)	.17	78-1148	9 contact wafer tube socket (6EB8)	.20
63-1876	150 K ohm 1/2W Ins. 10%	.17	78-1158	C.R. tube socket & wire	
63-1884	220 K ohm 1/2W Ins. 20% (2 used)	.17	78-1159	7 contact molded tube socket (6AQ5A)	.20
63-1887	270 K ohm 1/2W Ins. 10%	.17	78-1164	Octal tube socket (5U4GB)	
63-1890	330 K ohm 1/2W Ins. 10% (2 used)	.17	80-1225	Retaining spring (used on 76-995)	.03
63-1891	330 K ohm 1/2W Ins. 20% (2 used)	.17	83-2350	2 lug terminal strip	.05
63-1894	390 K ohm 1/2W Ins. 10%	.17	83-2377	15 lug terminal strip - grip type (2 used)	.45
63-1904	680 K ohm 1/2W Ins. 10%	.17	83-2768	8 lug terminal strip - grip type (3 used)	.20
63-1905	680 K ohm 1/2W Ins. 20%	.17			
63-1911	1 megohm 1/2W Ins. 10% (2 used)	.17			
63-1912	1 megohm 1/2W Ins. 20%	.17			

Part No.	Description	Suggested Retail Price
83-2769	10 lug terminal strip - grip type (2 used)	.25
83-2383	3 lug terminal strip	.05
83-3313	5 lug terminal strip	.10
86-254	Connector terminal 82 used on 18D20Q)	.05
86-300	Connector terminal	.05
86-303	Socket terminal (3 used on 18D20Q)	.04
86-304	Connector terminal (2 used)	.05
86-328	Terminal (3 part of S-46848 & 1 part of S-46849)	
95-1569	Audio output transformer	2.50
95-1693	Power transformer	
95-1695	Deflection yoke	
95-1696	Vertical output transformer	
95-1728	Filter choke	
or 95-1694	Filter choke	
100-235	Neon bulb - NEZ	.12
103-20	Dual selenium diode	1.50
103-23	Crystal diode	.75
125-26	Rubber grommet (2 used on 78-1102)	.03
125-94	Rubber grommet (used on S-48572)	.03
126-837	Tube shield & base	.10
126-866	Interstage shield	.10
126-921	Coil shield (quadrature coil)	.10
136-38	Fuse - 700 MA slo-blo	.35
136-42	Fuse - 5 amp. slo-blo	
149-211	Iron core (1 part of S-47702, 2 part of ea. S-41883, S-43443 & S-48046)	.10
149-131	Iron core (part of S-47150)	.20
149-171	Iron core sleeve	.10
149-213	Iron core (2 part of S-43125)	.10
149-214	Iron core (1 part of ea. S-43717 & S-46741 & 2 part of S-47967)	.10
149-215	Iron core (part of S-47660)	.25
149-238	Iron core & spring	.60
188-191	Corona ring	.20
199-206	Shielded paper sleeve	.05
199-245	Insulating sleeve	.05
199-246	Insulating sleeve	.05
S-16011	Video shunt peaking coil	.50
S-21888	Choke coil (part of S-47967)	.50
S-22777	Spook choke coil	.30
S-23004	Shielded lead & plug assembly	.65
S-41879	Det. series peaking coil (part of S-47967)	.50
S-41883	Adj. channel trap coil	1.00
S-42294	Coil shield & mtg. clip assembly (intercarrier coil - sound take-off coil)	.30
S-43117	H.V. socket & bracket assembly	1.10
S-43125	Sound take-off coil (part of S-43126)	1.00
S-43126	Sound take-off coil & capacitor assembly	2.00
S-43443	2nd I.F. & trap coil assembly	2.25
S-43618	Video series peaking coil assembly	.50
S-43619	Det. shunt peaking coil	.50

Part No.	Description	Suggested Retail Price
S-43624	Coil shield & mtg. clip assembly (4th I.F.)	.35
S-43717	Intercarrier coil, shield, capacitor & wire assembly	2.25
S-46554	Yoke cover & centering device (part of 95-1695)	1.25
S-46741	3rd I.F. transformer & shield assembly	2.50
S-46799	A.C. plug & bracket assembly	.40
S-46848	Sweep transformer housing	1.50
S-46849	Sweep housing cover (front)	.25
S-47150	Horizontal oscillator coil	1.50
S-47660	Horizontal linearity coil	
S-47662	Horizontal sweep transformer	
S-47702	Quadrature coil	
S-47967	4th I.F. transformer	3.50
S-48046	1st I.F. & trap coil assembly	2.00
S-48572	Anode lead	
S-49099	Horizontal width coil	
S-49185	Control mtg. bracket & plate assembly	

TUBES

1J3	6CG7
5Y3GT	6EZ5
5U4GB	6DE4
6BN6	6DK6
6AQ5A	6DQ6B
6BU8	6GH8
2 - 6BZ6	6EB8
23JP4 (CRT)	

CHASSIS HARDWARE FOR 18E20 & 18E20Q

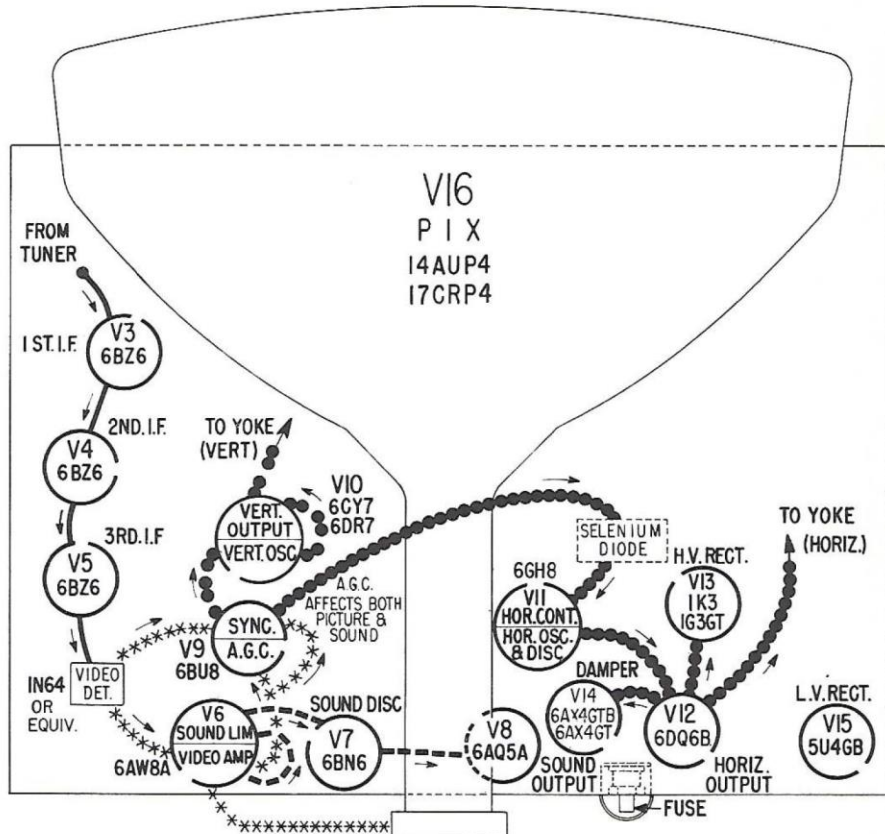
54-139	3/8-32 x 9/16 palnut (mts. 63-4636)	.03
93-1183	Fibre washer (2 used on 78-1102)	.03
93-1266	Special washer	
114-15	10-16 x 5/16 hex. hd. self-tap. screw (3 used on 95-1693)	.03
114-78	8-18 x 5/16 x 1/4 hex. hd. self-tap. screw (1 used on ea. 83-2383, 95-1696 & 95-1728; 2 used on ea. S-43117, S-47662 & S-49185 & 4 on S-46848)	.03
114-456	8-32 x 1/4 hex. hd. mach. screw - flat washer att. (used on S-47662)	.03
114-641	6-32 x 1/4 hex. hd. mach. screw - flat washer att. (mts. 12-1718)	.03
114-688	8-18 x 5/16 hex. washer hd. self-tap. screw (2 used on S-46799)	.03

E2348R	E2348W	E2348W	E2350H	E2350H	E2350M	E2350M	E2350R	E2350R	E2350W	MODEL
16D21	16E21	16D21	16E21	16D21	16E21	16D21	16E21	16D21	16E21	CHASSIS
21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	C. R. TUBE
14-2810R	14-3012	14-2810W	14-3018	14-2770H	14-3015	14-2770M	14-3016	14-2770R	14-3017	CABINET
192-279	192-279	192-279	192-262	192-262	192-262	192-262	192-262	192-262	192-262	GLASS
57-2713	57-2713	57-2713	57-2761	57-2761	57-2761	57-2761	57-2761	57-2761	57-2761	ESCUTCHEON
S-46726 S-45716*	S-46726 S-45716*	S-46726 S-45716*	S-46726	S-45716	S-46726	S-45716	S-46726	S-45716	S-46726	VOLUME KNOB
46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	CHANNEL KNOB
S-46280	S-46280	S-46280	S-46280	S-48280	S-46280	S-46280	S-46280	S-46280	S-46280	FINE TUNING KNOB
46-1118	46-1118	46-1118	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	HORIZ. HOLD KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	VERT. HOLD KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	BRIGHTNESS KNOB
S-46724	S-46724	S-46724	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	CONTRAST KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	tone knob
S-47348	S-48543	S-47348	S-48520	S-47094	S-48520	S-47094	S-4*520	S-47094	S-48520	CABINET BACK
49-831 & 49-893	49-831 & 49-893	49-831 & 49-893	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	SPEAKER
95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	DEF' L YOKE
S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	HORIZ. SWEEP
63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	VERT. HOLD CONTROL
63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	VERT. SIZE CONTROL
63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	BRIGHTNESS CONTROL
63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	VERT. LIN. CONTROL
63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	tone control
63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	BUZZ CONTROL
63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	CONTRAST CONTROL
63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	VOLUME CONTROL
S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	HORIZ. HOLD CONTROL
63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	A G C CONTROL
63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	FRINGE LOCK CONTROL
63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	FOCUS CONTROL
95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	VERT. OUTPUT TRANS.
95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	AUDIO OUTPUT TRANS.
95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	POWER TRANSFORMER
175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	V H F TUNER
175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	V H F TUNER*
175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	U H F CONT. TUNER*
S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	U H F DIAL KNOB*
S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	U H F DRIVE BELT*
24-961	24-961	24-961	S-48494	S-45743	S-48494	S-45743	S-48494	S-45743	S-48494	CONTROL COVER
202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	INSTRUCTION BOOK
None	None	None	None	None	None	None	None	None	None	SPACE COMMAND CHASSIS

**'U' MODELS ONLY

MODEL	E2350W	E2384H	E2384R	E2458W	E2460M	E2460R	E2747E	E2747M	E2747R	E2747W	E2755E	E2755R	E2755W	E27
CHASSIS	16D21	16E21	16E21	16E27	16E27	16E27	18E20	18E20	18E20	18E20	18E20	18E20	18E20	18E
C. R. TUBE	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	23JP4	23JP4	23JP4	23JP4	23JP4	23JP4	23JP4	23JP
CABINET	14-2770W	14-3020	14-3019	14-3021	14-3024	14-3025	14-3028	14-3084	14-3027	14-3026	14-3031	14-3030	14-3029	14-
GLASS	192-262	192-279	192-279	192-279	192-279	192-279	None	None	None	None	None	None	None	None
ESCUTCHEON	57-2761	57-2884	57-2884	57-2884	57-2884	57-2884	57-2840	57-2840	57-2840	57-2840	57-2840	57-2840	57-2840	57-
VOLUME KNOB	S-45716	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-4
CHANNEL KNOB	46-2171	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-2341	46-
FINE TUNING KNOB	S-46280	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-4
HORIZ. HOLD KNOB	76-1025	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-
VERT. HOLD KNOB	S-43672	None	None	None	None	None	None	None	None	None	None	None	None	None
BRIGHTNESS KNOB	S-43672	None	None	None	None	None	None	None	None	None	None	None	None	None
CONTRAST KNOB	S-41482	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-4
tone knob	S-43672	46-2306 (2)	46-2306 (2)	S-45716 (2)	S-45716 (2)	S-45716 (2)	None	None	None	None	None	None	None	None
CABINET BACK	S-47094	S-48716	S-48716	S-48642	S-48649	S-48649	S-48424	S-48424	S-48424	S-48424	S-48374	S-48374	S-48374	S-4
SPEAKER	49-818 & 49-851	49-831 (2) 49-846 (2)	49-831 (2) 49-846 (2)	49-831 (2) & S-23829 (2)	49-831 (2) & S-23829 (2)	49-831 (2) & S-23829 (2)	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851
DEF'L YOKE	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1695	95-1695	95-1695	95-1695	95-1695	95-1695	95-1695	95-
HORIZ. SWEEP	S-47071	S-47071	S-47071	S-46592	S-46592	S-46592	S-47662	S-47662	S-47662	S-47662	S-47662	S-47662	S-47662	S-4
VERT. HOLD CONTROL	63-4486	63-4677	63-4677	63-4677	63-4677	63-4677	63-4678	63-4678	63-4678	63-4678	63-4678	63-4678	63-4678	63-
VERT. SIZE CONTROL	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4635	63-4635	63-4635	63-4635	63-4635	63-4635	63-4635	63-
BRIGHTNESS CONTROL	63-4487	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-
VERT. LIN. CONTROL	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4636	63-4636	63-4636	63-4636	63-4636	63-4636	63-4636	63-
tone control	63-4488	63-4679	63-4679	63-4499 & 63-4592	63-4499 & 63-4592	63-4499 & 63-4592	63-4679	63-4679	63-4679	63-4679	63-4679	63-4679	63-4679	63-
BUZZ CONTROL	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-
CONTRAST CONTROL	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-
VOLUME CONTROL	63-4610	63-4661	63-4661	63-4659	63-4659	63-4659	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-
HORIZ. HOLD CONTROL	S-45679	S-45679	S-45679	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-4
A G C CONTROL	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-
FRINGE LOCK CONTROL	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-
FOCUS CONTROL	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-
VERT. OUTPUT TRANS.	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1696	95-1696	95-1696	95-1696	95-1696	95-1696	95-1696	95-
AUDIO OUTPUT TRANS.	95-1569	95-1569	95-1569	95-1703	95-1703	95-1703	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-
POWER TRANSFORMER	95-1680	95-1680	95-1680	95-1726	95-1726	95-1726	95-1693	95-1693	95-1693	95-1693	95-1693	95-1693	95-1693	95-
V H F TUNER	175-134	175-134	175-134	175-138	175-138	175-138	175-144	175-144	175-144	175-144	175-144	175-144	175-144	175
V H F TUNER*	175-133	175-133	175-133	175-137	175-137	175-137	175-143	175-143	175-143	175-143	175-143	175-143	175-143	175
U H F CONT. TUNER*	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175
U H F DIAL KNOB*	S-45733	S-48228	S-48228	S-48228	S-48228	S-48228	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-4
U H F DRIVE BELT*	S-46862	S-45472	S-45472	S-45472	S-45472	S-45472	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-4
CONTROL COVER	S-45743	24-964	24-964	24-964	24-964	24-964	24-1002	24-1002	24-1002	24-1002	24-1002	24-1002	24-1002	24-
INSTRUCTION BOOK	202-1466	202-1589	202-1589	202-1583	202-1583	202-1583	202-1560	202-1560	202-1560	202-1560	202-1560	202-1560	202-1560	202
SPACE COMMAND CHASSIS	None	None	None	None	None	None	None	None	None	None	None	None	None	None

MODEL
MODELS)

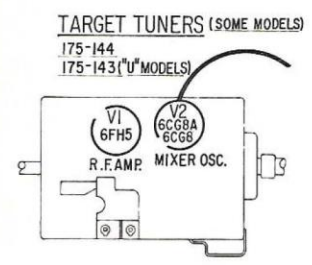
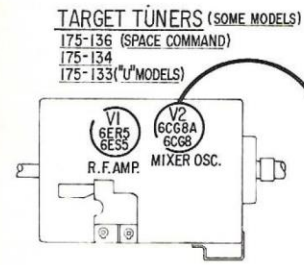
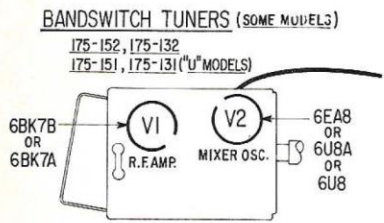


SOUND CIRCUIT -----
 COMPOSITE VIDEO *****
 60 CYCLES VOLTS 117 A.C.

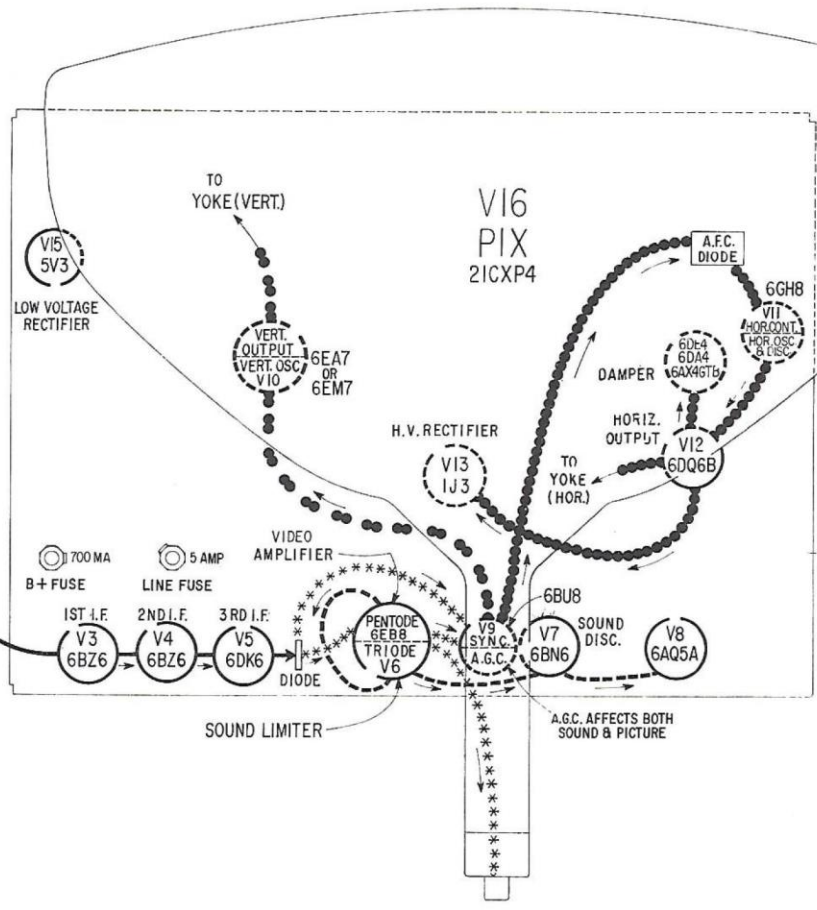
VERTICAL CIRCUIT ●●●●●●●●●●
 HORIZONTAL CIRCUIT ●●●●●●●●●●
 WATTS 180
 AMPS 1.60

(KEY WAY)

Fig. 30 Schematic Diagram 16E20 Chassis



TUBE POSITIONING GUIDE (KEY WAY)



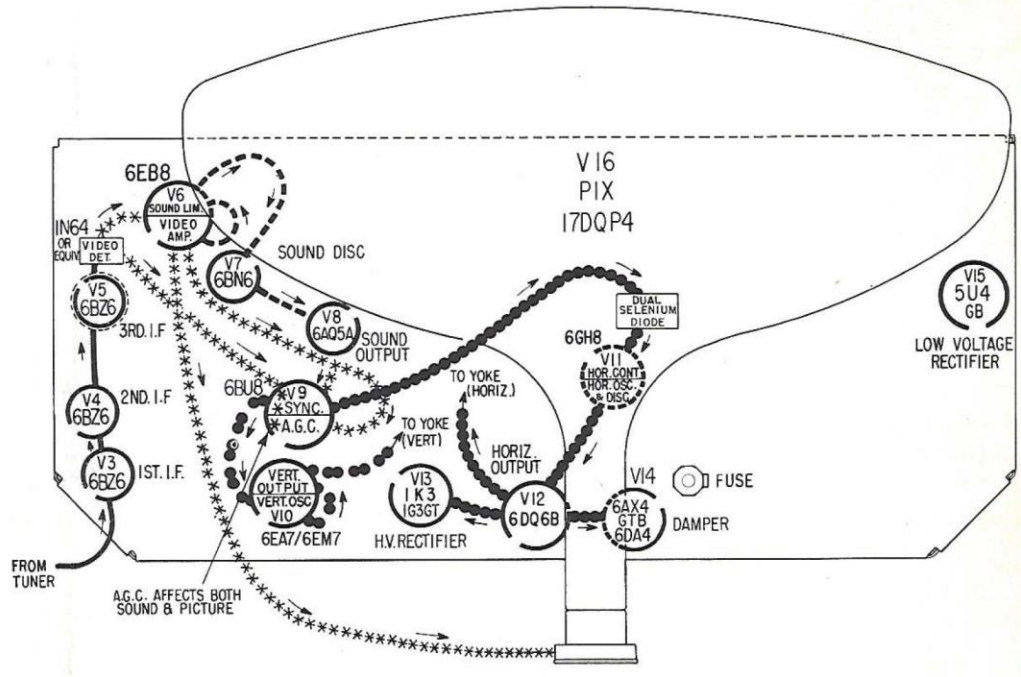
SOUND CIRCUIT	-----	VERTICAL CIRCUIT	●●●●●●●●●●
COMPOSITE VIDEO	*****	HORIZONTAL CIRCUIT	—————
CYCLES 60	VOLTS 117A.C.	INTERMEDIATE FREQUENCY	—————
		WATTS	215 (16E21) 295 (16E21Q)
		AMPS	1.95 (16E21) 2.65 (16E21Q)

Fig. 31 Schematic Diagram 16E21, 16E21Q, 16D21 and 16D21Q Chassis

MODELS)



MODELS)

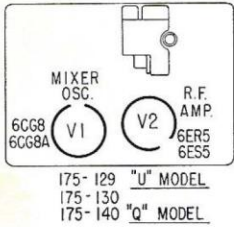


SOUND CIRCUIT	-----	VERTICAL CIRCUIT	●●●●●●●●●●
COMPOSITE VIDEO	*****	HORIZONTAL CIRCUIT	●●●●●●●●●●●●●●●●●●●●
VOLTS	117 AC	INTERMEDIATE FREQUENCY	—————
	60 CYCLES	WATTS	210 (16E25) 290 (16E25Q)
		AMPS	1.9 (16E25) 2.5 (16E25Q)

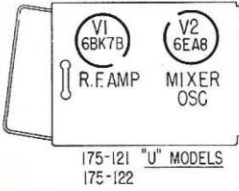
(KEY WAY)

Fig. 32 Schematic Diagram 16E25 and 16E25Q Chassis

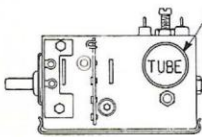
TARGET TUNER (SOME MODELS)



BANDSWITCH TUNER (SOME MODELS)



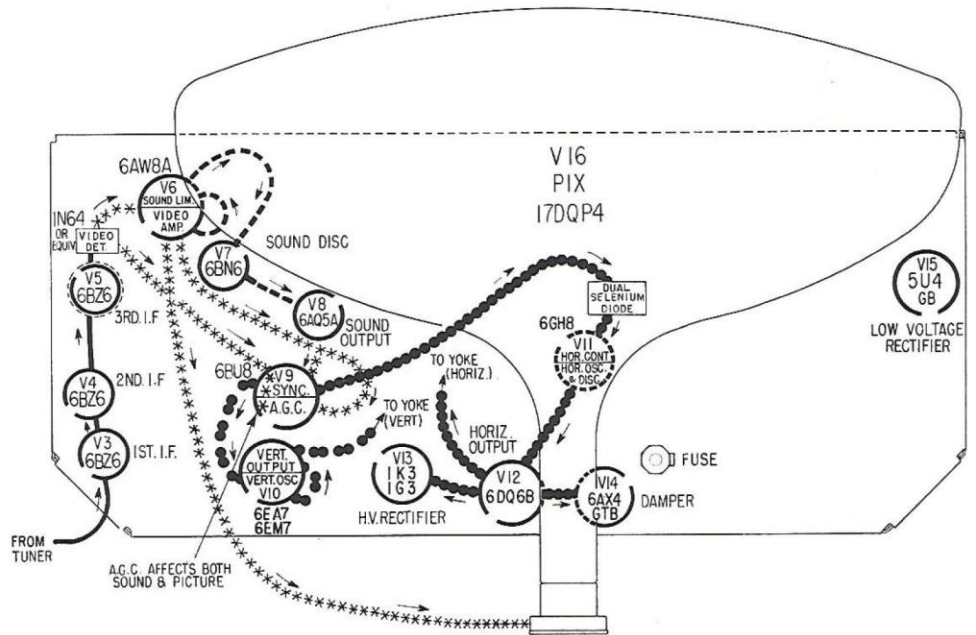
6AF4 or 6AF4A (OSC) ('U' MODELS ONLY)



U.H.F. TUNER 175-8



TUBE POSITIONING GUIDE (KEY WAY)



SOUND CIRCUIT -----
 COMPOSITE VIDEO *****

VERTICAL CIRCUIT
 HORIZONTAL CIRCUIT

VOLTS 117 AC 60 CYCLES

WATTS 210 16D25 - 290 16D25Q
 AMPS 1.9 16D25 - 2.5 16D25Q

Fig. 33 Schematic Diagram 16D25 and 16D25Q Chassis

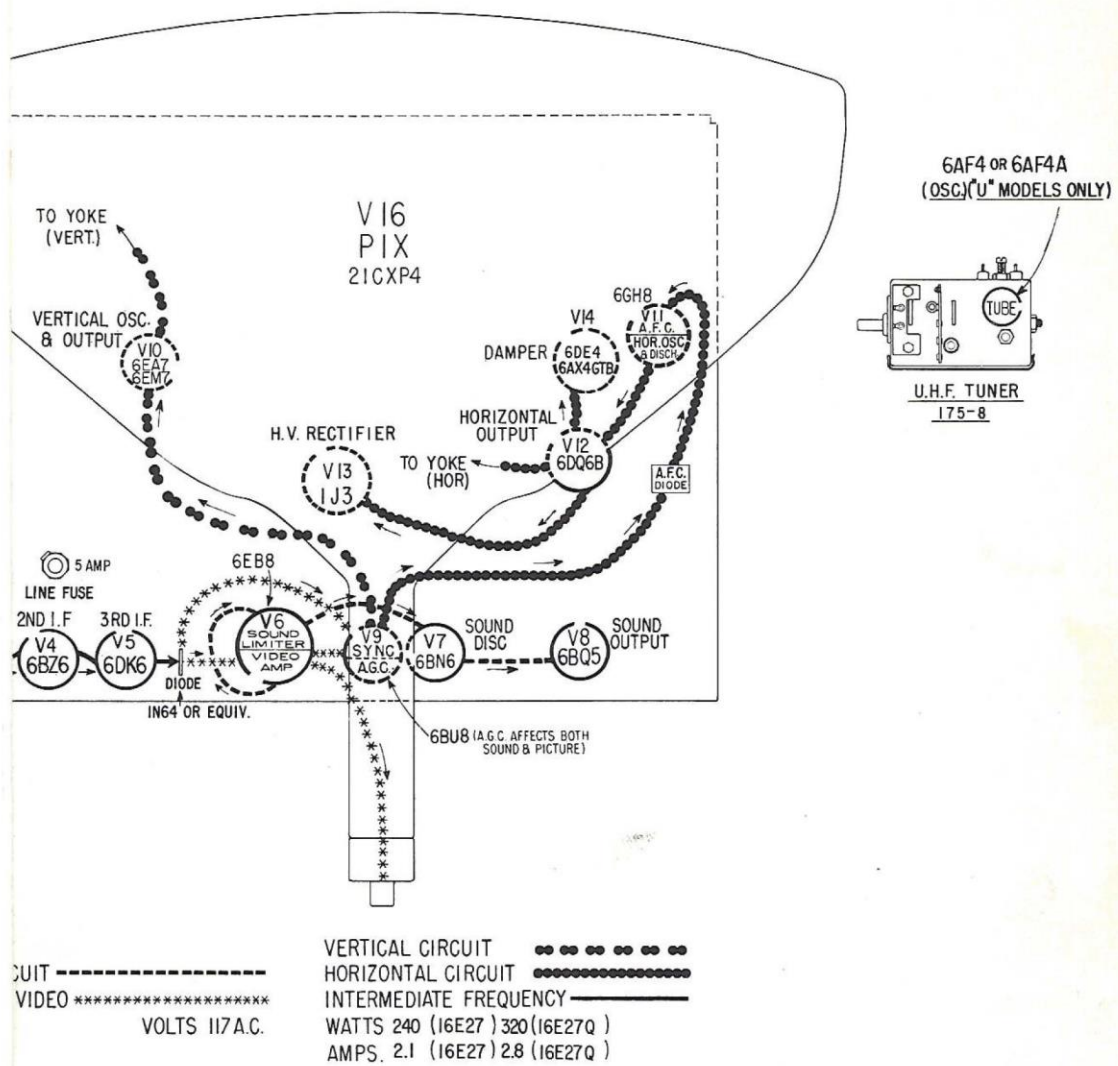
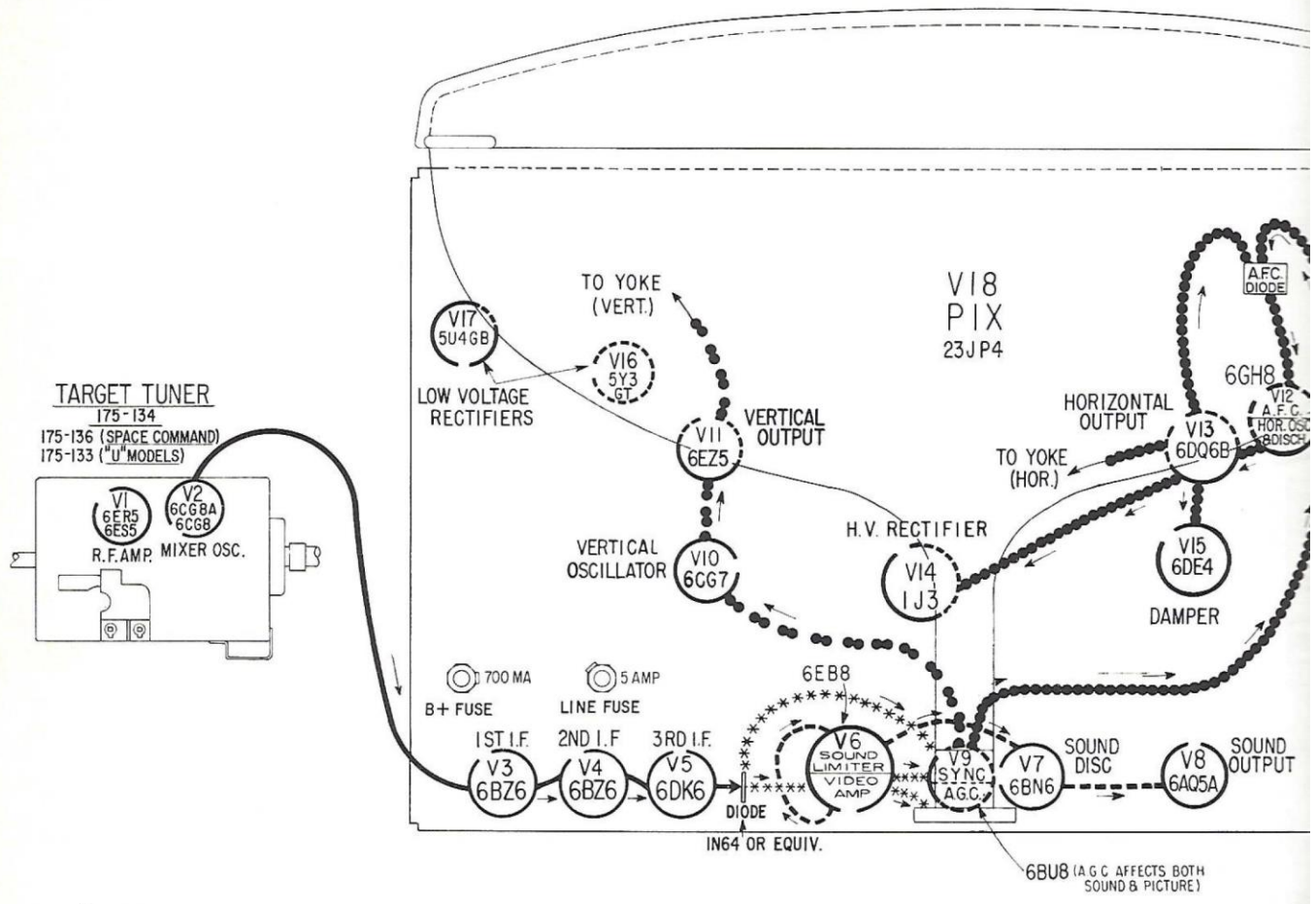


Fig. 34 Schematic Diagram 16E27 and 16E27Q Chassis



TUBE POSITIONING GUIDE (KEYWAY)

VERTICAL CIRCUIT	●●●●●●●●●●
SOUND CIRCUIT	-----
COMPOSITE VIDEO	*****
CYCLES 60	VOLTS 117A.C.
INTERMEDIATE FREQUENCY	—————
WATTS 245 (18D20, 18E20)	325 (18D20Q, 18E20Q)
AMPS 2.20 (18D20, 18E20)	2.90 (18D20Q, 18E20Q)

Fig. 35 Schematic Diagram 18E20, 18E20Q, 18D20 and 18D20Q Chassis

ITEM NO.	PART NUMBER	DESCRIPTION	
C1	22-2146	24 MF ±10% DISC	500 V
C2	22-2020	28 MF ±10% DISC	500 V
C3	22-3111	30 MF F.T. ±7-3.55	500 V
C4	22-3060	120 MF F.T. ±5 DISC	500 V
C5	22-2012	1000 MF F.T. GMV	500 V
C6	22-3000	1.0 - 4.5 MF TRIMMER	500 V
C7	22-3148	1.0 - 4.5 MF TRIMMER	500 V
C8	22-3147	75 MF F.T. ±55	500 V
C9	22-2012	1000 MF F.T. GMV	500 V
C10	22-3000	1.0 - 4.5 MF TRIMMER	500 V
C11	22-2015	47 MF ±10%	500 V
C12	22-3112	40 MF F.T. ±405	500 V
C13			
C14	22-3058	1000 MF GMV	500 V
C15	22-3025	18 MF ±10% N220	500 V
C16	22-3026	7.5 MF ±2.25 MF ±150	500 V
C17	22-2012	1000 MF F.T. GMV	500 V
C18	22-2012	1000 MF F.T. GMV	500 V
C19	22-3181	220 MF	500 V
L1	S-4087	SERIES TRAP COIL ASSEMBLY	
L2	20-617	PARALLEL TRAP COIL	
L3	20-721	MIXER SCREEN REGENERATION COIL	
L4	S-45328	MIXER PLATE COIL ASSEMBLY	
L5	S-43559	FINE TUNING COIL ASSEMBLY	
L6	20-704	FILAMENT CHOKE COIL	
L7	20-756	CHUKE COIL	
T1	S-41511	ANT. INPUT TRANS. & TRAP ASSEMBLY	
174-2	CH. 2 STRIP (264)		
174-3	CH. 3 STRIP (364)		
174-4	CH. 4 STRIP (464)		
174-5	CH. 5 STRIP (564)		
174-6	CH. 6 STRIP (664)		
174-7	CH. 7 STRIP (764)		
174-8	CH. 8 STRIP (864)		
174-9	CH. 9 STRIP (964)		
174-10	CH. 10 STRIP (1064)		
174-11	CH. 11 STRIP (1164)		
174-12	CH. 12 STRIP (1264)		
174-13	CH. 13 STRIP (1364)		

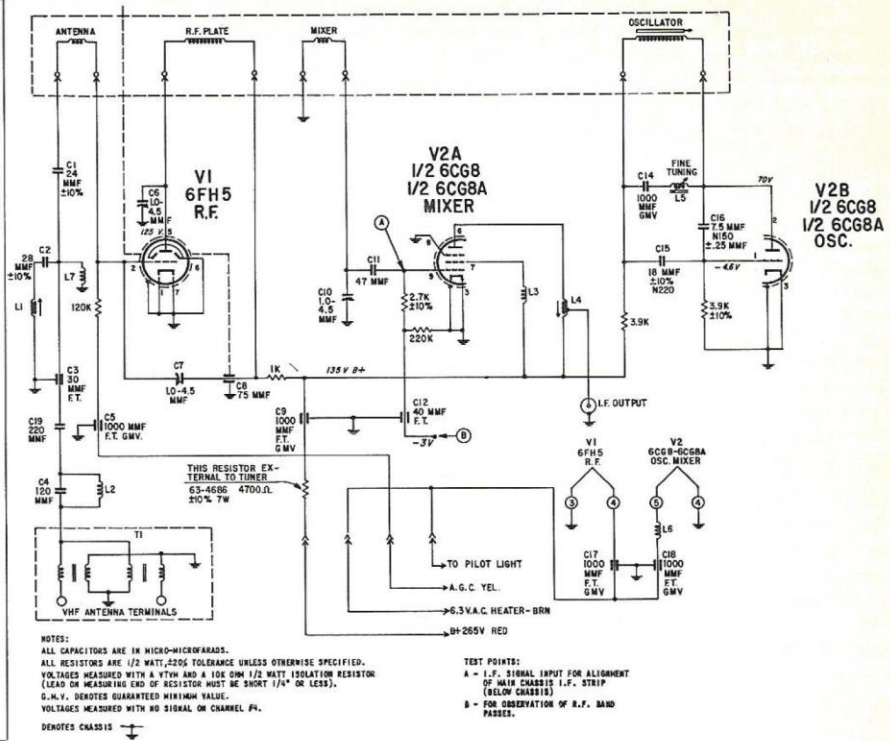


Fig. 36 Schematic Diagram 175-144 Target Tuner

ITEM NO.	PART NUMBER	DESCRIPTION	
C1	22-2020	28 MF ±10% DISC	500 V
C2	22-3111	30 MF F.T. ±7-3.55	500 V
C3	22-2020	27 MF ±10% DISC	500 V
C4	22-3203	27 MF ±10% DISC	500 V
C5	22-2020	27 MF ±10% DISC	500 V
C6	22-3203	27 MF ±10% DISC	500 V
C7	22-3181	1.0-7.0 MF TRIMMER	500 V
C8	22-3190	5-3.5 MF TRIMMER	500 V
C9	22-3195	100 MF F.T. ±25	500 V
C10	22-3193	30 MF ±10%	500 V
C11	22-3190	5-3.5 MF TRIMMER	500 V
C12	22-3189	1000 MF F.T. GMV	500 V
C13	22-3025	18 MF ±10% N220	500 V
C14	22-3058	1000 MF GMV DISC	500 V
C15	22-3031	6.3 MF ±2.25 MF	500 V
C16	22-3189	1000 MF F.T. GMV	500 V
C17	22-3189	1000 MF F.T. GMV	500 V
R1	63-4056	4.7K OHM ±10%	7 W
L1	20-762	END SECTION COIL	
L2	20-763	MID SECTION COIL	
L3	20-762	END SECTION COIL	
L4	20-758	SCREEN REGENERATION COIL	
L5	S-47270	MIXER PLATE COIL ASSEMBLY	
L6	S-47501	FINE TUNING COIL ASSEMBLY	
T1	S-47561	ANT. BALUN TRANS. AND FILTER ASSEMBLY	
174-22	CH. 2 STRIP (2604)		
174-23	CH. 3 STRIP (3604)		
174-24	CH. 4 STRIP (4604)		
174-25	CH. 5 STRIP (5604)		
174-26	CH. 6 STRIP (6604)		
174-27	CH. 7 STRIP (7604)		
174-28	CH. 8 STRIP (8604)		
174-29	CH. 9 STRIP (9604)		
174-30	CH. 10 STRIP (10604)		
174-31	CH. 11 STRIP (11604)		
174-32	CH. 12 STRIP (12604)		
174-33	CH. 13 STRIP (13604)		

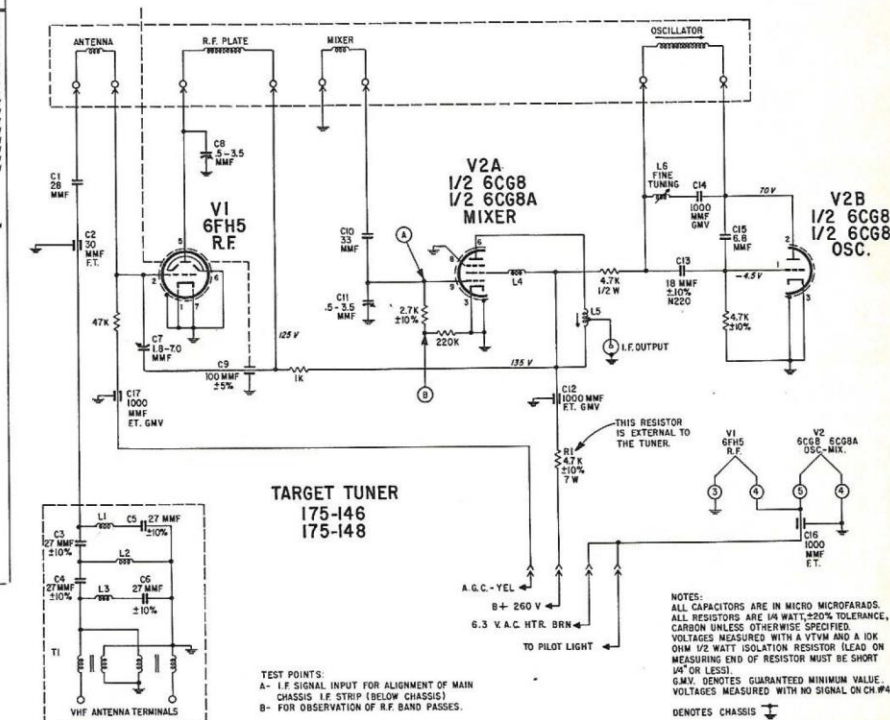


Fig. 37 Schematic Diagram 175-146 and 175-148 Target Tuners

ITEM NO.	PART NUMBER	DESCRIPTION	500 V
C1	22-3146	24 MWF ±10% DISC	500 V
C2	22-2970	28 MWF ±10% DISC	500 V
C3	22-3111	30 MWF F.T. -7-3-5%	500 V
C4	22-3060	120 MWF 37.5% DISC	500 V
C5	22-2912	1000 MWF F.T. 0W	500 V
C6	22-3009	1.0 - 4.5 MWF TRIMMER	500 V
C7	22-3148	1.0 - 4.5 MWF TRIMMER	500 V
C8	22-3147	75 MWF F.T. .5%	500 V
C9	22-2912	1000 MWF F.T. 0W	500 V
C10	22-3009	1.0 - 4.5 MWF TRIMMER	500 V
C11	22-2915	47 MWF ±10%	500 V
C12	22-3112	40 MWF F.T. 40%	500 V
C13	22-2959	1000 MWF 0W DISC	500 V
C14	22-3058	1000 MWF 0W	500 V
C15	22-3025	18 MWF ±10% K220	500 V
C16	22-3291	6.8 MWF ±25 MWF N150	500 V
C17	22-2912	1000 MWF F.T. 0W	500 V
C18	22-2912	1000 MWF F.T. 0W	500 V
C19	22-3181	220 MWF	500 V
R1	63-3179	15K OHM ±10%	1 W
L1	S-10497	SERIES TRAP COIL ASSEMBLY	
L2	20-657	PARALLEL TRAP COIL	
L3	20-721	MIXER SCREEN REGENERATION COIL	
L4	S-45638	MIXER PLATE COIL ASSEMBLY	
L5	S-43559	FINE TUNING COIL ASSEMBLY	
L6	20-734	FILAMENT CHOKE COIL	
L7	20-756	CHOKO COIL	
T1	S-41511	ANT. INPUT TRANS. & TRAP ASSEMBLY	
174-2		CR. 2 STRIP (25%)	
174-3		CR. 3 STRIP (30%)	
174-4		CR. 4 STRIP (40%)	
174-5		CR. 5 STRIP (50%)	
174-6		CR. 6 STRIP (60%)	
174-7		CR. 7 STRIP (70%)	
174-8		CR. 8 STRIP (80%)	
174-9		CR. 9 STRIP (90%)	
174-10		CR. 10 STRIP (100%)	
174-11		CR. 11 STRIP (100H)	
174-12		CR. 12 STRIP (120H)	
174-13		CR. 13 STRIP (130%)	

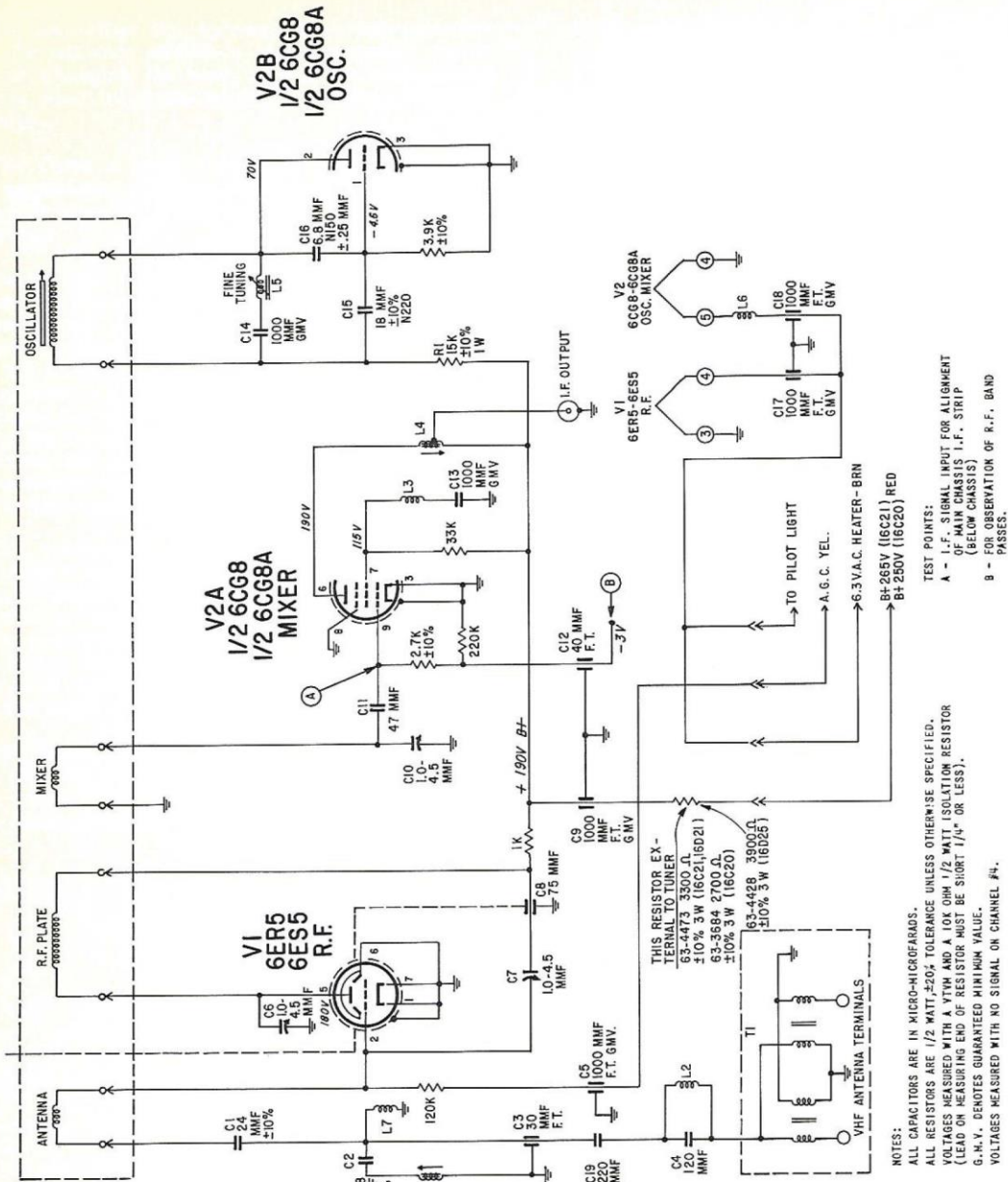
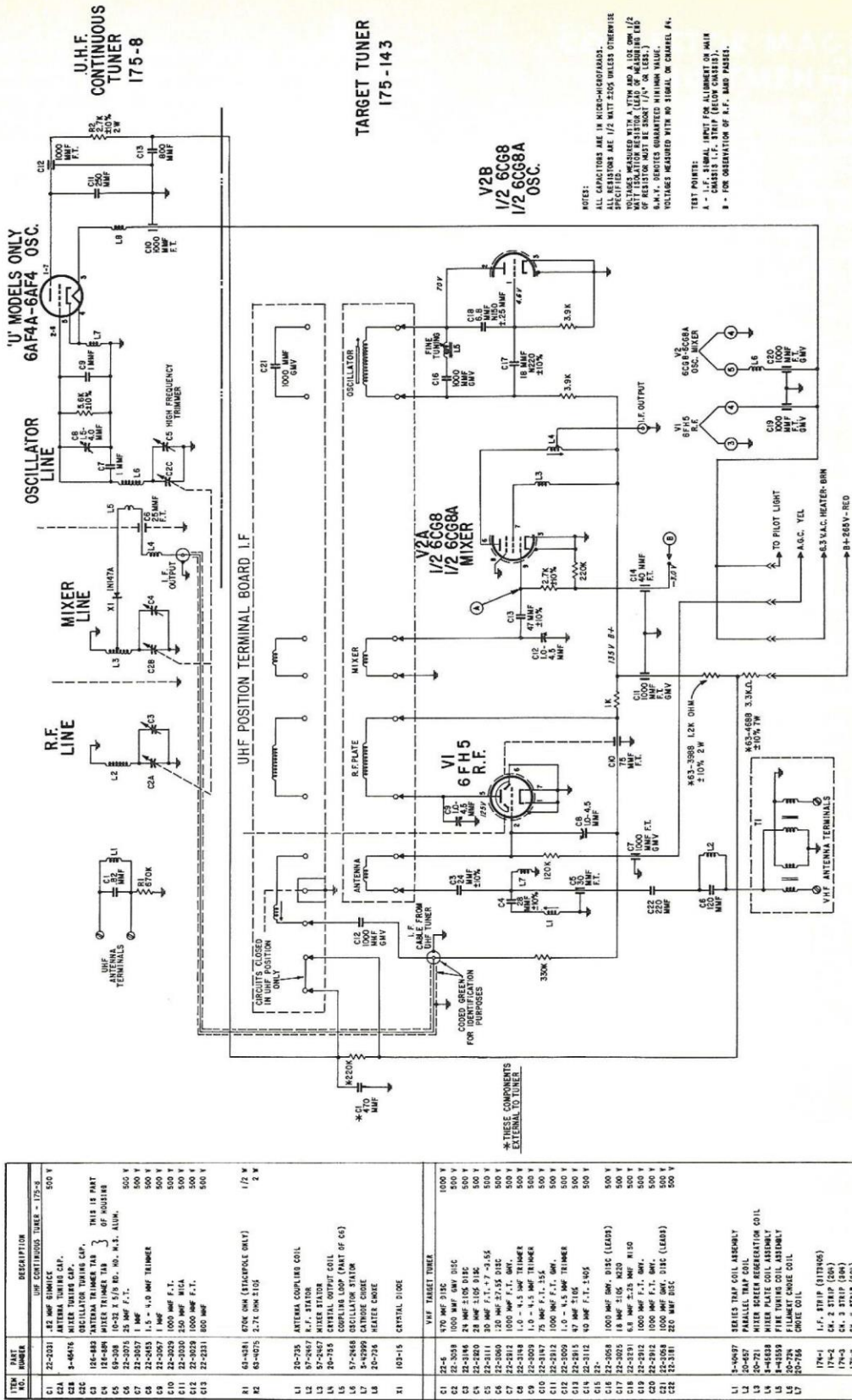
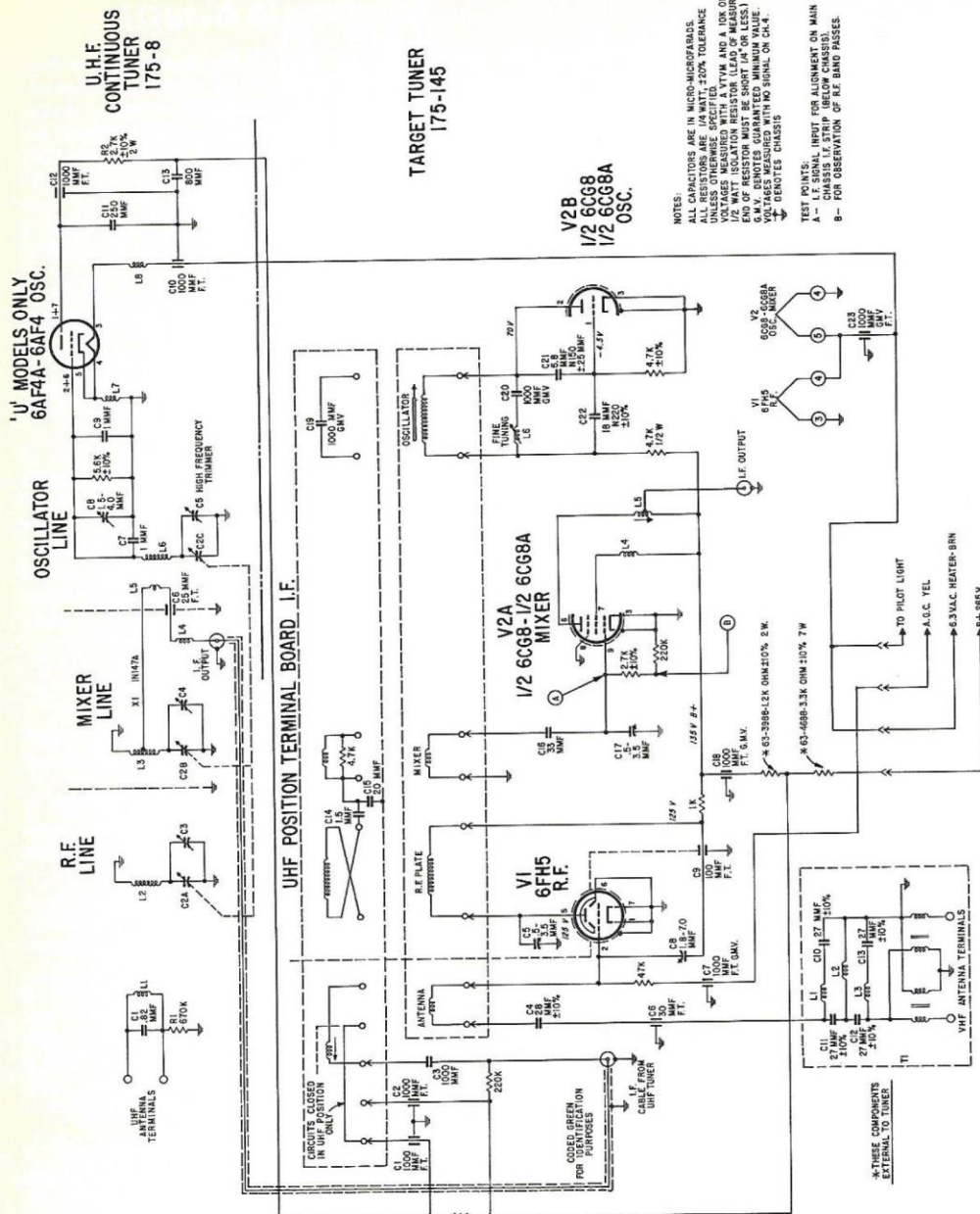


Fig. 38 Schematic Diagram 175-134 and 175-136 Target Tuners



ITEM NO.	PART NUMBER	DESCRIPTION	QTY	REMARKS
C1	22-2311	.22 MUF 500V	1	UHF CONTINUOUS TUNER - 175-8
C2A	1-4075	ANTENNA TUNING CAP.	1	
C2B	1-4075	OSCILLATOR TUNING CAP.	1	
C3	124-843	ANTENNA TRIMMER TAB	1	THIS IS PART OF HOUSING
C4	124-843	MIXER TRIMMER TAB	1	
C5	69-308	10-32 X 1/8 IN. HO. N.S. ALUM.	1	
C6	22-2307	1 MUF 500V	1	
C7	22-2307	1 MUF 500V	1	
C8	22-2307	1 MUF 500V	1	
C9	22-2307	1 MUF 500V	1	
C10	22-2307	1 MUF 500V	1	
C11	22-2307	1 MUF 500V	1	
C12	22-2307	1 MUF 500V	1	
C13	22-2311	800 MUF 500V	1	
R1	68-4361	675K OHM (STACKABLE ONLY)	1	1/2 W
R2	68-4075	2.7K OHM 1/50	1	2 W
L1	20-735	ANTENNA COUPLING COIL	1	
L2	97-2867	R.F. STATOR	1	
L3	97-2867	MIXER STATOR	1	
L4	20-155	COUPLING COIL	1	
L5	20-155	COUPLING COIL (PART OF C5)	1	
L6	97-2868	OSCILLATOR STATOR	1	
L7	97-2869	CATHODE COIL	1	
L8	20-736	HEATER COIL	1	
Z1	109-15	CRYSTAL DIODE	1	
C1	22-2	970 MUF 500V	1	1000 V
C2	22-3059	1000 MUF 500V DISC	1	500 V
C3	22-3059	1000 MUF 500V DISC	1	500 V
C4	22-3059	1000 MUF 500V DISC	1	500 V
C5	22-3059	1000 MUF 500V DISC	1	500 V
C6	22-3059	1000 MUF 500V DISC	1	500 V
C7	22-3059	1000 MUF 500V DISC	1	500 V
C8	22-3059	1000 MUF 500V DISC	1	500 V
C9	22-3059	1000 MUF 500V DISC	1	500 V
C10	22-3059	1000 MUF 500V DISC	1	500 V
C11	22-3059	1000 MUF 500V DISC	1	500 V
C12	22-3059	1000 MUF 500V DISC	1	500 V
C13	22-3059	1000 MUF 500V DISC	1	500 V
C14	22-3059	1000 MUF 500V DISC	1	500 V
C15	22-3059	1000 MUF 500V DISC	1	500 V
C16	22-3059	1000 MUF 500V DISC	1	500 V
C17	22-3059	1000 MUF 500V DISC	1	500 V
C18	22-3059	1000 MUF 500V DISC	1	500 V
C19	22-3059	1000 MUF 500V DISC	1	500 V
C20	22-3059	1000 MUF 500V DISC	1	500 V
C21	22-3059	1000 MUF 500V DISC	1	500 V
C22	22-3059	1000 MUF 500V DISC	1	500 V
L1	5-4087	SERIES TRAP COIL ASSEMBLY	1	
L2	20-4827	PARALLEL TRAP COIL	1	
L3	5-4833	MIXER SCREEN REGENERATION COIL	1	
L4	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L5	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L6	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L7	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L8	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L9	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L10	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L11	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L12	5-4833	FIXED TUNING COIL ASSEMBLY	1	
L13	5-4833	FIXED TUNING COIL ASSEMBLY	1	

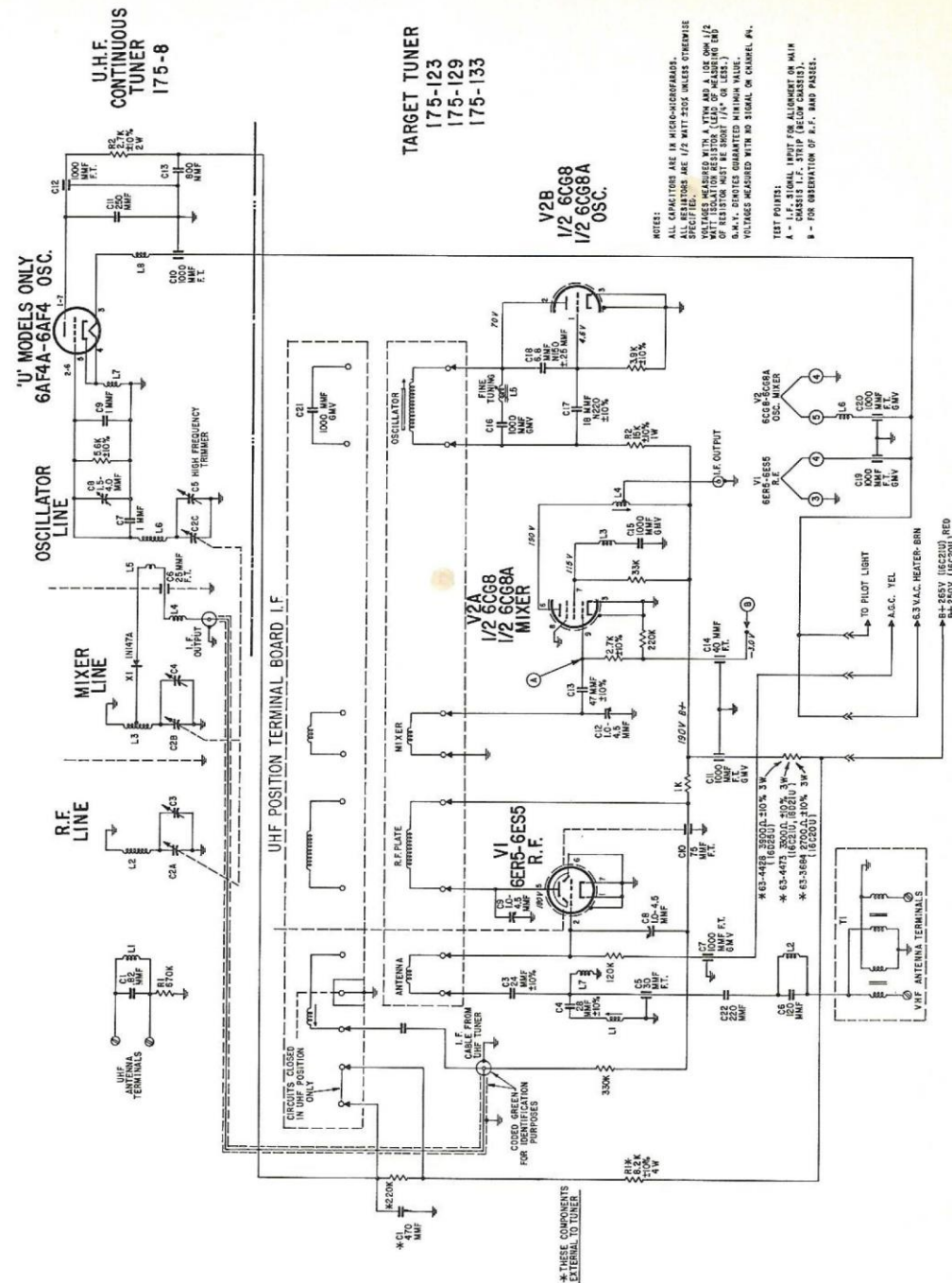
Fig. 39 Schematic Diagram 175-143 Target Tuner



ITEM NO.	PART NUMBER	DESCRIPTION	QTY
C1	22-2631	1.5M MF 50% CAP.	500 Y
C2	5-4576	MIXER TUNING CAP.	500 Y
C3	12C-483	OSCILLATOR TUNING CAP.	500 Y
C4	12C-484	MIXER TUNING CAP. (THIS IS PART OF HOUSING)	500 Y
C5	22-3075	25 MF F.T.	500 Y
C6	22-3076	25 MF F.T.	500 Y
C7	22-3077	1.5M MF 50% CAP.	500 Y
C8	22-3078	1.5M MF 50% CAP.	500 Y
C9	22-3079	1.5M MF 50% CAP.	500 Y
C10	22-3080	250 MF F.T.	500 Y
C11	22-3081	250 MF F.T.	500 Y
C12	22-3082	1000 MF F.T.	500 Y
C13	22-3083	1000 MF F.T.	500 Y
C14	22-3084	25 MF F.T.	500 Y
C15	22-3085	25 MF F.T.	500 Y
C16	22-3086	25 MF F.T.	500 Y
C17	22-3087	25 MF F.T.	500 Y
C18	22-3088	25 MF F.T.	500 Y
C19	22-3089	25 MF F.T.	500 Y
C20	22-3090	25 MF F.T.	500 Y
C21	22-3091	25 MF F.T.	500 Y
C22	22-3092	25 MF F.T.	500 Y
L1	20-782	END SECTION COIL	500 Y
L2	20-782	END SECTION COIL	500 Y
L3	20-782	MIXER SCREENING COIL	500 Y
L4	20-782	MIXER SCREENING COIL	500 Y
L5	20-782	MIXER SCREENING COIL	500 Y
L6	20-782	MIXER SCREENING COIL	500 Y
L7	20-782	MIXER SCREENING COIL	500 Y
L8	20-782	MIXER SCREENING COIL	500 Y
T1	5-4581	ANT. BALUN TRANSFORMER & FILTER ASSEMBLY	500 Y
TI	17N-21	1.5" STRIP (ENTR54-03)	500 Y
	17N-22	CH. 1 STRIP (500)	500 Y
	17N-23	CH. 2 STRIP (500)	500 Y
	17N-24	CH. 3 STRIP (500)	500 Y
	17N-25	CH. 4 STRIP (500)	500 Y
	17N-26	CH. 5 STRIP (500)	500 Y
	17N-27	CH. 6 STRIP (500)	500 Y
	17N-28	CH. 7 STRIP (500)	500 Y
	17N-29	CH. 8 STRIP (500)	500 Y
	17N-30	CH. 9 STRIP (500)	500 Y
	17N-31	CH. 10 STRIP (500)	500 Y
	17N-32	CH. 11 STRIP (500)	500 Y
	17N-33	CH. 12 STRIP (500)	500 Y
	17N-34	CH. 13 STRIP (500)	500 Y

Fig. 40 Schematic Diagram 175-145 Target Tuner

ITEM NO.	PART NUMBER	DESCRIPTION	QUANTITY	REMARKS
C1	22-2331	.32 MUF 50M5C	1000 Y	
C2A	8-4047C	ANTENNA TUNING CAP.	500 Y	
C2B	8-4047C	OSCILLATOR TUNING CAP.	500 Y	
C3	124-683	ANTENNA TRIMMER TAB THIS IS PART OF HOBB18	500 Y	
C4	68-358	MIXER TRIMMER TAB THIS IS PART OF HOBB18	500 Y	
C5	10-32 X 1/2 IN. HO. N.T. ALUM.	500 Y		
C6	22-2525	1 MUF 50M5C	500 Y	
C7	22-2525	1 MUF 50M5C	500 Y	
C8	22-2525	1 MUF 50M5C	500 Y	
C9	22-2527	1 MUF 50M5C	500 Y	
C10	22-2529	1000 MUF F.T.	500 Y	
C11	22-2529	1000 MUF F.T.	500 Y	
C12	22-2529	1000 MUF F.T.	500 Y	
C13	22-2531	800 MUF F.T.	500 Y	
R1	63-4281	570C 50M (STACKABLE ONLY)	1/2 W	
R2	63-4078	2.7K 50M 1/5S	2 W	
L1	24-735	ANTENNA COUPLING COIL		
L2	57-2807	R.F. STATOR		
L3	57-2807	R.F. STATOR		
L4	20-215	CENTRAL OUTPUT COIL		
L5	57-2468	COUPLING LOOP (PART OF C4)		
L6	57-2468	OSCILLATOR STATOR (PART OF C4)		
L7	5-1039	CATHODE COIL		
L8	20-735	HEATER COIL		
X1	100-115	CENTRAL DIODE		
C1	22-6	170 MUF 510C	1000 Y	
C2	22-3185	24 MUF 210S 010C	500 Y	
C3	22-2800	28 MUF 110S 010C	500 Y	
C4	22-3111	30 MUF F.T. 7-3.5S	500 Y	
C5	22-3060	120 MUF 27.5S 010C	500 Y	
C6	22-3185	1.0 - 4.5 MUF TRIMMER	500 Y	
C7	22-3059	1.0 - 4.5 MUF TRIMMER	500 Y	
C8	22-3187	75 MUF F.T. 1.5S	500 Y	
C9	22-3212	1000 MUF F.T. 5M	500 Y	
C10	22-3212	1000 MUF F.T. 5M	500 Y	
C11	22-3215	47 MUF 210S	500 Y	
C12	22-3112	40 MUF F.T. 1.40S	500 Y	
C13	22-2859	1000 MUF 5M, DISC (L404)	500 Y	
C14	22-3059	1000 MUF 5M, DISC (L404)	500 Y	
C15	22-3212	1000 MUF F.T. 5M	500 Y	
C16	22-3212	1000 MUF F.T. 5M	500 Y	
C17	22-3212	1000 MUF F.T. 5M	500 Y	
C18	22-3212	1000 MUF F.T. 5M	500 Y	
C19	22-3212	1000 MUF F.T. 5M	500 Y	
C20	22-3212	1000 MUF F.T. 5M	500 Y	
C21	22-3212	1000 MUF F.T. 5M	500 Y	
C22	22-3212	1000 MUF F.T. 5M	500 Y	
C23	22-3212	1000 MUF F.T. 5M	500 Y	
R1	63-3622	8.2K 50M 1/5S	1 W	
R2	63-3178	15K 50M 1/5S	1 W	
L1	8-4047C	SERIES TRAP COIL ASSEMBLY		
L2	22-557	PARALLEL TRAP COIL		
L3	8-4047C	SERIES TRAP COIL ASSEMBLY		
L4	8-4047C	MIXER PLATE COIL ASSEMBLY		
L5	22-728	FILAMENT COIL ASSEMBLY		
L6	22-728	FILAMENT COIL ASSEMBLY		
L7	22-728	FILAMENT COIL ASSEMBLY		
17A-1	17A-1	I.F. STRIP (31T1045)		
17A-2	17A-2	CH. 2 STRIP (264)		
17A-3	17A-3	CH. 3 STRIP (264)		
17A-4	17A-4	CH. 4 STRIP (264)		
17A-5	17A-5	CH. 5 STRIP (264)		
17A-6	17A-6	CH. 6 STRIP (264)		
17A-7	17A-7	CH. 7 STRIP (264)		
17A-8	17A-8	CH. 8 STRIP (264)		
17A-9	17A-9	CH. 9 STRIP (264)		
17A-10	17A-10	CH. 10 STRIP (1084)		
17A-11	17A-11	CH. 11 STRIP (1164)		
17A-12	17A-12	CH. 12 STRIP (1204)		
17A-13	17A-13	CH. 13 STRIP (1204)		



TARGET TUNER
175-123
175-129
175-133

V2B
1/2 6CG8
1/2 6CG8A
OSC.

NOTES:
1. ALL RESISTORS ARE IN OHMS-DECIMALS UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN P.F. UNLESS OTHERWISE SPECIFIED.
3. VOLTAGES MEASURED WITH NO SIGNAL OR CARRIER P.A.
4. I.F. SIGNAL INPUT FOR ALIGNMENT ON MAIN A-1-1-1 SIGNAL STRIP (BELOW CHASSIS).
5. B-1-1-1 SIGNAL STRIP (BELOW CHASSIS).
6. FOR OPERATION OF R.F. BAND PASSES.

TEST POINTS:
1. I.F. SIGNAL INPUT FOR ALIGNMENT ON MAIN A-1-1-1 SIGNAL STRIP (BELOW CHASSIS).
2. B-1-1-1 SIGNAL STRIP (BELOW CHASSIS).
3. FOR OPERATION OF R.F. BAND PASSES.

Fig. 41 Schematic Diagram 175-133 Target Tuner

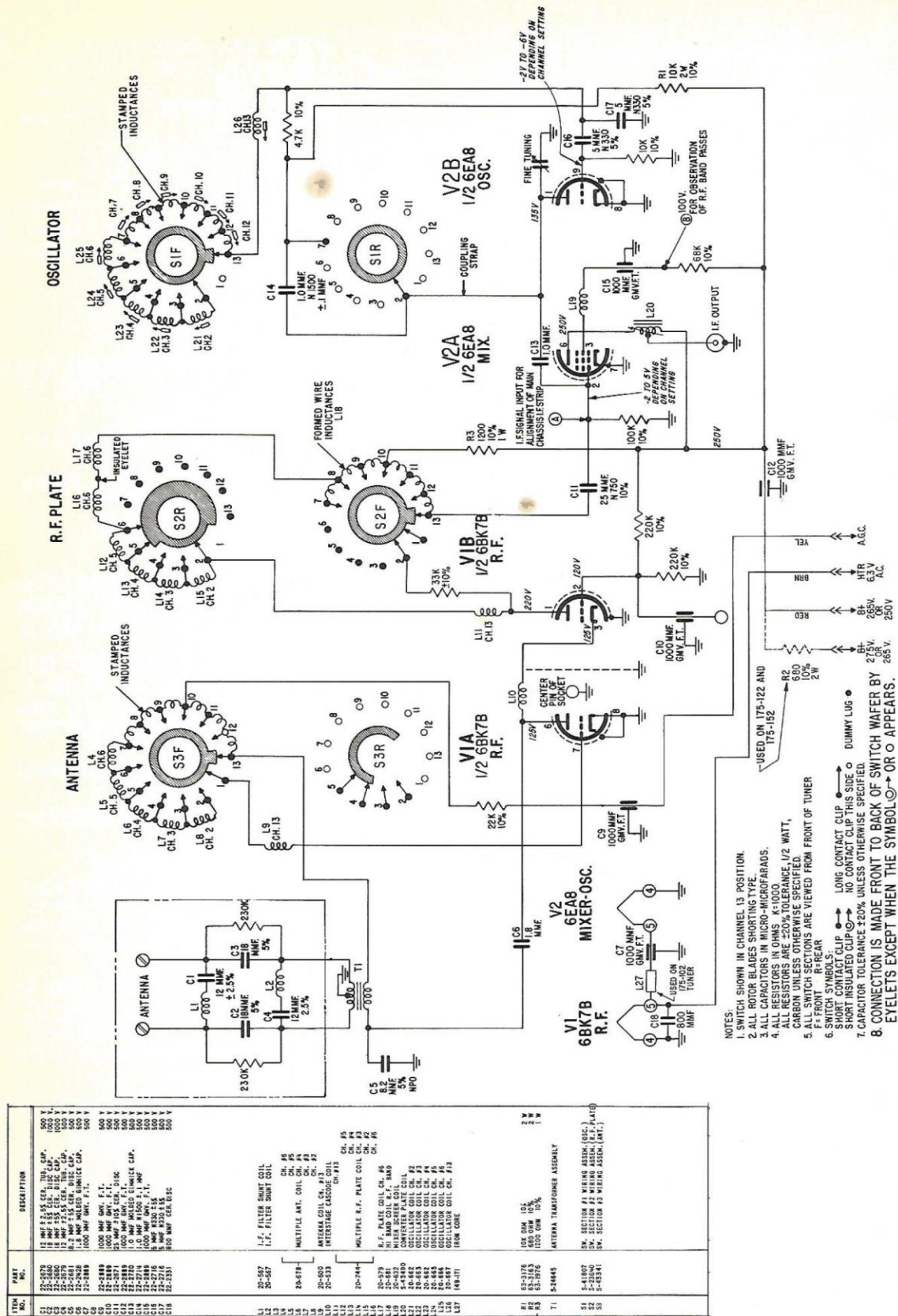
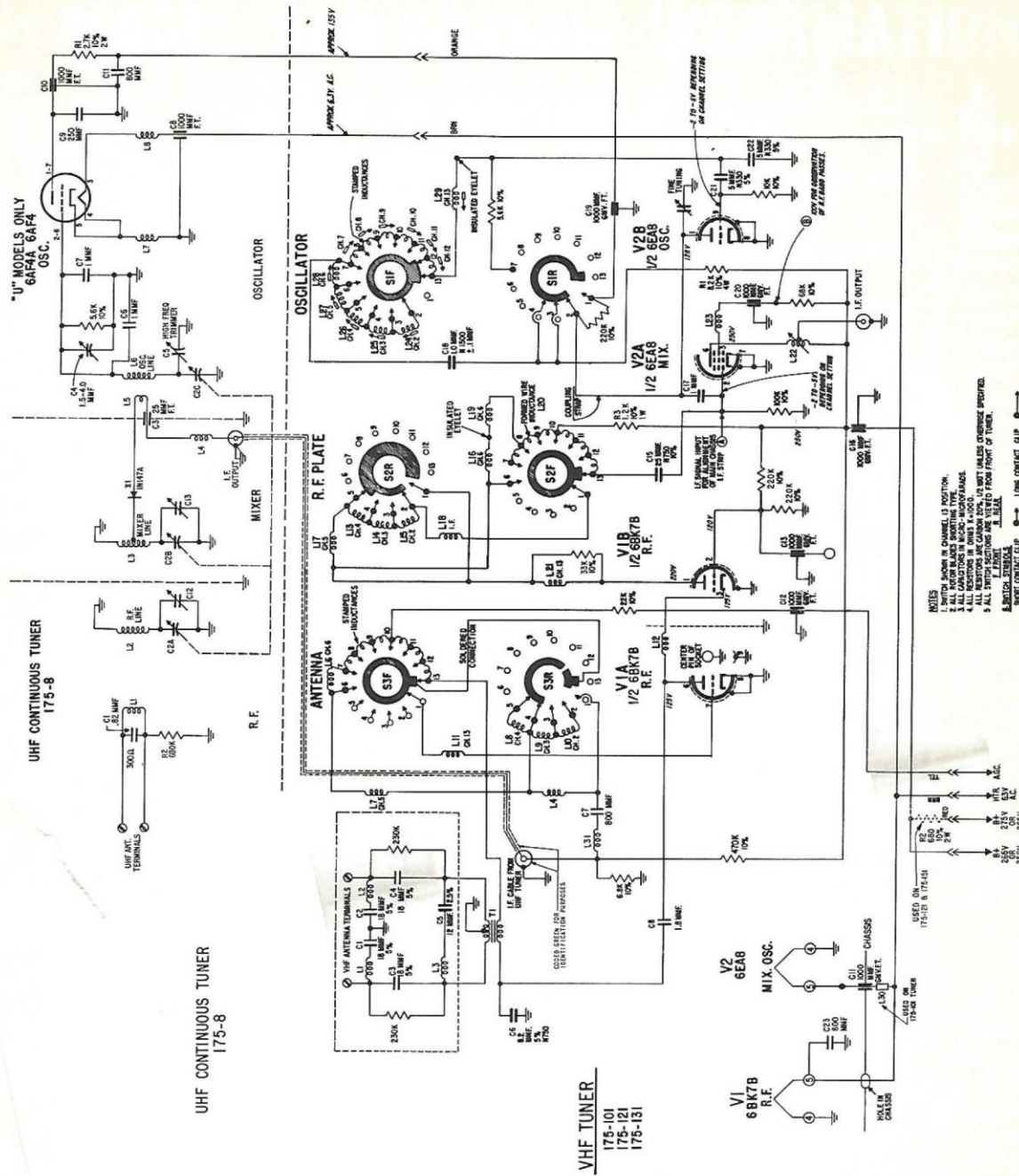


Fig. 42 Schematic Diagram 175-132, 175-150 and 175-152 Bandswitch Tuners



- NOTES**
1. SWITCH SHOWN IN CHANNEL 1 POSITION.
 2. ALL CAPACITORS IN MICRO-MICROFARADS.
 3. ALL INDUCTORS IN MHS. & MHO.
 4. ALL INDUCTORS IN OHMS & K.OHMS.
 5. ALL SWITCH SECTIONS ARE VIEWED FROM FRONT OF TUBES.
 6. SWITCH SYMBOLS:
 - - LOW CONTACT CLIP
 - - SHORT CONTACT CLIP
 - - COMMON FOR TOLERANCE & 5% VALUE, OTHERWISE SPECIFIED
 - - COMMON FOR TOLERANCE & 5% VALUE, OTHERWISE SPECIFIED
 7. CONNECTION IS MADE FROM FRONT TO BACK OF SWITCH WAFFER BY EYELET EXCEPT WHEN THE SYMBOL ○ OR ○ APPEARS.

QTY	PART NO.	DESCRIPTION
1	21-2001	1/2 6B6GT
1	21-2002	1/2 6B6GT
1	21-2003	1/2 6B6GT
1	21-2004	1/2 6B6GT
1	21-2005	1/2 6B6GT
1	21-2006	1/2 6B6GT
1	21-2007	1/2 6B6GT
1	21-2008	1/2 6B6GT
1	21-2009	1/2 6B6GT
1	21-2010	1/2 6B6GT
1	21-2011	1/2 6B6GT
1	21-2012	1/2 6B6GT
1	21-2013	1/2 6B6GT
1	21-2014	1/2 6B6GT
1	21-2015	1/2 6B6GT
1	21-2016	1/2 6B6GT
1	21-2017	1/2 6B6GT
1	21-2018	1/2 6B6GT
1	21-2019	1/2 6B6GT
1	21-2020	1/2 6B6GT
1	21-2021	1/2 6B6GT
1	21-2022	1/2 6B6GT
1	21-2023	1/2 6B6GT
1	21-2024	1/2 6B6GT
1	21-2025	1/2 6B6GT
1	21-2026	1/2 6B6GT
1	21-2027	1/2 6B6GT
1	21-2028	1/2 6B6GT
1	21-2029	1/2 6B6GT
1	21-2030	1/2 6B6GT
1	21-2031	1/2 6B6GT
1	21-2032	1/2 6B6GT
1	21-2033	1/2 6B6GT
1	21-2034	1/2 6B6GT
1	21-2035	1/2 6B6GT
1	21-2036	1/2 6B6GT
1	21-2037	1/2 6B6GT
1	21-2038	1/2 6B6GT
1	21-2039	1/2 6B6GT
1	21-2040	1/2 6B6GT
1	21-2041	1/2 6B6GT
1	21-2042	1/2 6B6GT
1	21-2043	1/2 6B6GT
1	21-2044	1/2 6B6GT
1	21-2045	1/2 6B6GT
1	21-2046	1/2 6B6GT
1	21-2047	1/2 6B6GT
1	21-2048	1/2 6B6GT
1	21-2049	1/2 6B6GT
1	21-2050	1/2 6B6GT
1	21-2051	1/2 6B6GT
1	21-2052	1/2 6B6GT
1	21-2053	1/2 6B6GT
1	21-2054	1/2 6B6GT
1	21-2055	1/2 6B6GT
1	21-2056	1/2 6B6GT
1	21-2057	1/2 6B6GT
1	21-2058	1/2 6B6GT
1	21-2059	1/2 6B6GT
1	21-2060	1/2 6B6GT
1	21-2061	1/2 6B6GT
1	21-2062	1/2 6B6GT
1	21-2063	1/2 6B6GT
1	21-2064	1/2 6B6GT
1	21-2065	1/2 6B6GT
1	21-2066	1/2 6B6GT
1	21-2067	1/2 6B6GT
1	21-2068	1/2 6B6GT
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1	21-2073	1/2 6B6GT
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1	21-2089	1/2 6B6GT
1	21-2090	1/2 6B6GT
1	21-2091	1/2 6B6GT
1	21-2092	1/2 6B6GT
1	21-2093	1/2 6B6GT
1	21-2094	1/2 6B6GT
1	21-2095	1/2 6B6GT
1	21-2096	1/2 6B6GT
1	21-2097	1/2 6B6GT
1	21-2098	1/2 6B6GT
1	21-2099	1/2 6B6GT
1	21-2100	1/2 6B6GT

QTY	PART NO.	DESCRIPTION
1	21-2101	1/2 6B6GT
1	21-2102	1/2 6B6GT
1	21-2103	1/2 6B6GT
1	21-2104	1/2 6B6GT
1	21-2105	1/2 6B6GT
1	21-2106	1/2 6B6GT
1	21-2107	1/2 6B6GT
1	21-2108	1/2 6B6GT
1	21-2109	1/2 6B6GT
1	21-2110	1/2 6B6GT
1	21-2111	1/2 6B6GT
1	21-2112	1/2 6B6GT
1	21-2113	1/2 6B6GT
1	21-2114	1/2 6B6GT
1	21-2115	1/2 6B6GT
1	21-2116	1/2 6B6GT
1	21-2117	1/2 6B6GT
1	21-2118	1/2 6B6GT
1	21-2119	1/2 6B6GT
1	21-2120	1/2 6B6GT
1	21-2121	1/2 6B6GT
1	21-2122	1/2 6B6GT
1	21-2123	1/2 6B6GT
1	21-2124	1/2 6B6GT
1	21-2125	1/2 6B6GT
1	21-2126	1/2 6B6GT
1	21-2127	1/2 6B6GT
1	21-2128	1/2 6B6GT
1	21-2129	1/2 6B6GT
1	21-2130	1/2 6B6GT
1	21-2131	1/2 6B6GT
1	21-2132	1/2 6B6GT
1	21-2133	1/2 6B6GT
1	21-2134	1/2 6B6GT
1	21-2135	1/2 6B6GT
1	21-2136	1/2 6B6GT
1	21-2137	1/2 6B6GT
1	21-2138	1/2 6B6GT
1	21-2139	1/2 6B6GT
1	21-2140	1/2 6B6GT
1	21-2141	1/2 6B6GT
1	21-2142	1/2 6B6GT
1	21-2143	1/2 6B6GT
1	21-2144	1/2 6B6GT
1	21-2145	1/2 6B6GT
1	21-2146	1/2 6B6GT
1	21-2147	1/2 6B6GT
1	21-2148	1/2 6B6GT
1	21-2149	1/2 6B6GT
1	21-2150	1/2 6B6GT
1	21-2151	1/2 6B6GT
1	21-2152	1/2 6B6GT
1	21-2153	1/2 6B6GT
1	21-2154	1/2 6B6GT
1	21-2155	1/2 6B6GT
1	21-2156	1/2 6B6GT
1	21-2157	1/2 6B6GT
1	21-2158	1/2 6B6GT
1	21-2159	1/2 6B6GT
1	21-2160	1/2 6B6GT
1	21-2161	1/2 6B6GT
1	21-2162	1/2 6B6GT
1	21-2163	1/2 6B6GT
1	21-2164	1/2 6B6GT
1	21-2165	1/2 6B6GT
1	21-2166	1/2 6B6GT
1	21-2167	1/2 6B6GT
1	21-2168	1/2 6B6GT
1	21-2169	1/2 6B6GT
1	21-2170	1/2 6B6GT
1	21-2171	1/2 6B6GT
1	21-2172	1/2 6B6GT
1	21-2173	1/2 6B6GT
1	21-2174	1/2 6B6GT
1	21-2175	1/2 6B6GT
1	21-2176	1/2 6B6GT
1	21-2177	1/2 6B6GT
1	21-2178	1/2 6B6GT
1	21-2179	1/2 6B6GT
1	21-2180	1/2 6B6GT
1	21-2181	1/2 6B6GT
1	21-2182	1/2 6B6GT
1	21-2183	1/2 6B6GT
1	21-2184	1/2 6B6GT
1	21-2185	1/2 6B6GT
1	21-2186	1/2 6B6GT
1	21-2187	1/2 6B6GT
1	21-2188	1/2 6B6GT
1	21-2189	1/2 6B6GT
1	21-2190	1/2 6B6GT
1	21-2191	1/2 6B6GT
1	21-2192	1/2 6B6GT
1	21-2193	1/2 6B6GT
1	21-2194	1/2 6B6GT
1	21-2195	1/2 6B6GT
1	21-2196	1/2 6B6GT
1	21-2197	1/2 6B6GT
1	21-2198	1/2 6B6GT
1	21-2199	1/2 6B6GT
1	21-2200	1/2 6B6GT

Fig. 43 Schematic Diagram 175-131, 175-149 and 175-151 Bandswitch Tuners

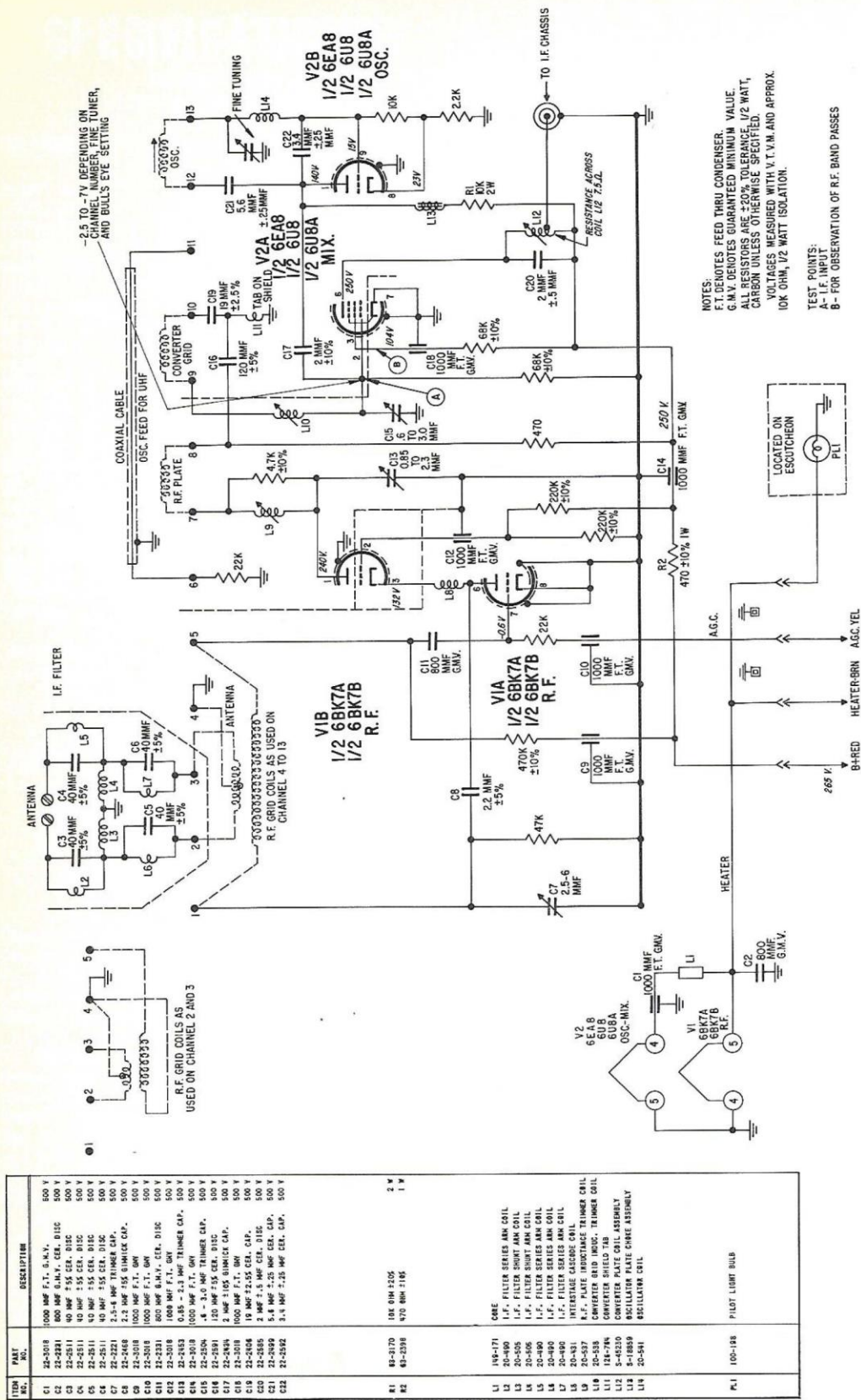
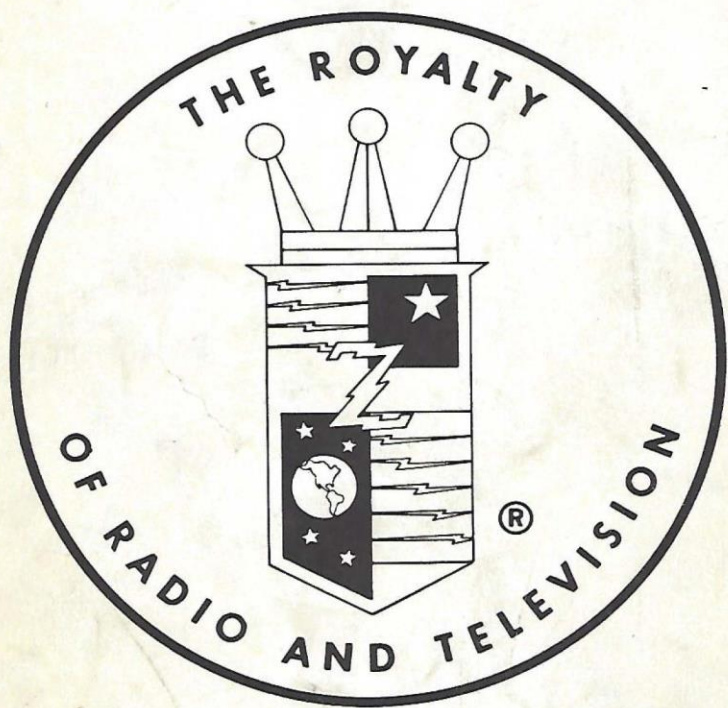


Fig. 44 Schematic Diagram 175-138 Bull's Eye Tuner

8.5
3

5002 all.
5305



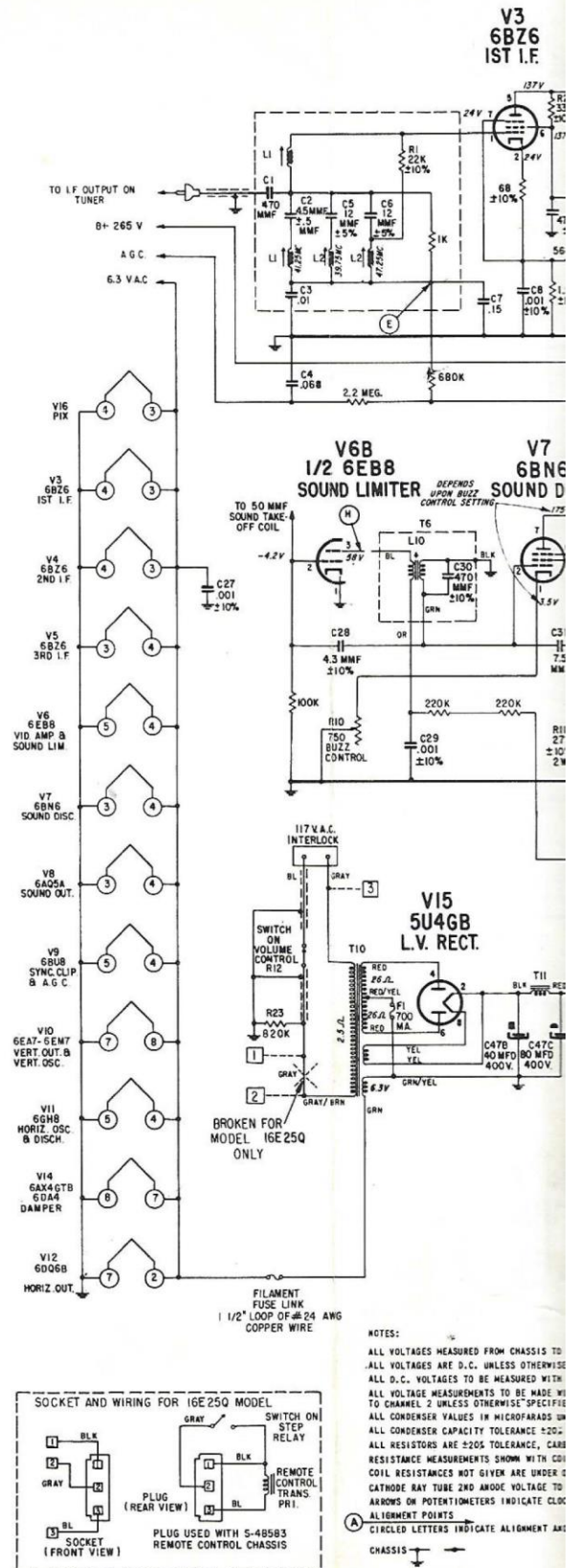
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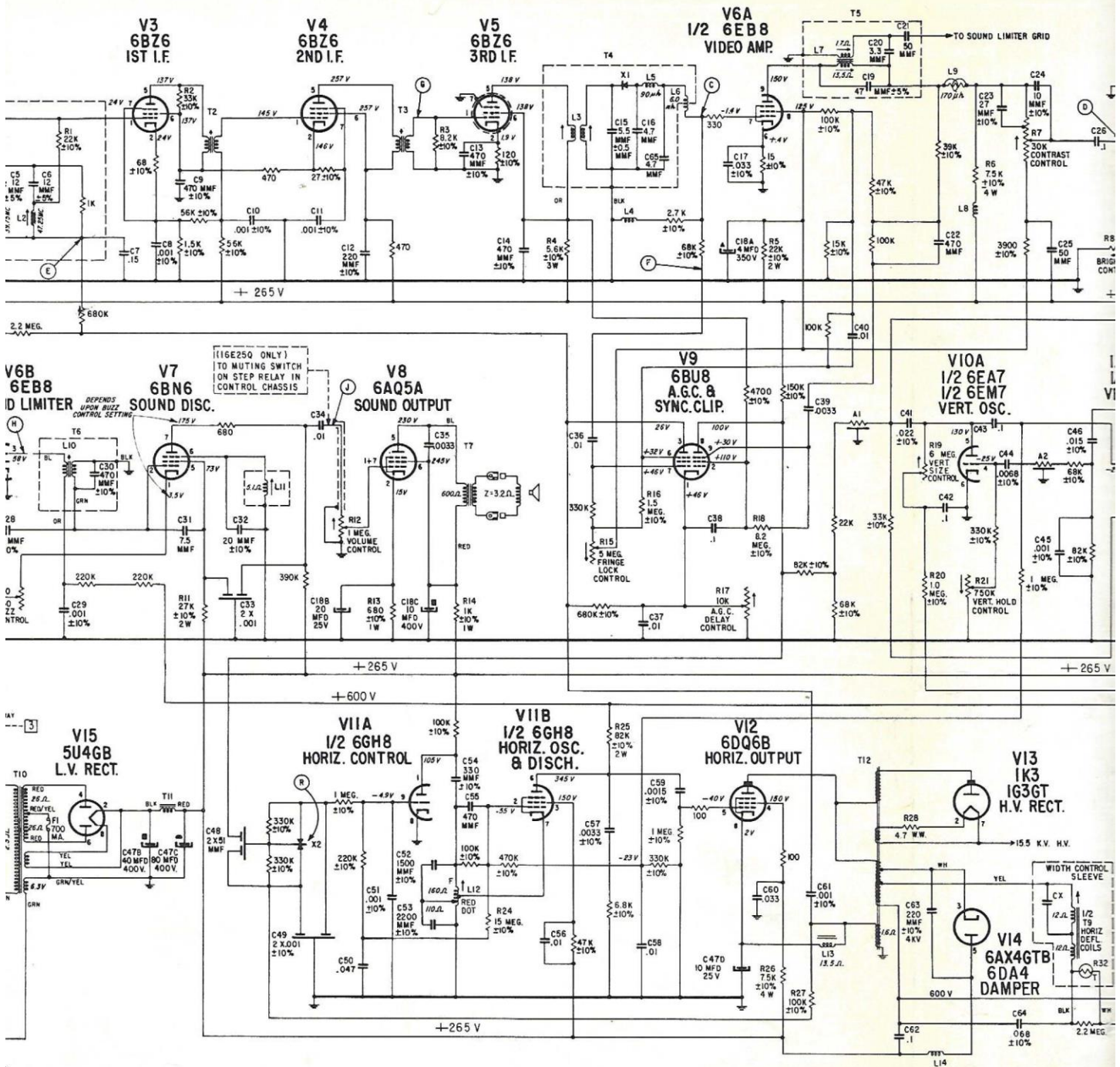
FORM TV-24 C.P.C.
12- 1959-30M

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ITEM NO.	PART NUMBER	DESCRIPTION		
C1	22-3217	470 MMF	500 V	R1
C2	22-2383	4.5 MMF ±.5 MMF DISC	500 V	R2
C3	22-3	.01 MFD DISC	500 V	R3
C4	22-2572	.068 MFD	200 V	R4
C5	22-3035	12 MMF ±5% DISC	500 V	R5
C6	22-3035	12 MMF ±5% DISC	500 V	R6
C7	22-3126	.15 MFD	200 V	R7
C8	22-17	.001 MFD DISC ±10%	1000 V	R8
C9	22-16	470 MMF DISC ±10%	500 V	R9
C10	22-17	.001 MFD DISC ±10%	1000 V	R10
C11	22-17	.001 MFD DISC ±10%	1000 V	R11
C12	22-2926	220 MMF MICA ±10%	500 V	R12
C13	22-16	470 MMF DISC ±10%	500 V	R13
C14	22-3022	470 MMF MICA ±10%	500 V	R14
C15	22-3221	5.5 MMF ±0.5 MMF	500 V	R15
C16	22-1516	4.7 MMF GIMMICK	500 V	R16
C17	22-2510	.033 MFD MOLDED ±10%	200 V	R17
C18A		4 MFD ELECTROLYTIC	350 V	R18
C18B	22-2744	20 MFD ELECTROLYTIC	25 V	R19
C18C		10 MFD ELECTROLYTIC	400 V	R20
C19	22-2467	47 MMF DISC ±5%	500 V	R21
C20	22-2343	3.3 MMF GIMMICK	500 V	R22
C21	22-2460	50 MMF GIMMICK	500 V	R23
C22	22-6	470 MMF DISC	1000 V	R24
C23	22-3065	27 MMF GIMMICK ±10%	500 V	R25
C24	22-3066	10 MMF GIMMICK ±10%	500 V	R26
C25	22-2460	50 MMF GIMMICK	500 V	R27
C26	22-3239	.1 MFD PAPER MOLDED	400 V	R28
C27	22-17	.001 MFD DISC ±10%	1000 V	R29
C28	22-3072	4.3 MMF GIMMICK ±10%	500 V	
C29	22-17	.001 MFD DISC ±10%	1000 V	
C30	22-2480	470 MMF MICA ±10%	500 V	
C31	22-2742	7.5 MMF GIMMICK	500 V	L1
C32	22-3139	20 MMF DISC ±10%	500 V	L2
C33	22-3226	2 X .001 MFD DISC ±10%	500 V	L3
C34	22-3	.01 MFD DISC	500 V	L4
C35	22-11	.0033 MFD DISC	500 V	L5
C36	22-3	.01 MFD DISC	500 V	L6
C37	22-3	.01 MFD DISC	500 V	L7
C38	22-3239	.1 MFD PAPER MOLDED	400 V	L8
C39	22-11	.0033 MFD DISC	500 V	L9
C40	22-3	.01 MFD DISC	500 V	L10
C41	22-2621	.022 MFD PAPER MOLDED ±10%	400 V	L11
C42	22-3125	.1 MFD MOLDED	600 V	L12
C43	22-2061	.1 MFD MOLDED	400 V	L13
C44	22-2656	.0068 MFD PAPER MOLDED ±10%	200 V	L14
C45	22-17	.001 MFD DISC ±10%	1000 V	
C46	22-3040	.015 MFD PAPER MOLDED ±10%	1000 V	
C47A		100 MFD ELECTROLYTIC	50 V	T2
C47B		40 MFD ELECTROLYTIC	400 V	T3
C47C	22-3212	80 MFD ELECTROLYTIC	400 V	T4
C47D		10 MFD ELECTROLYTIC	25 V	T5
C48	22-25	2 X 51 MMF DISC	500 V	T6
C49	22-3226	2 X .001 MFD DISC ±10%	500 V	T7
C50	22-1778	.047 MFD PAPER MOLDED	200 V	T8
C51	22-17	.001 MFD DISC ±10%	1000 V	T9
C52	22-3179	1500 MMF MICA ±10%	300 V	T10
C53	22-3180	2200 MMF MICA ±10%	300 V	T11
C54	22-2667	330 MMF MICA ±10%	500 V	T12
C55	22-6	470 MMF DISC	1000 V	
C56	22-3	.01 MFD DISC	500 V	
C57	22-11	.0033 MFD DISC	500 V	L1
C58	22-3	.01 MFD DISC	500 V	L2
C59	22-12	.0015 MFD DISC ±10%	500 V	
C60	22-3218	.033 MFD MOLDED	400 V	L1
C61	22-17	.001 MFD DISC ±10%	1000 V	L2
C62	22-3125	.1 MFD MOLDED	600 V	
C63	22-3214	220 MMF ±10%	4 KV	F1
C64	22-3242	.068 MFD ±10%	600 V	
C65	22-1516	4.7 MMF GIMMICK	500 V	C1

11	63-2848	22K OHM ±10% A.B. ONLY	1/2 W
12	63-4008	33K OHM ±10% A.B. ONLY	1/2 W
13	63-2843	8200 OHM ±10% A.B. ONLY	1/2 W
14	63-4427	5.6K OHM ±10%	3 W
15	63-1566	22K OHM ±10%	2 W
16	63-4C55	7.5K OHM ±10%	4 W
17	63-4493	30K OHM CONTRAST CONTROL	
18	63-4492	250K OHM BRIGHTNESS CONTROL	
19	63-4455	3 MEGOHM FOCUS CONTROL	
110	63-3284	750 OHM BUZZ CONTROL	
111	63-4093	27K OHM ±10%	2 W
112	63-4661	1 MEGOHM VOLUME CONTROL	
113	63-2290	680 OHM ±10%	1 W
114	63-965	1K OHM ±10%	1 W
115	63-4C50	5 MEGOHM FRINGE LOCK CONTROL	
116	63-4483	1.5 MEGOHM ±10% A.B. ONLY	1/2 W
117	63-4095	750K OHM AGC DELAY CONTROL	
118	63-4389	6.2 MEGOHM ±10% A.B. ONLY	1/2 W
119	63-4647	6 MEGOHM VERTICAL SIZE CONTROL	
120	63-3993	1.0 MEGOHM ±10% A.B. ONLY	1/2 W
121	63-4491	750K OHM VERTICAL HOLD CONTROL	
122	63-4484	1K OHM VERTICAL LINEARITY CONTROL	
123	63-4667	820K OHM	1/2 W
124	63-4619	15 MEGOHM ±10% A.B. OR STKPL ONLY	1/2 W
125	63-1211	82K OHM ±10%	2 W
126	63-4C55	7.5K OHM ±10%	4 W
127	63-4482	100K OHM ±10% I.R.C. ONLY	1/2 W
128	63-1581	4.7 OHM W.W.	1/2 W
129	63-4646	THERMAL RESISTOR SUPPLIED WITH YOKE	
1	S-48045	1ST I.F. & 41.25 MC TRAP COIL WIND.ASSY.	
2	S-41883	ADJ.CH.TRAP COIL ASSEM(39.75 & 47.25MC)	
3	S-47968	4TH I.F. WINDING ASSEMBLY	
4	S-43619	DETECTOR SHUNT PEAKING COIL ASSEMBLY	
5	S-41879	DETECTOR SERIES PEAKING COIL	
6	S-21888	CHOKE COIL ASSEMBLY	
7	S-42872	SOUND TAKE-OFF WINDING ASSEMBLY	
8	S-16011	SHUNT PEAKING COIL ASSEMBLY	
9	S-43618	VIDEO SERIES PEAKING COIL ASSEMBLY	
10	S-22347	INTERCARRIER COIL WINDING ASSEMBLY	
11	S-45229	QUADRATURE COIL ASSEMBLY	
12	S-4715C	HORIZONTAL OSCILLATOR COIL ASSEMBLY	
13	S-48193	HORIZONTAL CHOKE COIL ASSEMBLY	
14	S-22777	SFCOK COIL ASSEMBLY	
12	S-42874	2ND I.F. TRANSFORMER ASSEMBLY	
13	S-45539	3RD I.F. TRANSFORMER ASSEMBLY	
14	S-47967	4TH I.F. TRANSFORMER ASSEMBLY	
15	S-48195	SCUND TAKE-OFF ASSEMBLY	
16	S-48196	INTERCARRIER COIL ASSEMBLY	
17	95-1665	AUDIC OUTPUT TRANSFORMER	
18	95-1700	VERTICAL OUTPUT TRANSFORMER	
19	95-1721	YOKE	
110	95-1667	POWER TRANSFORMER	
111	95-1663	FILTER CHOKE	
112	S-48197	HCRIZONTAL SWEEP TRANSFORMER	
11	1C3-23	DIODE CRYSTAL	
12	1C3-2C	DUAL SELENIUM DIODE	
11	87-5	INTEGRATOR	
12	87-4	INTEGRATOR	
11	136-38	70C MA. SLO-BLO FUSE	
11		SUPPLIED WITH YOKE	
11	100-235	NE2 NEON BULB	

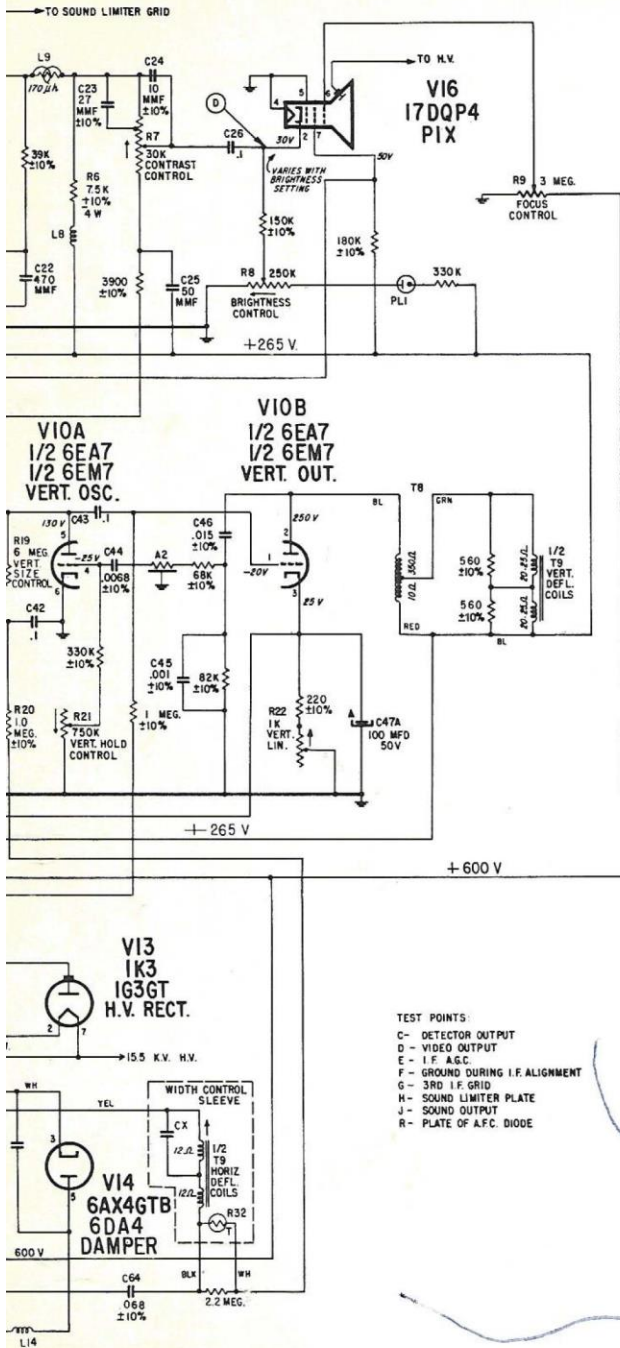




- NOTES:
- ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
 - ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 - ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
 - ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
 - ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 - ALL CONDENSER CAPACITY TOLERANCE ±20% UNLESS OTHERWISE SPECIFIED.
 - ALL RESISTORS ARE ±20% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
 - RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
 - COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
 - CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PER VOLT HIGH VOLTAGE METER.
 - ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.



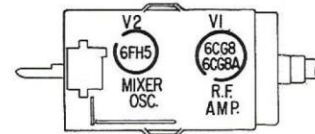
16E25 and 16E25Q Chassis



Note:

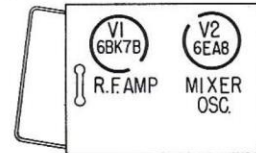
In late production receivers the PL 1 circuit is omitted and the brightness control is connected to the screen (Pin 8) of the video amplifier tube.

TARGET TUNER (SOME MODELS)



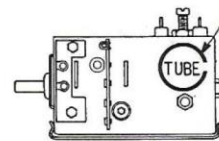
175-145 "U" MODEL
175-146
175-148 "Q" MODEL

BANDSWITCH TUNER (SOME MODELS)



175-151 "U" MODELS
175-152

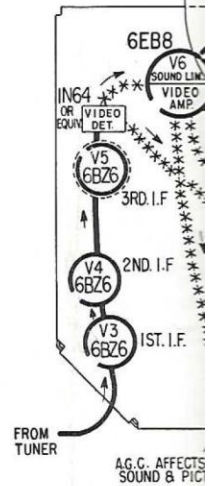
6AF4 or 6AF4A (OSC "U" MODELS ONLY)



U.H.F. TUNER 175-8



TUBE POSITIONING GUIDE (KEY WAY)



SOUND CIRCU
COMPOSITE V
VOLTS 117 AC

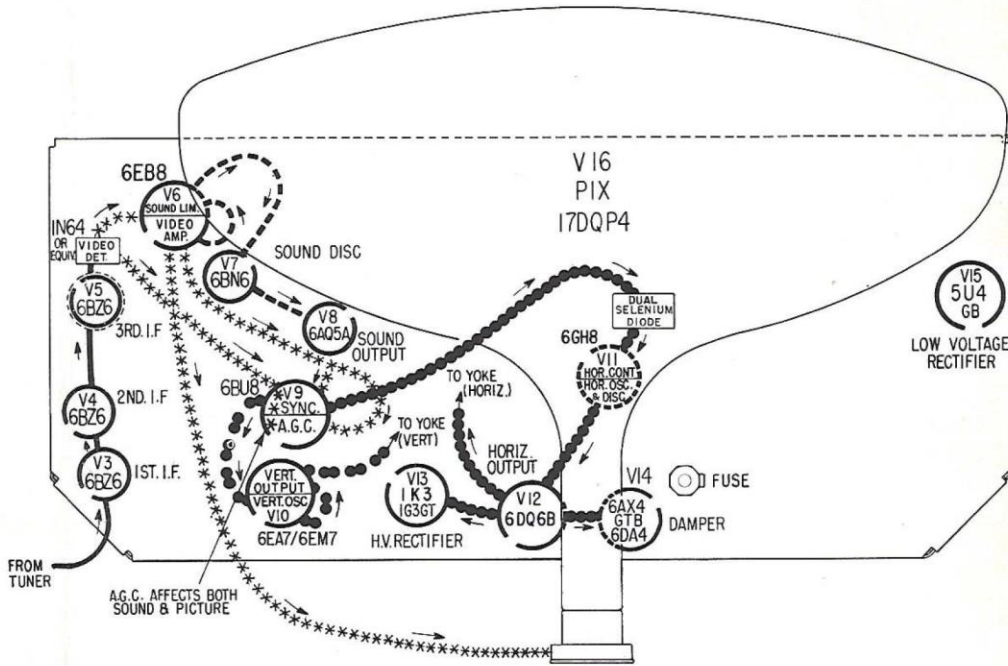
Fig. 32

MODELS)



ELS)

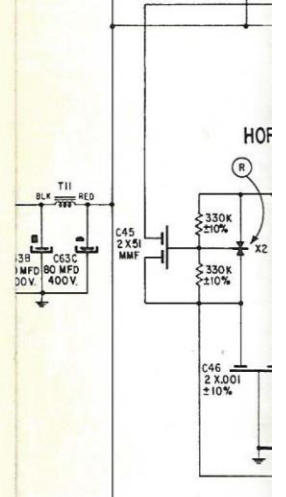
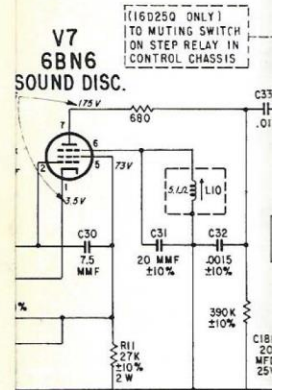
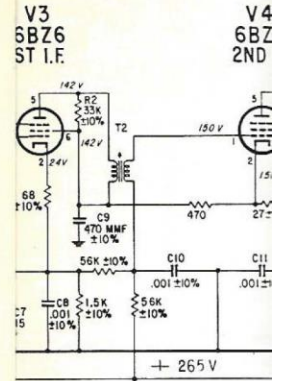
E(KEY WAY)



SOUND CIRCUIT -----
 COMPOSITE VIDEO *****

VOLTS 117 AC 60 CYCLES

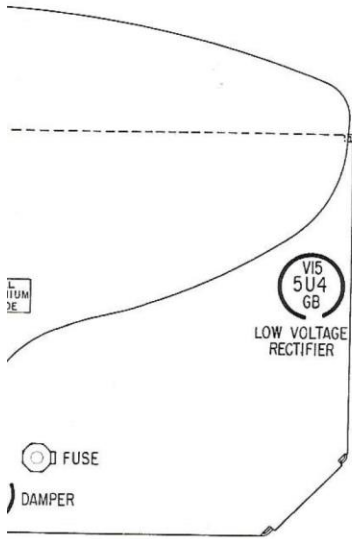
VERTICAL CIRCUIT
 HORIZONTAL CIRCUIT
 INTERMEDIATE FREQUENCY -----
 WATTS 210 (16E25) 290 (16E25Q)
 AMPS 1.9 (16E25) 2.5 (16E25Q)



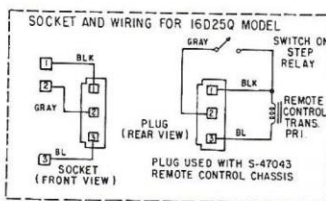
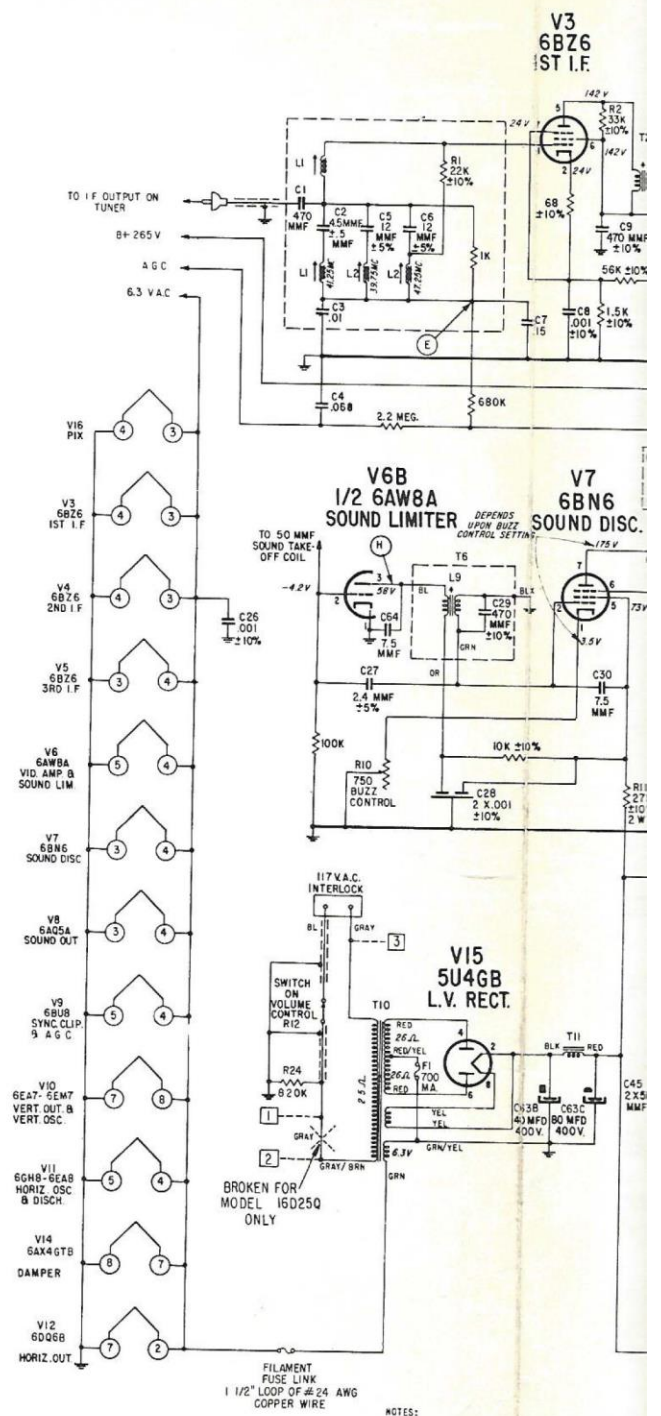
ON CHASSIS TO POINTS INDICATED.
 LESS OTHERWISE SPECIFIED.
 MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 1
 TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SE
 RWISE SPECIFIED.
 MICROFARADS UNLESS OTHERWISE SPECIFIED.
 TOLERANCE ±20% UNLESS OTHERWISE SPECIFIED.
 TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SP
 SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
 EM ARE UNDER ONE OHM.
 DE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC D
 INDICATE CLOCKWISE ROTATION.

ALIGNMENT AND TEST POINTS

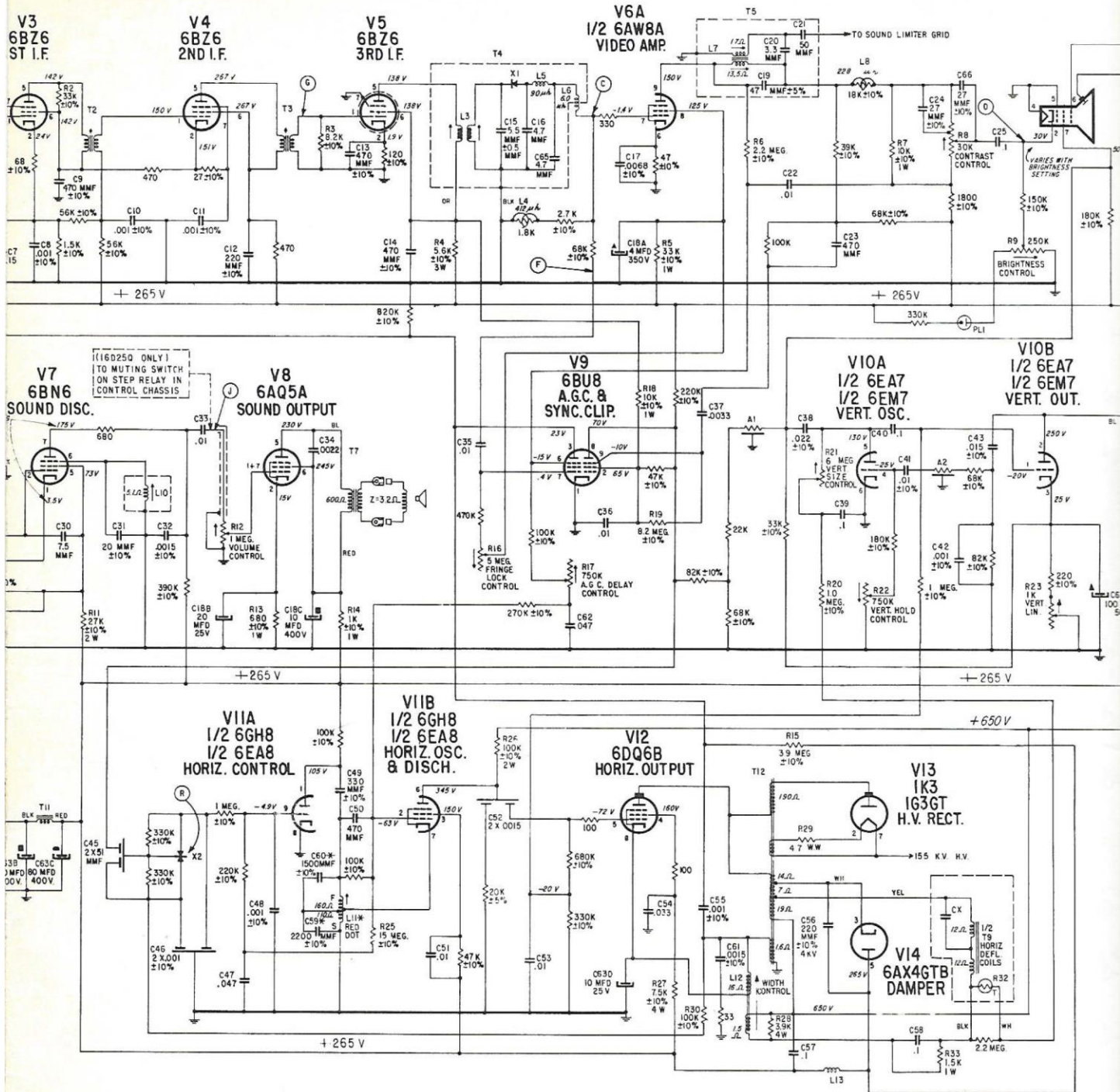
Fig. 32 Schematic Diagram 16E25 and 16E25Q Chassis



CIRCUIT
 AL CIRCUIT
 IATE FREQUENCY
) 16D25 - 290 16D25Q
 16D25 - 2.5 16D25Q



NOTES:
 ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS IN
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED
 ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM
 ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIG
 TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHER
 ALL RESISTORS ARE $\pm 20\%$ TOLERANCE, CARBON, $1/2$ W
 RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONN
 COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
 CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURE
 ARROWS ON POTENTIOMETER: INDICATE CLOCKWISE ROT
 ALIGNMENT POINTS
 CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POIN
 CHASSIS

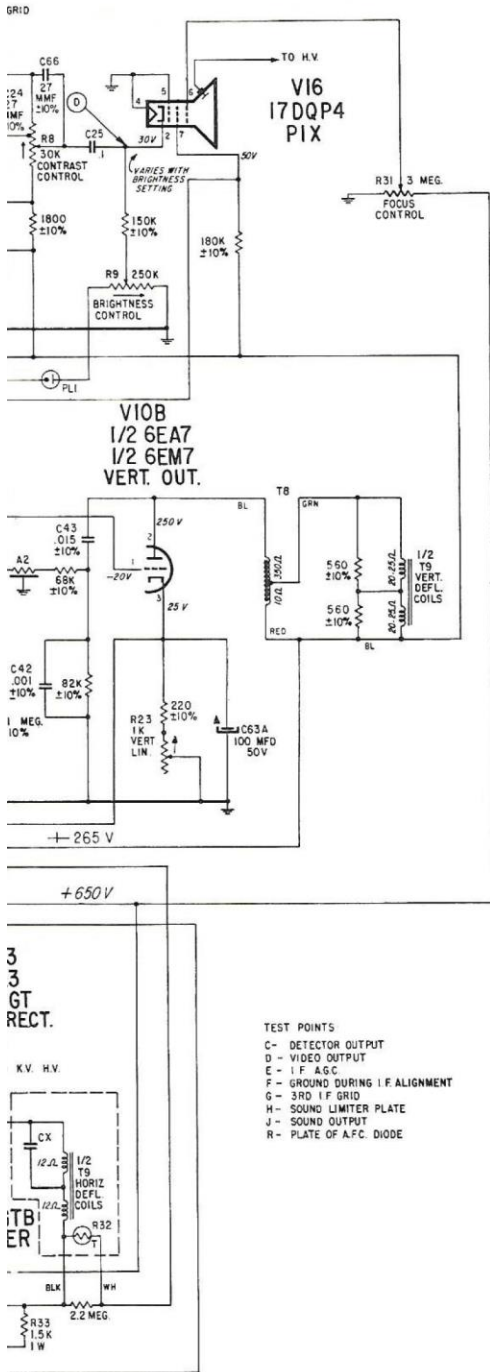


ON CHASSIS TO POINTS INDICATED.
 LESS OTHERWISE SPECIFIED.
 MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
 TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET
 WISE SPECIFIED.
 MICROFARADS UNLESS OTHERWISE SPECIFIED.
 TOLERANCE $\pm 20\%$ UNLESS OTHERWISE SPECIFIED.
 TOLERANCE, CARBON, $1/2$ WATT UNLESS OTHERWISE SPECIFIED.
 SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
 EM ARE UNDER ONE DIM.
 DE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PER VOLT HIGH VOLTAGE METER.
 INDICATE CLOCKWISE ROTATION.

* NOTE
 C58 ON SOME MODEL
 C60 ON SOME MODEL
 L11 ON SOME MODEL
 (YELLOW DOT)

ALIGNMENT AND TEST POINTS

16D25 and 16D25Q Chassis



* NOTE
C59 ON SOME MODELS USES 22-3093, 3300 MMF, 500V
C60 ON SOME MODELS USES 22-2859, 1100 MMF, 500V
L11 ON SOME MODELS USES S-19743 HORIZ. OSC. COIL ASSEM (YELLOW DOT)

ITEM NO.	PART NUMBER	DESCRIPTION			
C1	22-3217	470 MMF ±10% DISC	500 V	R10	63-328
C2	22-2383	4.5 MMF ±.5 MMF DISC	500 V	R11	63-409
C3	22-3	.01 MFD DISC	500 V	R12	63-466
C4	22-2572	.068 MFD	200 V	R13	63-229
C5	22-3035	12 MMF ±5% DISC	500 V	R14	63-965
C6	22-3035	12 MMF ±5% DISC	500 V	R15	63-437
C7	22-3126	.15 MFD	200 V	R16	63-405
C8	22-17	.001 MFD ±10% DISC	1000 V	R17	63-326
C9	22-16	470 MMF ±10% DISC	500 V	R18	63-107
C10	22-17	.001 MFD ±10% DISC	1000 V	R19	63-438
C11	22-17	.001 MFD ±10% DISC	1000 V	R20	63-399
C12	22-2926	220 MMF ±10% MICA	500 V	R21	63-464
C13	22-16	470 MMF ±10% DISC	500 V	R22	63-449
C14	22-3022	470 MMF MICA ±10%	500 V	R23	63-448
C15	22-3221	5.5 MMF ±0.5 MMF	500 V	R24	63-466
C16	22-1516	4.7 MMF GIMMICK	500 V	R25	63-4615
C17	22-2656	.0068 MFD ±10% MOLDED	200 V	R26	63-198
C18A		4 MFD ELECTROLYTIC	350 V	R27	63-405
C18B	22-2744	20 MFD ELECTROLYTIC	25 V	R28	63-448
C18C		10 MFD ELECTROLYTIC	400 V	R29	63-158
C19	22-2467	47 MMF DISC ±5%	500 V	R30	63-448
C20	22-2343	3.3 MMF GIMMICK	500 V	R31	63-445
C21	22-2460	50 MMF GIMMICK	500 V	R32	63-464
C22	22-3	.01 MFD DISC	500 V	L1	S-48045
C23	22-6	470 MMF DISC	1000 V	L2	S-41883
C24	22-3065	27 MMF GIMMICK ±10%	500 V	L3	S-47968
C25	22-3239	.1 MFD PAPER MOLDED	400 V	L4	S-47906
C26	22-17	.001 MFD DISC ±10%	1000 V	L5	S-41879
C27	22-2596	2.4 MMF GIMMICK ±5%	500 V	L6	S-21888
C28	22-3226	2 X .001 MFD DISC ±10%	500 V	L7	S-42872
C29	22-2480	470 MMF MICA ±10%	500 V	L8	S-47905
C30	22-2742	7.5 MMF GIMMICK	500 V	L9	S-22347
C31	22-3139	20 MMF DISC ±10%	500 V	L10	S-45229
C32	22-12	.0015 MFD DISC ±10%	500 V	L11	S-47150
C33	22-3	.01 MFD DISC	500 V	L12	S-46571
C34	22-2622	.0022 MFD DISC	500 V	L13	S-22777
C35	22-3	.01 MFD DISC	500 V	T2	S-42874
C36	22-3	.01 MFD DISC	500 V	T3	S-45539
C37	22-11	.0003 MFD DISC	500 V	T4	S-47967
C38	22-2621	.022 MFD PAPER MOLDED ±10%	400 V	T5	S-47907
C39	22-3125	.1 MFD MOLDED	600 V	T6	S-46557
C40	22-2061	.1 MFD MOLDED	400 V	T7	S-1665
C41	22-2565	.01 MFD PAPER MOLDED ±10%	200 V	T8	95-1700
C42	22-17	.001 MFD DISC ±10%	1000 V	T9	95-1666
C43	22-3040	.015 MFD PAPER MOLDED ±10%	1000 V	T10	95-1667
C44				T11	95-1663
C45	22-25	2 X 51 MMF DISC	500 V	T12	S-46564
C46	22-3226	2 X .001 MFD DISC ±10%	500 V	X1	103-23
C47	22-1778	.047 MFD PAPER MOLDED	200 V	X2	103-20
C48	22-17	.001 MFD DISC ±10%	1000 V	A1	87-5
C49	22-2667	330 MMF MICA ±10%	500 V	A2	87-4
C50	22-6	470 MMF DISC	1000 V	F1	136-38
C51	22-3	.01 MFD DISC	500 V	CX	
C52	22-23	2 X .0015 MFD DISC	500 V	PLI	100-235
C53	22-3	.01 MFD DISC	400 V	C62	22-1778
C54	22-3218	.033 MFD MOLDED	1000 V	C63A	
C55	22-17	.001 MFD DISC ±10%	4 K V	C63B	
C56	22-3214	220 MMF ±10%	600 V	C63C	22-3212
C57	22-3125	.1 MFD MOLDED	600 V	C63D	
C58	22-3125	.1 MFD MOLDED	300 V	C64	22-2742
C59	22-3180	2200 MMF MICA ±10%	300 V	C65	22-1516
C60	22-3179	1500 MMF MICA ±10%	500 V	C66	22-3065
C61	22-12	1500 MMF DISC ±10%	500 V	R33	63-1481
R1	63-2848	22K OHM ±10% A.B. ONLY	1/2 W		
R2	63-4008	33K OHM ±10% A.B. ONLY	1/2 W		
R3	63-2543	8200 OHM ±10% A.B. ONLY	1/2 W		
R4	63-4427	5.3K OHM ±10%	3 W		
P5	63-957	33K OHM ±10%	1 W		
R6	63-4077	2.2 MEGOHM ±10% A.B. ONLY	1/2 W		
R7	63-4426	10K OHM ±10%	1 W		
R8	63-4493	30K OHM CONTRAST CONTROL			
R9	63-4492	250K OHM BRIGHTNESS CONTROL			

500 V	R10	63-3284	750 OHM BUZZ CONTROL	
500 V	R11	63-4093	27K OHM ±10%	2 W
500 V	R12	63-4661	1 MEGOHM VOLUME CONTROL	
200 V	R13	63-2290	680 OHM ±10%	1 W
500 V	R14	63-965	1K OHM ±10%	1 W
500 V	R15	63-4374	3.9 MEGOHM ±10% A.B. ONLY	1/2 W
200 V	R16	63-4050	5 MEGOHM FRINGE LOCK CONTROL	
1000 V	R17	63-3262	750K OHM A.G.C. DELAY CONTROL	
500 V	R18	63-1071	10K OHM ±10%	1 W
1000 V	R19	63-4389	8.2 MEGOHM ±10% A.B. ONLY	1/2 W
1000 V	R20	63-3993	1.0 MEGOHM ±10% A.B. ONLY	1/2 W
500 V	R21	63-4647	6 MEGOHM VERTICAL SIZE CONTROL	
500 V	R22	63-4491	750K OHM VERTICAL HOLD CONTROL	
500 V	R23	63-4488	1K OHM VERTICAL LINEARITY CONTROL	
500 V	R24	63-4667	820K OHM	1/2 W
500 V	R25	63-4619	15 MEGOHM ±10% A.B. OR STKPL. ONLY	1/2 W
200 V	R26	63-1982	100K OHM ±10%	2 W
350 V	R27	63-4055	7.5K OHM ±10%	4 W
25 V	R28	63-4484	3.9K OHM	4 W
400 V	R29	63-1581	4.7 OHM W.W.	1/2 W
500 V	R30	63-4482	100K OHM ±10% L.R.C. ONLY	1/2 W
500 V	R31	63-4455	3 NEG. FOCUS CONTROL	
500 V	R32	63-4648	THERMISTOR (SUPPLIED WITH YOKE)	
500 V	L1	S-48045	1ST I.F. & 41.25 MC TRAP COIL WIND. ASSEM.	
1000 V	L2	S-41883	ADJ. CH. TRAP COIL ASSEM. (39.75 & 47.25 MC)	
500 V	L3	S-47968	4TH I.F. WINDING ASSEMBLY	
400 V	L4	S-47906	DETECTOR SHUNT PEAKING COIL ASSEMBLY	
1000 V	L5	S-41879	DETECTOR SERIES PEAKING COIL	
500 V	L6	S-21888	TWEFT COIL ASSEMBLY	
500 V	L7	S-42872	SOUND TAKE-OFF WIND. COIL ASSEMBLY	
500 V	L8	S-47905	VIDEO PEAKING COIL ASSEMBLY	
500 V	L9	S-22347	INTERCARRIER COIL WINDING ASSEMBLY	
500 V	L10	S-45229	QUADRATURE COIL ASSEMBLY	
500 V	L11	S-47150	HORIZONTAL OSCILLATOR COIL ASSEMBLY	
500 V	L12	S-46571	WIDTH COIL ASSEMBLY	
500 V	L13	S-22777	SPOOK COIL	
500 V	T2	S-42874	2ND I.F. TRANSFORMER ASSEMBLY	
500 V	T3	S-45539	3RD I.F. TRANSFORMER ASSEMBLY	
500 V	T4	S-47967	4TH I.F. TRANSFORMER ASSEMBLY	
400 V	T5	S-47907	SOUND TAKE-OFF COIL	
600 V	T6	S-46557	INTERCARRIER COIL	
400 V	T7	95-1665	AUDIO OUTPUT TRANSFORMER	
200 V	T8	95-1700	VERTICAL OUTPUT TRANSFORMER	
1000 V	T9	95-1666	YOKE	
1000 V	T10	95-1667	POWER TRANSFORMER	
	T11	95-1663	FILTER CHOKE	
	T12	S-46564	HORIZONTAL SWEEP TRANSFORMER	
500 V				
500 V				
200 V	X1	103-23	DIODE CRYSTAL	
1000 V	X2	103-20	DUAL SELENIUM DIODE	
500 V				
1000 V	A1	87-5	INTEGRATOR	
500 V	A2	87-4	INTEGRATOR	
500 V				
500 V	F1	136-38	700 MA. SLD-BLO FUSE	
400 V	CX		SUPPLIED WITH YOKE	
1000 V				
4 KV	PL1	100-235	NE2 NEON BULB	
600 V				
600 V				
300 V	C62	22-1778	.047 MFD PAPER MOLDED	200 V
300 V	C63A		100 MFD ELECTROLYTIC	50 V
500 V	C63B	22-3212	40 MFD ELECTROLYTIC	400 V
500 V	C63C		80 MFD ELECTROLYTIC	400 V
1/2 W	C63D		10 MFD ELECTROLYTIC	25 V
1/2 W	C64	22-2742	7.5 MMF GIMMICK	500 V
1/2 W	C65	22-1516	4.7 MMF GIMMICK	500 V
3 W	C66	22-3065	27 MMF GIMMICK ±10%	500 V
1 W				
1/2 W				
1 W	R33	63-1481	1500 OHM	1 W

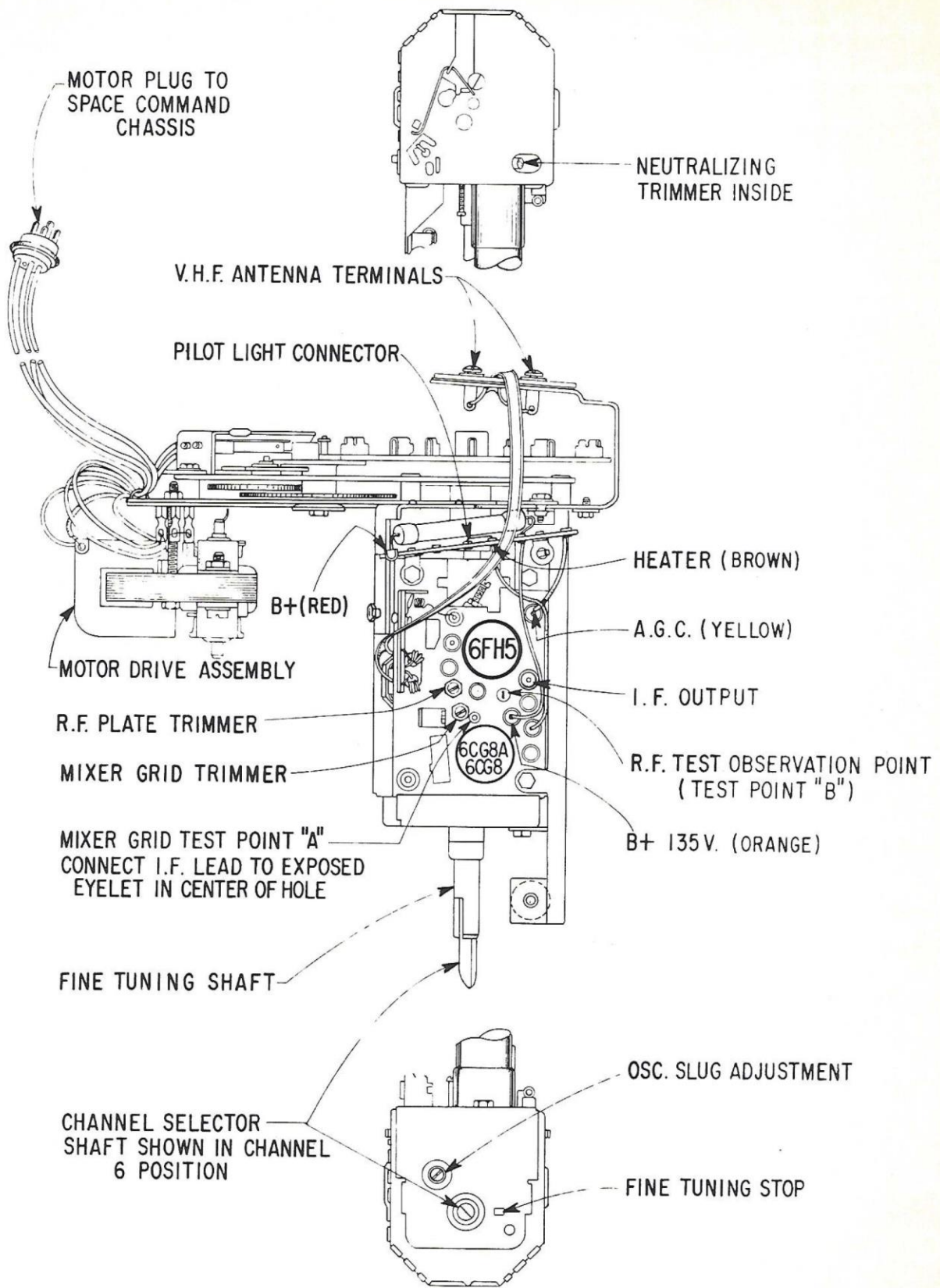


Fig. 17 Tube and Trimmer Layout 175-148 Target Tuner

ITEM NO.	PART NUMBER	DESCRIPTION			
C1	22-3217	470 MMF DISC	500 V	R1	63-2648 22
C2	22-2383	4.5 MMF DISC ±.5 MMF	500 V	R2	63-2848 22
C3	22-3035	12 MMF DISC ±5.	500 V	R3	63-4478 18
C4	22-3035	12 MMF DISC ±5.	500 V	R4	63-4098 8.
C5	22-3222	.001 MFD DISC ±10.	500 V	R5	63-4093 27
C6	22-3126	.15 MFD PAPER MOLDED	200 V	R6	63-4055 7.
C7	22-2572	.068 MFD MOLDED	200 V	R7	63-4489 30
C8	22-3	.01 MFD DISC	500 V	R8	63-4676 25
C9	22-2513	7 MMF ±.5 MMF	500 V	R9	63-4628 15
C10	22-16	470 MMF DISC ±10%	500 V	R10	63-2149 47
C11	22-1762	1 MMF GIMMICK	500 V	R11	63-4455 3
C12	22-17	.001 MFD DISC ±10%	1000 V	R12	63-3284 75
C13	22-17	.001 MFD DISC ±10%	1000 V	R13	63-4093 27
C14	22-16	470 MMF DISC ±10%	500 V	R14	63-4499 1
C15	22-9	100 MMF DISC ±10%	500 V	R15	63-4592 3
C16	22-16	470 MMF DISC ±10%	500 V	R16	63-4659 2
C17	22-3022	470 MMF MICA ±10%	500 V	R17	63-2398 47
C18	22-3221	5.5 MMF DISC ±0.5 MMF	500 V	R18	63-4080 3.
C19	22-1516	4.7 MMF GIMMICK	500 V	R19	63-4012 5
C20	22-2510	.033 MFD PAPER MOLDED ±10.	200 V	R20	63-4095 10
C21A	22-3201	4 MFD ELECTRO	350 V	R21	63-1566 22
C21B	22-3201	4 MFD ELECTRO	150 V	R22	63-4389 8.
C22	22-2467	47 MMF 5% DISC	500 V	R23	63-4660 5.
C23	22-2343	3.3 MMF GIMMICK	500 V	R24	63-4077 2.
C24	22-2460	50 MMF GIMMICK	500 V	R25	63-4677 75
C25	22-3065	27 MMF GIMMICK ±10.	500 V	R26	63-4620 1.
C26	22-2460	50 MMF GIMMICK	500 V	R27	63-2398 47
C27	22-3066	10 MMF GIMMICK ±10%	500 V	R28	63-3607 23
C28	22-3239	.1 MFD PAPER MOLDED	400 V	R29	63-4619 15
C29	22-3072	4.3 MMF GIMMICK ±10%	500 V	R30	63-2309 12
C30	22-2480	470 MMF MICA ±10%	500 V	R31	63-4096 8.
C31	22-3226	2 x .001 MFD DISC ±10%	500 V	R32	63-4482 10
C32	22-2742	7.5 MMF GIMMICK	500 V	R33	63-3205 6.
C33	22-5	100 MMF DISC	500 V	R34	63-4693 22
C34	22-3139	20 MMF DISC ±10%	500 V	R35	63-2315 1.
C35	22-3	.01 MFD DISC	500 V		
C36	22-6	470 MMF DISC	1000 V		
C37	22-14	.0047 MFD DISC ±10%	500 V		
C38	22-2992	100 MMF DISC ±5.	500 V	L1	S-48045 1st
C39	22-2656	.0068 MFD PAPER MOLDED ±10.	200 V	L2	S-41883 ADJ
C40A	22-3162	50 MFD ELECTRO	25 V	L3	
C40B	22-3162	40 MFD ELECTRO	450 V	L4	S-47968 4th
C41	22-2975	.22 MFD PAPER MOLDED	200 V	L5	S-43619 DET
C42	22-3	.01 MFD DISC	500 V	L6	S-41879 DET
C43	22-1778	.047 MFD PAPER MOLDED	200 V	L7	S-21888 CHO
C44	22-3239	.1 MFD PAPER MOLDED	400 V	L8	S-43125 SOU
C45	22-17	.001 MFD DISC ±10%	1000 V	L9	S-16011 SHU
C46	22-3239	.1 MFD PAPER MOLDED	400 V	L10	S-43618 SER
C47	22-11	.0033 MFD DISC	500 V	L11	149-171 IRC
C48	22-16	470 MMF DISC ±10%	500 V	L12	S-41899 INT
C49	22-3	.01 MFD DISC	500 V	L13	S-47702 OUA
C50	22-2621	.022 MFD PAPER MOLDED ±10%	400 V	L14	S-47150 HGR
C51	22-3125	.1 MFD PAPER MOLDED	600 V	L15	S-22777 SPC
C52	22-2656	.0068 MFD PAPER MOLDED	200 V		
C53	22-3135	.1 MFD PAPER MOLDED	400 V		
C54	22-3040	.015 MFD PAPER MOLDED ±10%	1000 V		
C55	22-17	.001 MFD DISC ±10%	1000 V		
C56A	22-3137	100 MFD ELECTRO	50 V		
C56B	22-3137	40 MFD ELECTRO	400 V	T1	S-46046 1st
C56C	22-3137	80 MFD ELECTRO	400 V	T2	S-41889 2nd
C57	22-25	2 x 51 MFD DISC	500 V	T3	S-46740 3rd
C58	22-3226	2 x .001 MFD DISC ±10.	500 V	T4	S-47967 4th
C59	22-6	470 MMF DISC	1000 V	T5	S-43126 SOL
C60	22-1778	.047 MFD PAPER MOLDED	200 V	T6	S-43717 INT
C61	22-2667	330 MMF MICA ±10%	500 V	T7	95-1703 AUI
C62	22-6	470 MMF DISC	1000 V	T8	95-1656 VEF
C63	22-3179	1500 MMF MICA ±10%	300 V	T9	95-1654 DEF
C64	22-3180	2200 MMF MICA ±10%	300 V	T10	95-1726 POW
C65	22-23	2 x .0015 MFD DISC	500 V	T11	95-1559 FIL
C66	22-3	.01 MFD DISC	500 V	T12	S-46592 HOF
C67	22-3	.01 MFD DISC	600 V		
C68	22-1841	.1 MFD PAPER MOLDED	4 KV		
C69	22-2954	75 MMF ±10.	500 V	F1	136-38 700
C70	22-1516	4.7 MMF GIMMICK	500 V	F2	136-42 5 A
C71	22-3219	.22 MFD MOLDED	600 V	X1	103-23 DII
				X2	103-20 DU
				CX	SU
				A1	87-5 IN
				A2	87-4 IN

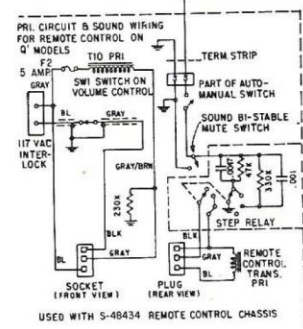
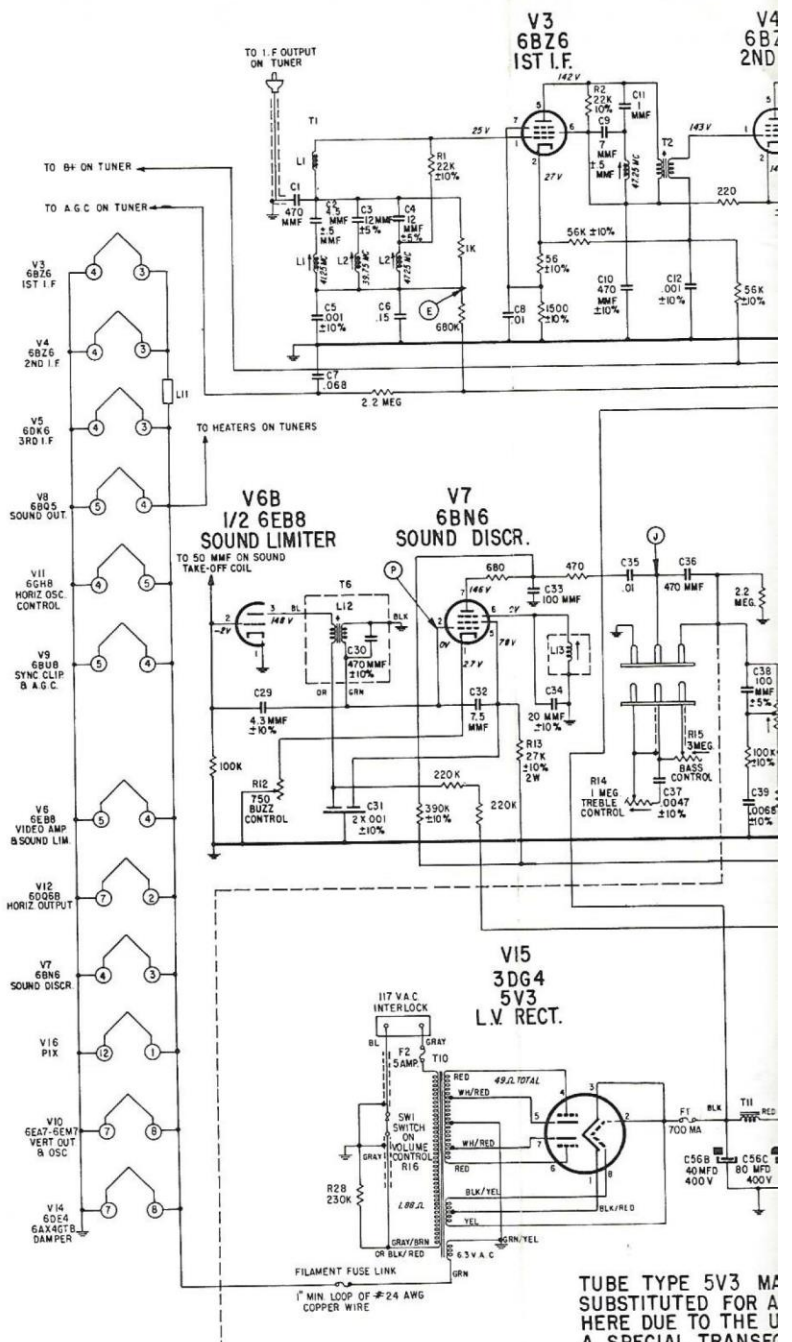
16E27 and 16E27Q Chassis

- 22K OHM ±10% A.B. ONLY 1/2 W
- 22K OHM ±10% A.B. ONLY 1/2 W
- 18K OHM A.B. ONLY 1/2 W
- 3.2K OHM ±10% 3 W
- 27K OHM ±10% 2 W
- 7.5K OHM ±10% 4 W
- 30K OHM CONTRAST CONTROL 1/2 W
- 250K OHM BRIGHTNESS CONTROL 1 W
- 150K OHM A.B. ONLY 1 W
- 470K OHM 1 W
- 3 MEGOHM FOCUS CONTROL 2 W
- 750 OHM BUZZ CONTROL 1/2 W
- 27K OHM ±10% 1 W
- 1 MEGOHM TREBLE CONTROL 1/2 W
- 3 MEGOHM BASS CONTROL 1/2 W
- 2 MEGOHM VOLUME CONTROL 1 W
- 470 OHM ±10% 1/2 W
- 3.3 MEGOHM ±10% A.B. ONLY 2 W
- 5 MEGOHM FRINGE LOCK 1/2 W
- 10K OHM A.G.C. CONTROL 2 W
- 22K OHM ±10% 1/2 W
- 8.2 MEGOHM 10% A.B. ONLY 1/2 W
- 5.0 MEGOHM VERTICAL SIZE CONTROL 1/2 W
- 2.2 MEGOHM ±10% A.B. OR STKP ONLY 1/2 W
- 750K OHM VERTICAL HCLD CONTROL 1 W
- 1.5K OHM VERTICAL LINEARITY CONTROL 1/2 W
- 47K OHM ±10% 1 W
- 230K IRC ONLY 1/2 W
- 15 MEGOHM ±10% A.B. OR STKP ONLY 1/2 W
- 12K OHM ±10% 2 W
- 8.2K OHM ±10% 3 W
- 100K OHM ±10% IRC ONLY 1/2 W
- 6.8 OHM ±10% WW 1/2 W
- 22K OHM A.B. OR STKP ONLY 1 W
- 1.5 MEGOHM 1 W

- 1st I.F. & 41.25MC TRAP COIL WIND ASSEM.
ADJACENT CHANNEL TRAP COIL
- 4th I.F. WINDING ASSEMBLY
DETECTOR SHUNT PEAKING COIL ASSEMBLY
DETECTOR SERIES PEAKING COIL
CHOKE COIL ASSEMBLY
SOUND TAKE-OFF COIL WINDING ASSEMBLY
SHUNT PEAKING COIL
SERIES PEAKING COIL ASSEMBLY
IRON CORE SLEEVE
INTERCARRIER COIL WINDING ASSEMBLY
QUADRATURE COIL ASSEMBLY
HORIZONTAL OSCILLATOR COIL ASSEMBLY
SPOOK COIL ASSEMBLY

- 1st I.F. & TRAP COIL ASSEMBLY
- 2nd I.F. & TRAP COIL ASSEMBLY
- 3rd I.F. TRANSFORMER ASSEMBLY
- 4th I.F. TRANSFORMER ASSEMBLY
- SOUND TAKE-OFF COIL & CAP. ASSEMBLY
- INTERCARRIER COIL CAP. & WIRE ASSEMBLY
- AUDIO OUTPUT TRANSFORMER
- VERTICAL OUTPUT TRANSFORMER
- DEFLECTION YOKE
- POWER TRANSFORMER
- FILTER CHOKE
- HORIZONTAL SWEEP TRANSFORMER (dotted)

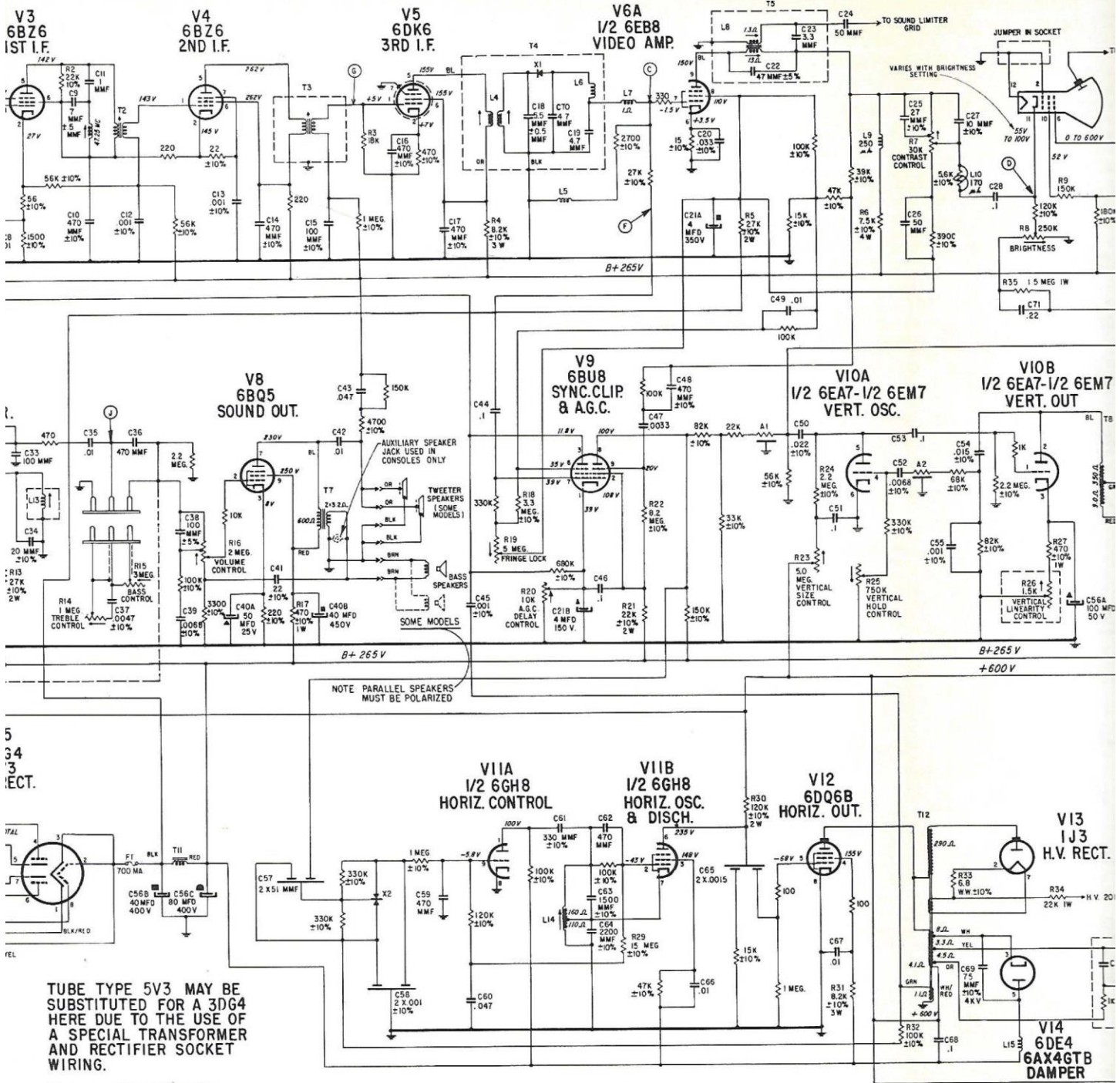
- 70C MA SLO BLO FUSE
- 5 AMP. SLO-BLO FUSE
- DIODE CRYSTAL
- DUAL DIODE CRYSTAL
- SUPPLIED WITH YOKE
- INTEGRATOR
- INTEGRATOR



TUBE TYPE 5V3 MA
SUBSTITUTED FOR A
HERE DUE TO THE U
A SPECIAL TRANSFC
AND RECTIFIER SOC
WIRING.

SOLID LINES INDICA
PREFERRED TUBE TYE

Note:
In late production receivers the R 35 and C 71
circuits are omitted and the brightness contr-
is connected to the screen (Pin 8) of the Vide
amplifier tube.



TUBE TYPE 5V3 MAY BE SUBSTITUTED FOR A 3DG4 HERE DUE TO THE USE OF A SPECIAL TRANSFORMER AND RECTIFIER SOCKET WIRING.

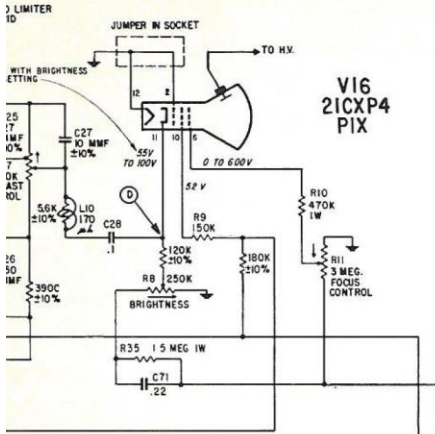
SOLID LINES INDICATE PREFERRED TUBE TYPE 3DG4.

duction receivers the R 35 and C 71 e omitted and the brightness control to the screen (Pin 8) of the Video tube.

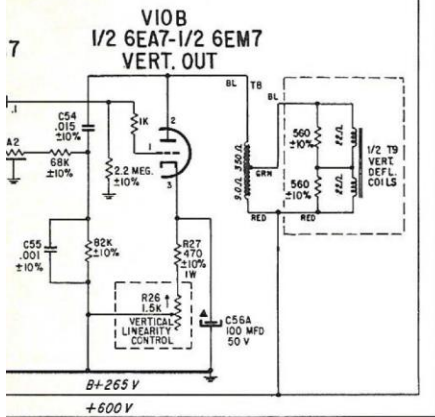
NOTES:
 ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
 ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER CAPACITY TOLERANCE: 20% UNLESS OTHERWISE SPECIFIED.
 ALL RESISTORS ARE 20% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
 RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT. COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
 CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PER VOLT HIGH VOLTAGE METER.
 ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

16E27 and 16E27Q Chassis

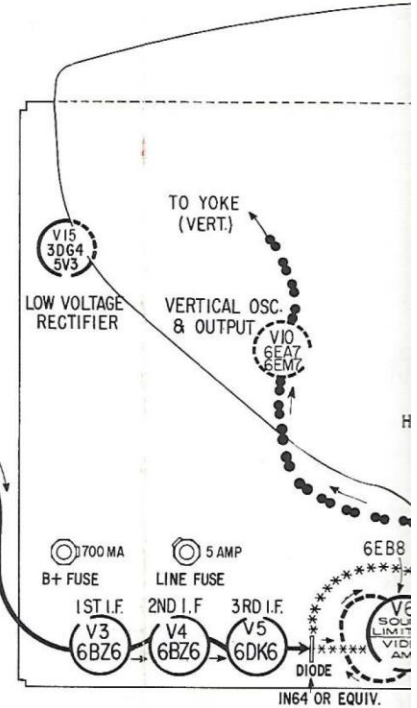
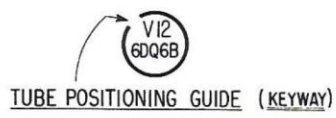
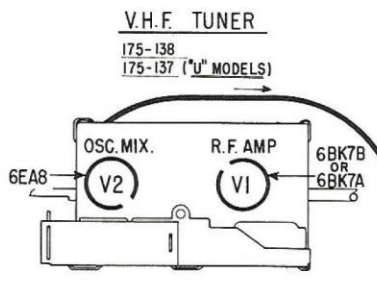
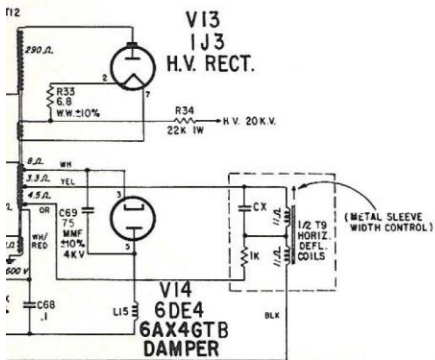
ALIGNMENT POINTS
 CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS.



VI6
21CX P4
PIX

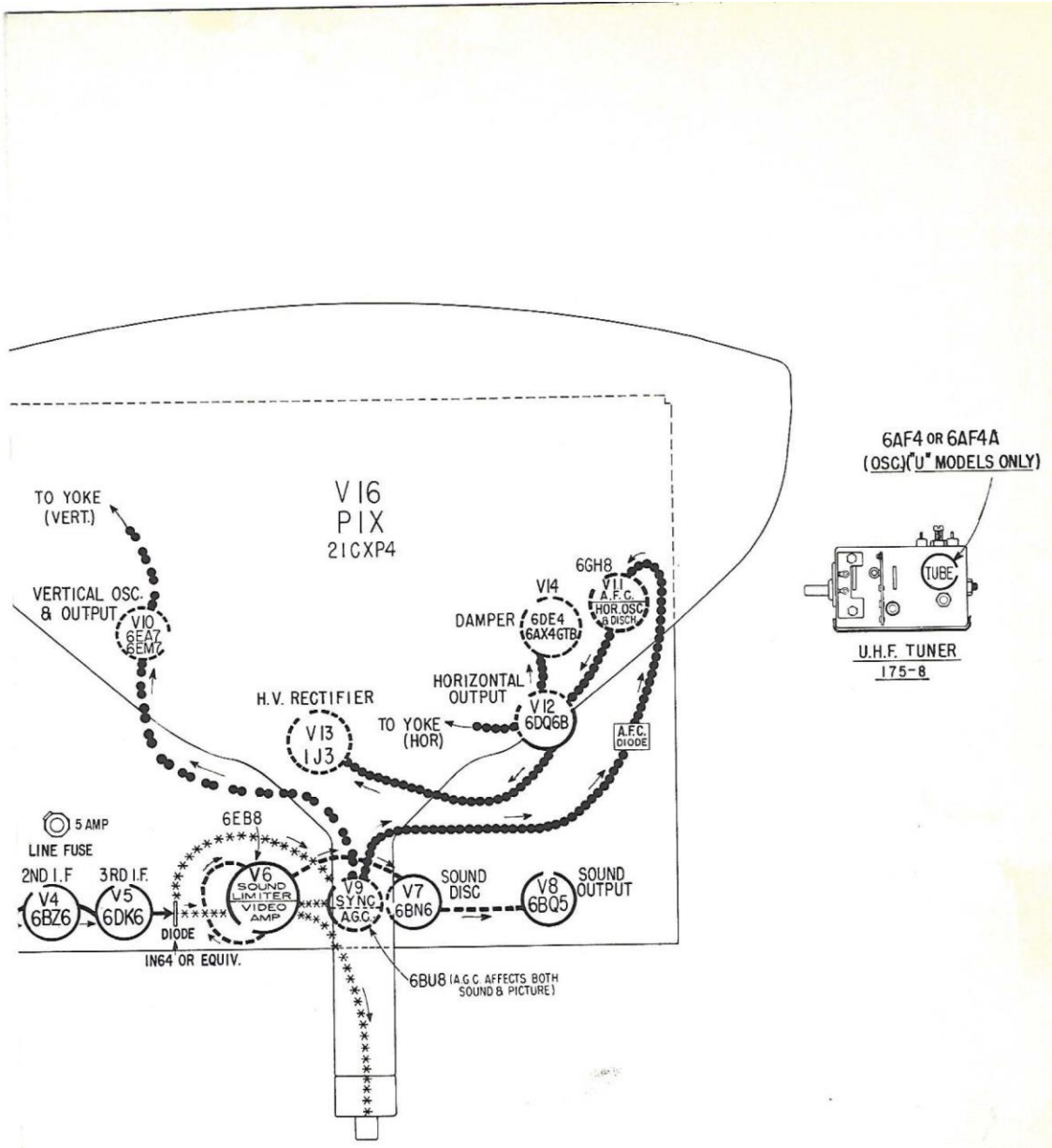


- TEST POINTS:
- C- DETECTOR OUTPUT
 - D- VIDEO OUTPUT
 - E- I F & G
 - F- TO BE GROUNDED DURING ALIGNMENT
 - G- 3RD I.F. GRID
 - H- SOUND OUTPUT
 - P- SOUND DISC GRID



SOUND CIRCUIT -----
 COMPOSITE VIDEO *****
 CYCLES 60 VOLTS 117A.C.

IC → DENOTES CHASSIS

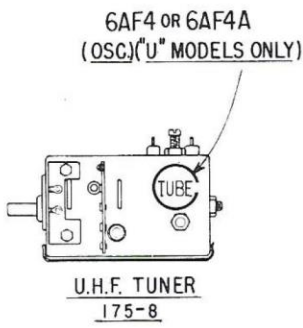
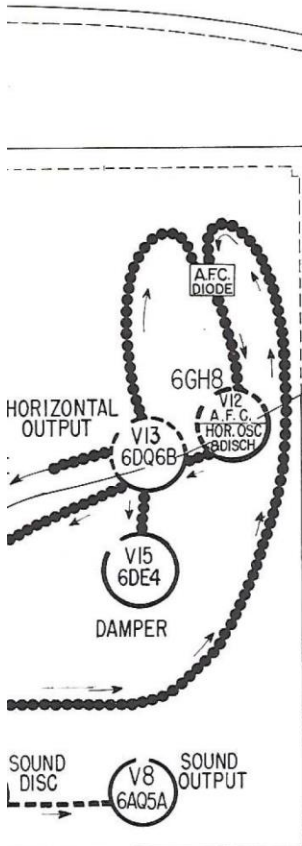


VIDEO -----

 VOLTS 117 A.C.

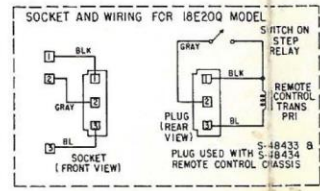
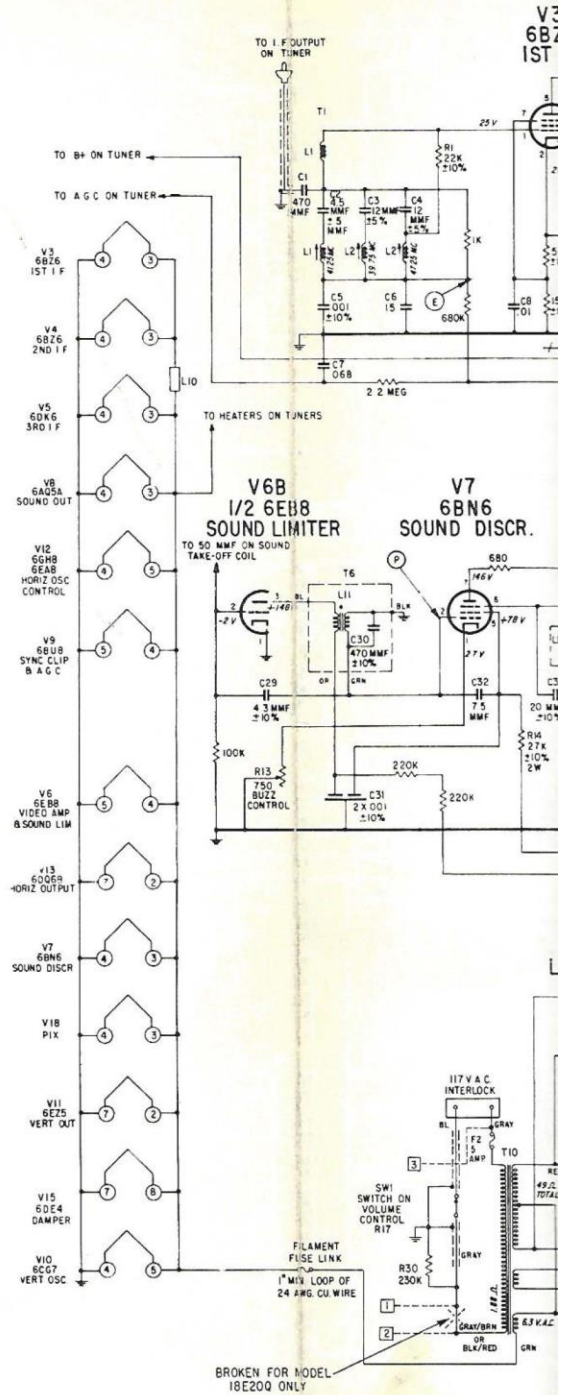
VERTICAL CIRCUIT
 HORIZONTAL CIRCUIT
 INTERMEDIATE FREQUENCY -----
 WATTS 240 (16E27) 320 (16E27Q)
 AMPS. 2.1 (16E27) 2.8 (16E27Q)

Fig. 34 Schematic Diagram 16E27 and 16E27Q Chassis

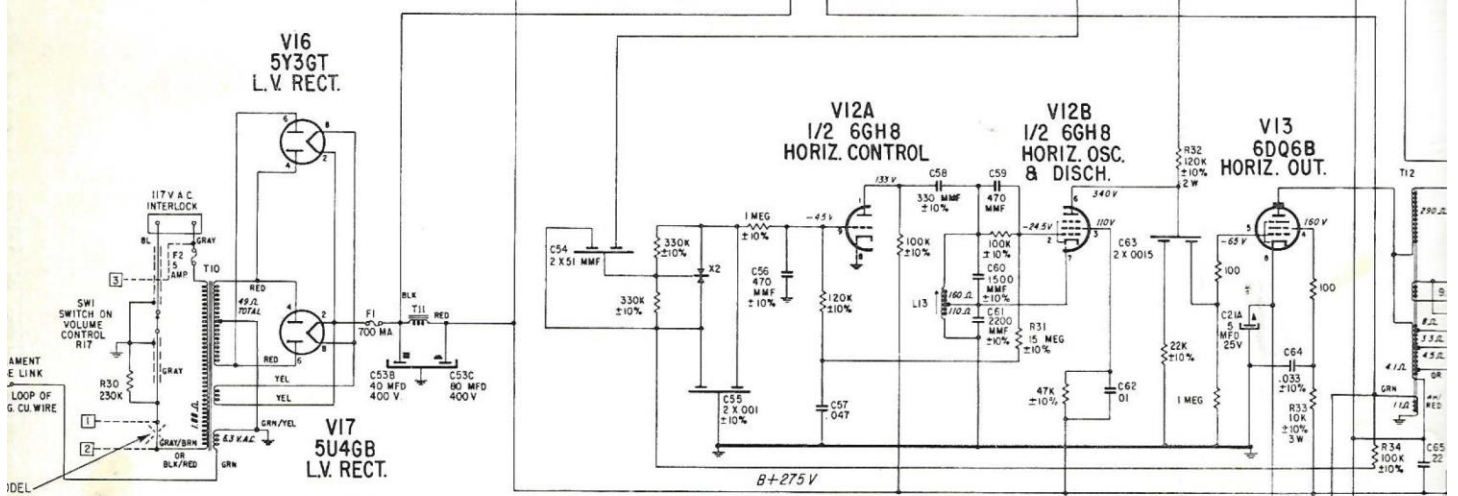
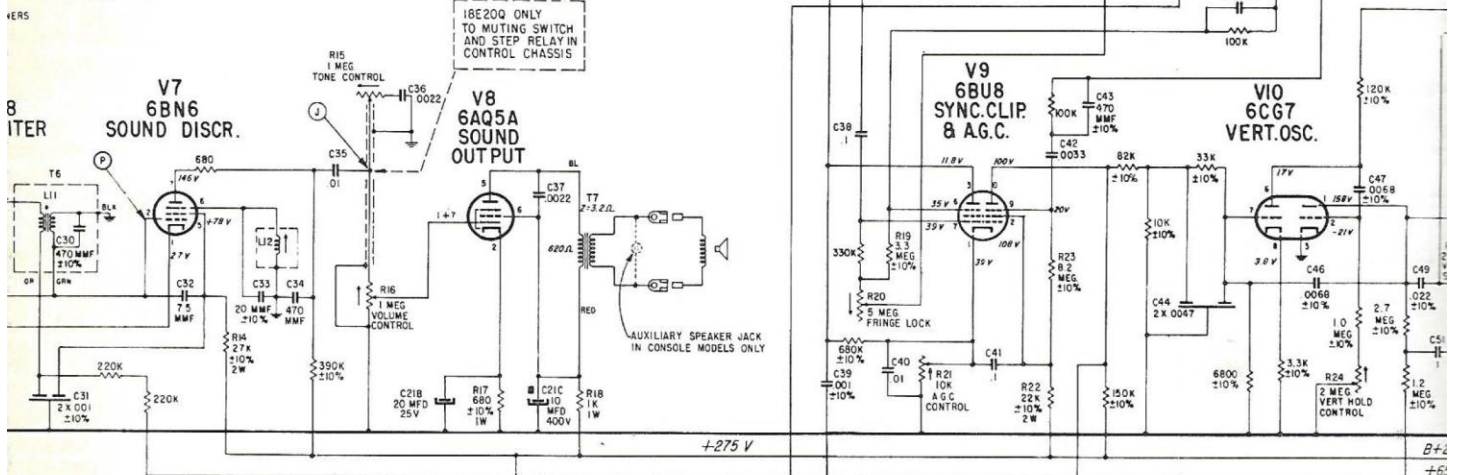
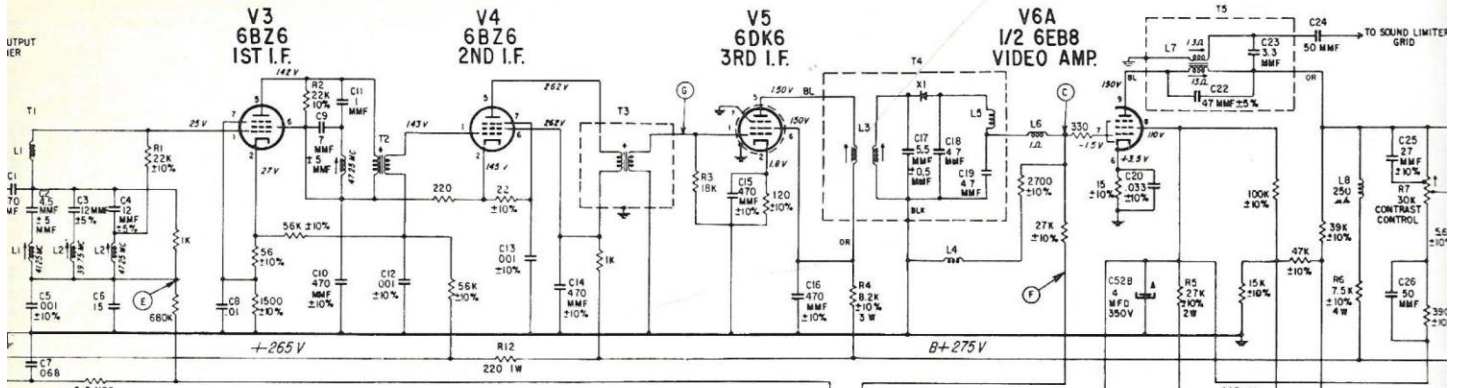


3 (A.G.C. AFFECTS BOTH SOUND & PICTURE)

UIT
RCUIT
FREQUENCY _____
20, 18E20) 325 (18D20Q, 18E20Q)
20, 18E20) 290 (18D20Q, 18E20Q)



NOTES:
ALL VOLTAGES MEASURED FROM CHA
ALL D.C. VOLTAGES TO BE MEASUR
HAVING 11 MEGOHM INPUT RESISTA
ALL VOLTAGE MEASUREMENTS TO BE
NORMAL SETTING OF CONTROLS AND
UNLESS OTHERWISE SPECIFIED.
ALL CONDENSER VALUES IN MICRO
ALL CONDENSER CAPACITY TOLERAN
OTHERWISE SPECIFIED.
RESISTANCE MEASUREMENTS SHOWN
COIL RESISTANCES NOT GIVEN ARE
CATHODE RAY TUBE 2ND ANODE VOL
OR 20K MIN. OHM PER VOLT HIGH
ARROWS ON POTENTIOMETERS INDIC
ALIGNMENT POINTS
CIRCLED LETTERS INDICATE ALIG
DENOTES CHASSIS



NOTES:
 ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
 ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT.
 NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER CAPACITY TOLERANCE ±20% UNLESS OTHERWISE SPECIFIED.
 ALL RESISTORS ARE ±20% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
 RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
 COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
 CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHM, OHM PER VOLT HIGH VOLTAGE METER.
 ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

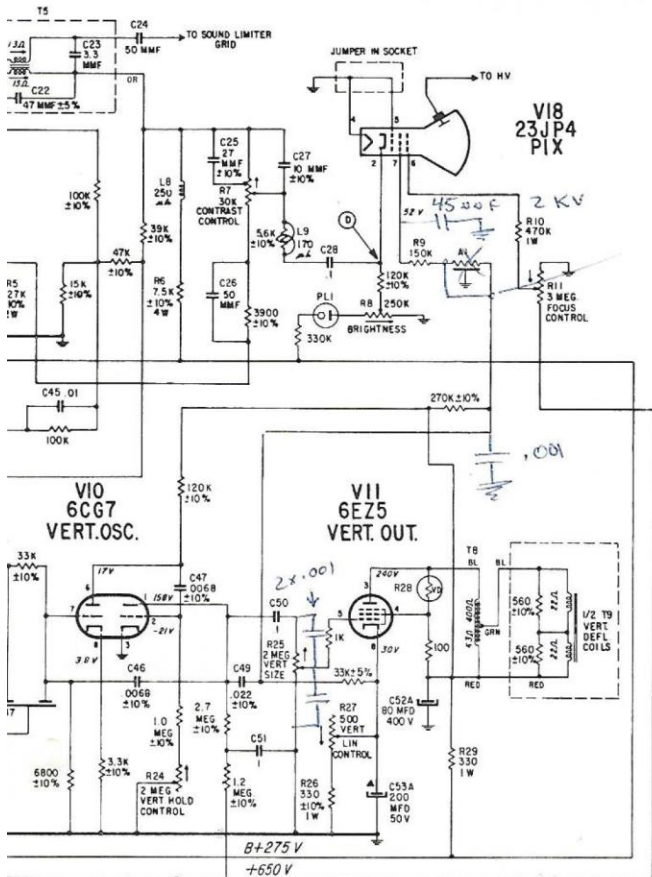
Note:
 The voltage dependent resistor R 28 varies in resistance with applied voltage. As the pulse increases the resistance automatically drops. This prevents possible flashover in the tube or transformer during the retrace period.

Note:
 In late production receivers the PL 1 circuit is omitted and the brightness control is connected to the screen (Pin 8) of the video amplifier tube.

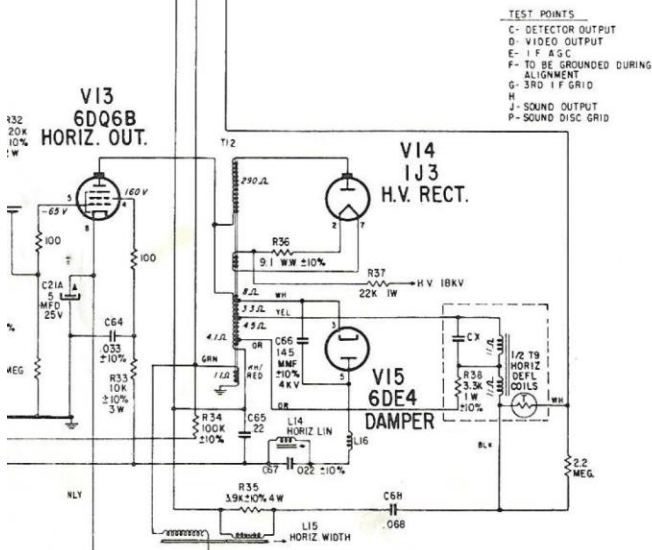
18E20, 18E20Q, 18D20 and 18D20Q Chassis

TOCH ON STEP RELAY
 REMOTE CONTROL TRANS. PA1
 1433 B
 1434
 5515

ALIGNMENT POINTS
 CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS.
 DENOTES CHASSIS



OR 15K in place of A-1



ircuit
s con-
o am-

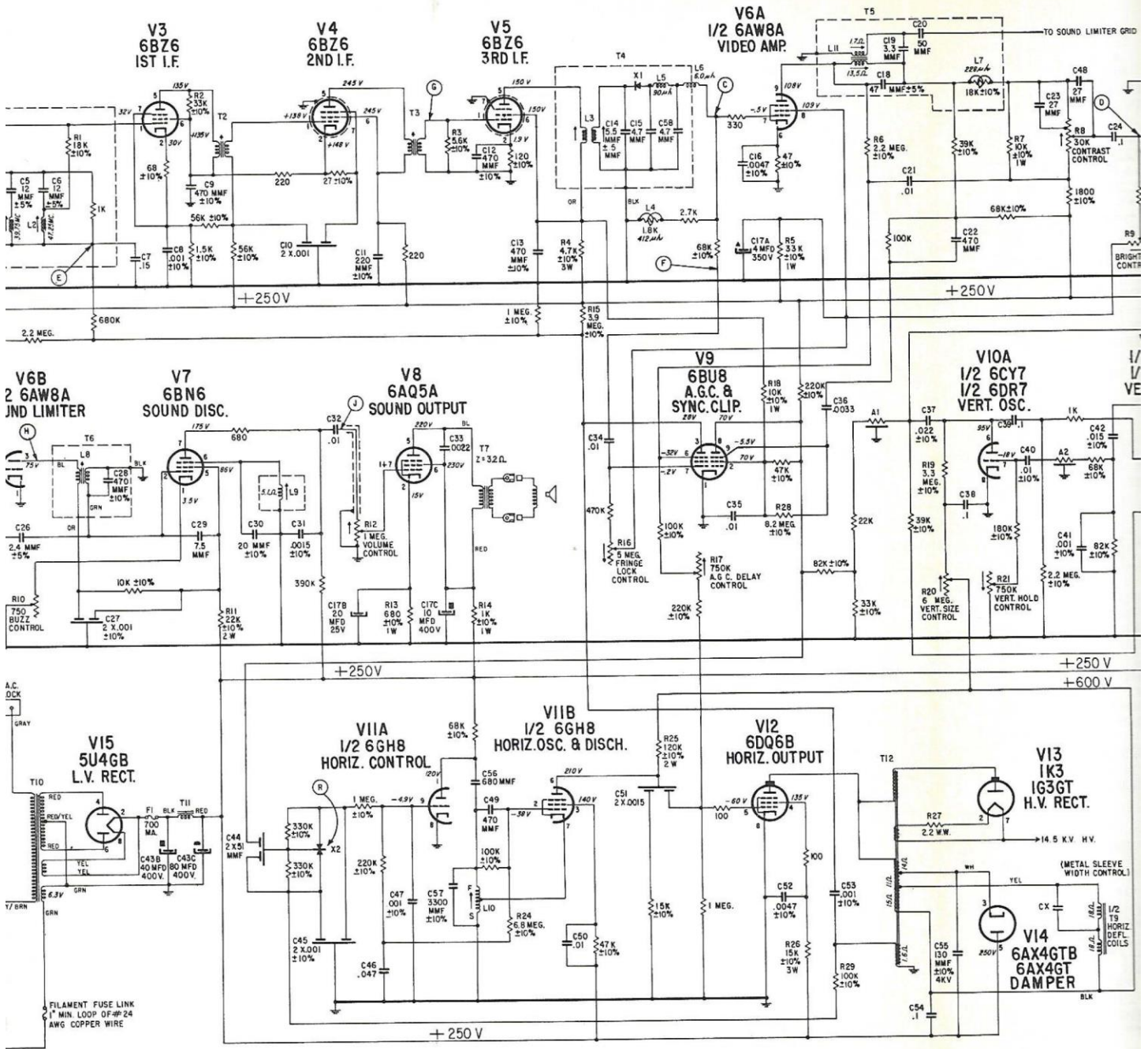
ITEM NO.	PART NUMBER	DESCRIPTION	
C1	22-3217	470 MMF DISC	500 V
C2	22-2383	4.5 MMF DISC ±.5 MMF	500 V
C3	22-3035	12 MMF DISC ±5%	500 V
C4	22-3035	12 MMF DISC ±5%	500 V
C5	22-3222	.001 MFD DISC ±10%	500 V
C6	22-3126	.15 MFD PAPER MOLDED	200 V
C7	22-2572	.068 MFD MOLDED	200 V
C8	22-3	.01 MFD DISC	500 V
C9	22-2513	7 MMF ±.5 MMF	500 V
C10	22-16	470 MMF DISC ±10%	500 V
C11	22-1762	1 MMF GIMMICK	500 V
C12	22-17	.001 MFD DISC ±10%	1000 V
C13	22-17	.001 MFD DISC ±10%	1000 V
C14	22-16	470 MMF DISC ±10%	500 V
C15	22-16	470 MMF DISC ±10%	500 V
C16	22-3022	470 MMF MICA ±10%	500 V
C17	22-3221	5.5 MMF DISC ±.5 MMF	500 V
C18	22-1516	4.7 MMF GIMMICK	500 V
C19	22-1516	4.7 MMF GIMMICK	500 V
C20	22-2510	.033 MFD PAPER MOLDED ±10%	200 V
C21A		5 MFD ELECTROLYTIC	25 V
C21B	22-3243	20 MFD ELECTROLYTIC	25 V
C21C		10 MFD ELECTROLYTIC	400 V
C22	22-2467	47 MMF ±5% DISC	500 V
C23	22-2343	3.3 MMF GIMMICK	500 V
C24	22-2460	50 MMF GIMMICK	500 V
C25	22-3065	27 MMF GIMMICK	500 V
C26	22-2460	50 MMF GIMMICK	500 V
C27	22-3066	10 MMF GIMMICK ±10%	500 V
C28	22-3239	.1 MFD PAPER MOLDED	400 V
C29	22-3072	4.3 MMF GIMMICK ±10%	500 V
C30	22-2480	470 MMF MICA ±10%	500 V
C31	22-3226	2 X .001 MFD DISC ±10%	500 V
C32	22-2742	7.5 MMF GIMMICK	500 V
C33	22-3139	20 MMF DISC ±10%	500 V
C34	22-6	470 MMF DISC	1000 V
C35	22-3	.01 MFD DISC	500 V
C36	22-8	.0022 MFD DISC	500 V
C37	22-2622	.0022 MFD DISC	500 V
C38	22-3239	.1 MFD PAPER MOLDED	400 V
C39	22-17	.001 MFD DISC ±10%	1000 V
C40	22-3	.01 MFD DISC	500 V
C41	22-3239	.1 MFD PAPER MOLDED	400 V
C42	22-11	.0033 MFD DISC	500 V
C43	22-16	470 MMF DISC ±10%	500 V
C44	22-24	2 X .0047 MFD DISC	500 V
C45	22-3	.01 MFD DISC	500 V
C46	22-2501	.0068 MFD PAPER MOLDED	400 V
C47	22-2501	.0068 MFD PAPER MOLDED	400 V
C48			
C49	22-2621	.022 MFD PAPER MOLDED ±10%	400 V
C50	22-3135	.1 MFD PAPER MOLDED	400 V
C51	22-1841	.1 MFD PAPER MOLDED	600 V
C52A		80 MFD ELECTROLYTIC	400 V
C52B	22-3244	4 MFD ELECTROLYTIC	350 V
C53A		200 MFD ELECTROLYTIC	50 V
C53B	22-3228	40 MFD ELECTROLYTIC	400 V
C53C		80 MFD ELECTROLYTIC	400 V
C54	22-25	2 X 51 MMF DISC	500 V
C55	22-3226	2 X .001 MFD DISC	500 V
C56	22-16	470 MMF ±10%	500 V
C57	22-1778	.047 MFD PAPER MOLDED	200 V
C58	22-2667	330 MMF MICA ±10%	500 V
C59	22-6	470 MMF DISC	1000 V
C60	22-3179	1500 MMF MICA ±10%	300 V
C61	22-3180	2200 MMF MICA ±10%	300 V
C62	22-3	.01 MFD DISC	500 V
C63	22-23	2 X .0015 MFD DISC	500 V
C64	22-2635	.033 MFD ±10%	400 V
C65	22-3219	.22 MFD PAPER MOLDED	600 V
C66	22-2869	145 MMF ±10%	4 KV
C67	22-3227	.022 MFD PAPER MOLDED ±10%	200 V
C68	22-3200	.068 MFD PAPER MOLDED	600 V

DESCRIPTION					
	500 V	R1	63-2848	22K OHM $\pm 10\%$ A.B. ONLY	1/2 W
± 5 MMF	500 V	R2	63-2848	22K OHM $\pm 10\%$ A.B. ONLY	1/2 W
5%	500 V	R3	63-4478	18K OHM A.B. ONLY	1/2 W
5%	500 V	R4	63-4098	8.2K OHM $\pm 10\%$	3 W
$\pm 10\%$	500 V	R5	63-4093	27K OHM $\pm 10\%$	2 W
MOLDED	200 V	R6	63-4055	7.5K OHM $\pm 10\%$	4 W
RED	200 V	R7	63-4489	30K OHM CONTRAST CONTROL	
	500 V	R8	63-4676	250K OHM BRIGHTNESS CONTROL	
	500 V	R9	63-4628	150K OHM A.B. ONLY	1/2 W
$\pm 10\%$	500 V	R10	63-2149	470K OHM	1 W
	500 V	R11	63-4455	3 MEGOHM FOCUS CONTROL	
$\pm 10\%$	1000 V	R12	63-2285	22K OHM	1 W
$\pm 10\%$	1000 V	R13	63-3284	750 OHM BUZZ CONTROL	
$\pm 10\%$	500 V	R14	63-4093	27K OHM $\pm 10\%$	2 W
$\pm 10\%$	500 V	R15	63-4679	1 MEGOHM TONE CONTROL	
$\pm 10\%$	500 V	R16	63-4661	1 MEGOHM VOLUME CONTROL	
± 5 MMF	500 V	R17	63-2290	680 OHM $\pm 10\%$	1 W
CK	500 V	R18	63-1574	1K OHM	1 W
CK	500 V	R19	63-408C	3.3 MEGOHM $\pm 10\%$ A.B. ONLY	1/2 W
ERMOLDED $\pm 10\%$	200 V	R20	63-4C12	5 MEGOHM FRINGE LOCK	
OLYTIC	25 V	R21	63-4C95	10K OHM A.G.C. CONTROL	
OLYTIC	25 V	R22	63-1566	22K OHM $\pm 10\%$	2 W
OLYTIC	400 V	R23	63-4389	8.2 MEGOHM $\pm 10\%$ A.B. ONLY	1/2 W
SC	500 V	R24	63-4678	2 MEGOHM VERTICAL HOLD CONTROL	
CK	500 V	R25	63-4635	2 MEGOHM VERTICAL SIZE CONTROL	
CK	500 V	R26	63-1622	330 OHM $\pm 10\%$	2 W
CK	500 V	R27	63-4636	500 OHM VERTICAL LINEARITY CONTROL	
CK	500 V	R28	63-4637	VOLTAGE DEPENDENT RESISTOR	
CK $\pm 10\%$	500 V	R29	63-2287	330 OHM	2 W
MOLDED	400 V	R30	63-3607	230K OHM	1/2 W
CK $\pm 10\%$	500 V	R31	63-4619	15 MEGOHM $\pm 10\%$ A.B. OR STKP. ONLY	1/2 W
$\pm 10\%$	500 V	R32	63-23C9	120K OHM $\pm 10\%$	2 W
DISC $\pm 10\%$	500 V	R33	63-4C97	10K OHM $\pm 10\%$	3 W
CK	500 V	R34	63-4482	100K OHM $\pm 10\%$ I.R.C. ONLY	1/2 W
$\pm 10\%$	500 V	R35	63-4484	3.9K OHM $\pm 10\%$	4 W
	1000 V	R36	63-4674	9.1 OHM W.W. $\pm 10\%$	1/2 W
	500 V	R37	63-4693	22K OHM A.B. OR STKP. ONLY	1 W
SC	500 V				
SC	500 V				
MOLDED	400 V				
$\pm 10\%$	1000 V				
MOLDED	400 V	L1	S-48C45	1ST I.F. & 41.25 MC TRAP COIL WIND. ASSY.	
SC	500 V	L2	S-41883	ADJACENT CHANNEL TRAP COIL ASSEMBLY	
$\pm 10\%$	500 V	L3	S-47968	4TH I.F. WINDING ASSEMBLY	
DISC	500 V	L4	S-43619	DETECTOR SHUNT PEAKING COIL ASSEMBLY	
DISC	500 V	L5	S-41879	DETECTOR SERIES PEAKING COIL ASSEMBLY	
ERMOLDED	400 V	L6	S-21888	CHOKE COIL ASSEMBLY	
ERMOLDED	400 V	L7	S-43125	SOUND TAKE-OFF COIL WINDING ASSEMBLY	
ERMOLDED	400 V	L8	S-16011	SHUNT PEAKING COIL ASSEMBLY	
	400 V	L9	S-43618	SERIES PEAKING COIL ASSEMBLY	
	400 V	L10	149-171	IRON CORE SLEEVE	
	400 V	L11	S-41899	INTERCARRIER COIL WINDING ASSEMBLY	
	600 V	L12	S-47702	QUADRATURE COIL ASSEMBLY	
OLYTIC	400 V	L13	S-4715C	HORIZONTAL OSCILLATOR COIL ASSEMBLY	
OLYTIC	350 V	L14	S-47660	HORIZONTAL LINEARITY COIL ASSEMBLY	
OLYTIC	50 V	L15	S-49099	HORIZONTAL WIDTH COIL ASSEMBLY	
OLYTIC	400 V	L16	S-22777	SPOOK COIL ASSEMBLY	
DISC	500 V	T1	S-48046	1ST I.F. & TRAP COIL ASSEMBLY	
ERMOLDED	200 V	T2	S-41889	2ND I.F. & TRAP COIL ASSEMBLY	
$\pm 10\%$	500 V	T3	S-46740	3RD I.F. TRANSFORMER ASSEMBLY	
	1000 V	T4	S-47967	4TH I.F. TRANSFORMER ASSEMBLY	
$\pm 10\%$	300 V	T5	S-43126	SOUND TAKE-OFF COIL & CAP. ASSEMBLY	
$\pm 10\%$	300 V	T6	S-43717	INTERCARRIER COIL, CAP. & WIRE ASSEMBLY	
	500 V	T7	95-1569	AUDIO OUTPUT TRANSFORMER	
DISC	500 V	T8	95-1696	VERTICAL OUTPUT TRANSFORMER	
	400 V	T9	95-1695	DEFLECTION YOKE	
ERMOLDED	600 V	T10	95-1693	POWER TRANSFORMER	
	4 KV	T11	95-1694	FILTER CHCKE	
ERMOLDED $\pm 10\%$	200 V	T12	S-47662	HORIZONTAL SWEEP TRANSFORMER	
ERMOLDED	600 V				
		F1	136-38	700 MA. SLO-BLO FUSE	
		F2	136-42	5 AMP. SLC-BLC FUSE	
		X1	103-23	DIODE CRYSTAL	
		X2	103-2C	DUAL DIODE CRYSTAL	
		CX		SUPPLIED WITH YOKE	
		PL1	100-235	NECN BULB	
		A1	87-5	INTEGRATOR	

18E20, 18E20Q, 18D20 and 18D20Q Chassis

ITEM NO.	PART NUMBER	DESCRIPTION
C1	22-3217	470 MMF DISC
C2	22-2383	4.5 MMF $\pm 5\%$ MMF DISC
C3	22-3	.01 MFD DISC
C4	22-2572	.068 MFD
C5	22-3035	12 MMF $\pm 5\%$ DISC
C6	22-3035	12 MMF $\pm 5\%$ DISC
C7	22-3126	.15 MFD
C8	22-17	.001 MFD $\pm 10\%$ DISC
C9	22-16	470 MMF $\pm 10\%$ DISC
C10	22-3226	2 X .001 MFD $\pm 10\%$
C11	22-2926	220 MMF $\pm 10\%$
C12	22-16	470 MMF $\pm 10\%$ DISC
C13	22-3022	470 MMF MICA $\pm 10\%$
C14	22-3221	5.5 MMF $\pm 5\%$ MMF
C15	22-1516	4.7 MMF GIMMICK
C16	22-14	.0047 MFD DISC $\pm 10\%$
C17A		4 MFD ELECTROLYTIC
C17B	22-2744	20 MFD ELECTROLYTIC
C17C		10 MFD ELECTROLYTIC
C18	22-2467	47 MMF DISC $\pm 5\%$
C19	22-2343	3.3 MMF GIMMICK
C20	22-2460	50 MMF GIMMICK
C21	22-3	.01 MFD DISC
C22	22-6	470 MMF DISC
C23	22-3065	27 MMF GIMMICK
C24	22-3239	.1 MFD PAPER MOLDED
C25	22-17	.001 MFD $\pm 10\%$ DISC
C26	22-2596	2.4 MMF GIMMICK $\pm 5\%$
C27	22-3226	2 X .001 MFD DISC $\pm 10\%$
C28	22-2480	470 MMF MICA $\pm 10\%$
C29	22-2742	7.5 MMF GIMMICK
C30	22-3139	20 MMF DISC $\pm 10\%$
C31	22-12	.0015 MFD DISC $\pm 10\%$
C32	22-3	.01 MFD DISC
C33	22-8	.0022 MFD DISC
C34	22-3	.01 MFD DISC
C35	22-3	.01 MFD DISC
C36	22-11	.0033 MFD DISC
C37	22-2621	.022 MFD PAPER MOLDED $\pm 10\%$
C38	22-3125	.1 MFD
C39	22-2061	.1 MFD PAPER MOLDED
C40	22-2565	.01 MFD PAPER MOLDED $\pm 10\%$
C41	22-17	.001 MFD DISC $\pm 10\%$
C42	22-3040	.015 MFD PAPER MOLDED $\pm 10\%$
C43A		100 MFD ELECTROLYTIC
C43B	22-3123	40 MFD ELECTROLYTIC
C43C		80 MFD ELECTROLYTIC
C44	22-25	2 X 51 MMF DISC
C45	22-3226	2 X .001 MFD DISC $\pm 10\%$
C46	22-1778	.047 MFD PAPER MOLDED
C47	22-17	.001 MFD DISC $\pm 10\%$
C48	22-3065	27 MMF GIMMICK
C49	22-6	470 MMF DISC $\pm 10\%$
C50	22-3	.01 MFD DISC
C51	22-23	2 X .0015 MFD DISC
C52	22-14	.0047 MFD DISC $\pm 10\%$
C53	22-17	.001 MFD DISC $\pm 10\%$
C54	22-3125	.1 MFD
C55	22-2697	130 MMF $\pm 10\%$
C56	22-2668	680 MMF $\pm 10\%$
C57	22-3093	3300 MMF $\pm 10\%$
C58	22-1516	4.7 MMF GIMMICK
R1	63-3195	18K OHM $\pm 10\%$ A.B. ONLY
R2	63-4008	33K OHM $\pm 10\%$ A.B. ONLY
R3	63-4472	5.6K OHM $\pm 10\%$ A.B. ONLY
R4	63-4370	4.7K OHM $\pm 10\%$
R5	63-957	33K OHM $\pm 10\%$
R6	63-4C77	2.2 MEGOHM $\pm 10\%$ A.B. ONLY
R7	63-442C	10K OHM $\pm 10\%$
R8	63-4076	30K OHM CONTRAST CONTROL
R9	63-4049	25CK OHM BRIGHTNESS CONTROL
R10	63-3284	750 OHM BUZZ CONTROL
R11	63-1566	22K OHM $\pm 10\%$
R12	63-4062	1 MEGOHM VOLUME CONTROL
R13	63-2290	680 OHM $\pm 10\%$
R14	63-965	1K OHM $\pm 10\%$
R15	63-4374	3.9 MEGOHM $\pm 10\%$ A.B. ONLY
R16	63-4050	5 MEGOHM FRINGE LOCK CONTROL
R17	63-3262	750K OHM A.G.C. DELAY CONTROL
R18	63-1071	10K OHM $\pm 10\%$

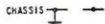
16E20 Chassis



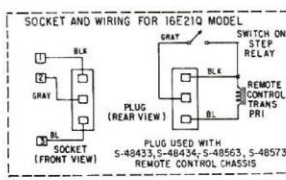
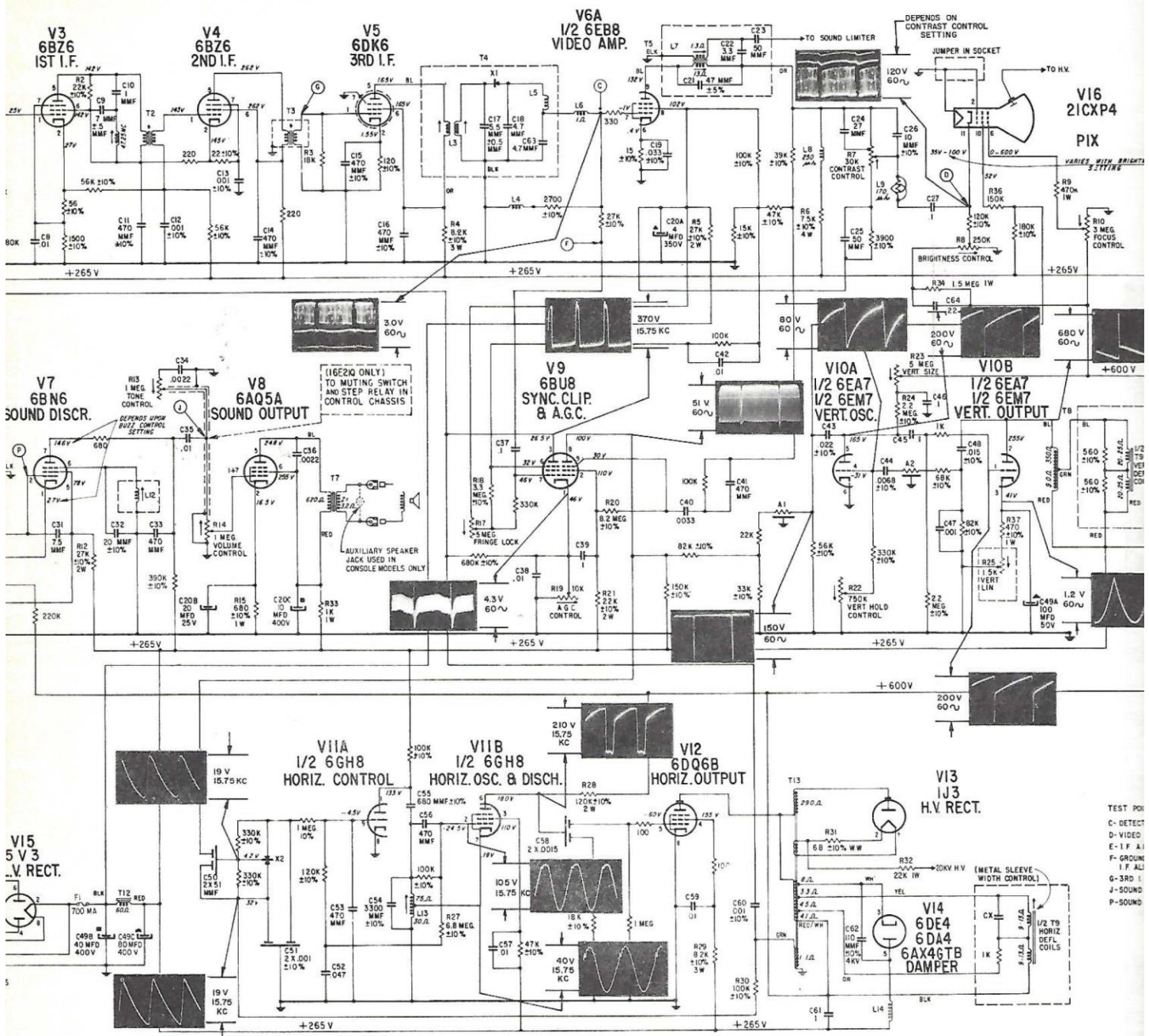
NOTES:

- ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
- ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
- ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
- ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
- ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- ALL CONDENSER CAPACITY TOLERANCE ±20% UNLESS OTHERWISE SPECIFIED.
- ALL RESISTORS ARE ±5% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
- RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
- COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
- CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHM. OHM PER VOLT HIGH VOLTAGE METER.
- ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

- (A) ALIGNMENT POINTS
- CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS



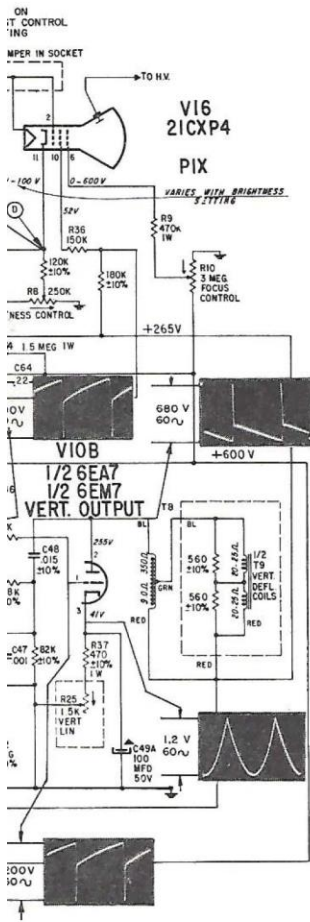
16E20 Chassis



NOTES:
 ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
 ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 10 MEGOHM INPUT RESISTANCE.
 ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT; NORMAL SETTINGS OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
 ALL CONDENSER VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 ALL RESISTORS ARE ±20% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
 RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
 COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
 CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PFC 1/2 INCH HIGH VOLTAGE METER.
 150Ω ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

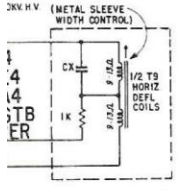
ALIGNMENT POINTS
 CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS.

16E21, 16E21Q, 16D21 and 16D21Q Chassis



1/3
J3
RECT.

TEST POINTS
 C- DETECTOR OUTPUT
 D- VIDEO OUTPUT
 E- 1 F. A.C.
 F- GROUNDED FOR I.F. ALIGNMENT
 G- 3RD I.F. GRID
 J- SOUND OUTPUT
 P- SOUND DISC GRID



D.
 0L7N
 050K
 0SPEC
 0SPEC
 0L55
 0FRCH
 0CTFR.

ITEM NO.	PART NUMBER	DESCRIPTION				
C1	22-3217	470 MMF DISC	500 V	R4	63-4098	8.2K OHM ±10%
C2	22-3222	.001 MFD DISC ±10%	500 V	R5	63-4093	27K OHM ±10%
C3	22-2572	.068 MFD MOLDED	200 V	R6	63-4055	7.5K OHM ±10%
C4	22-2303	4.5 MMF DISC ±.5 MMF	500 V	R7	63-4489	30K OHM CONTRA
C5	22-3035	12 MMF DISC ±5%	500 V	R8	63-4676	250K OHM BRIGHT
C6	22-3035	12 MMF DISC ±5%	500 V	R9	63-2149	470K OHM
C7	22-3126	.15 MFD PAPER MOLDED	200 V	R10	63-4455	3 MEGOHM FOCUS
C8	22-3	.01 MFD DISC	500 V	R11	63-3284	750 OHM BUZZ CO
C9	22-2513	7 MMF DISC ±.5 MMF	500 V	R12	63-4093	27K OHM ±10% A.
C10	22-1762	1.0 MMF GIMMICK TYPE	500 V	R13	63-4679	1 MEGOHM TONE (
C11	22-16	470 MMF DISC ±10%	500 V	R14	63-4661	1 MEGOHM VOLUME
C12	22-17	.001 MFD DISC ±10%	1000 V	R15	63-2290	680 OHM ±10%
C13	22-17	.001 MFD DISC ±10%	1000 V	R16		
C14	22-16	470 MMF DISC ±10%	500 V	R17	63-4012	5 MEGOHM FRINGE
C15	22-16	470 MMF DISC ±10%	500 V	R18	63-4080	3.3 MEGOHM ±10%
C16	22-3022	470 MMF MICA ±10%	500 V	R19	63-4095	10K OHM A.G.C.
C17	22-3221	5.5 MMF DISC ±0.5 MMF	500 V	R20	63-4389	8.2 MEGOHM ±10%
C18	22-1516	4.7 MMF GIMMICK TYPE	500 V	R21	63-1566	22K OHM ±10%
C19	22-2510	.033 MFD PAPER MOLDED ±10%	200 V	R22	63-4677	750K OHM VERTIC
C20A		4 MFD ELECTROLYTIC	300 V	R23	63-4660	5 MEGOHM VERT
C20B	22-2744	20 MFD ELECTROLYTIC 16D21, 16D21Q	25 V	R24	63-4077	2.2 MEGOHM ±10%
C20C		10 MFD ELECTROLYTIC	400 V	R25	63-4620	1.5K OHM VERTIC
C21	22-2467	47 MMF ±5%	500 V	R26	63-3607	230K OHM
C22	22-2343	3.3 MMF GIMMICK TYPE	500 V	R27	63-4441	6.8 MEGOHM ±10%
C23	22-2460	50 MMF GIMMICK TYPE	500 V	R28	63-2309	120K OHM ±10%
C24	22-3065	27 MMF GIMMICK TYPE ±10%	500 V	R29	63-4098	8.2K OHM ±10%
C25	22-2460	50 MMF GIMMICK TYPE	500 V	R30	63-4400	100K OHM ±10%
C26	22-3066	10 MMF GIMMICK TYPE ±10%	500 V	R31	63 3205	6.8 OHM ±10%
C27	22-3239	.1 MFD PAPER MOLDED	400 V	R32	63-4693	22K OHM A.B. OI
C28	22-3072	4.3 MMF GIMMICK TYPE ±10%	500 V	R33	63-1574	1K OHM
C29	22-3226	2 X .001 MFD DISC ±10%	500 V	R34	63-2315	1.5 MEGOHM
C30	22-2480	470 MMF MICA ±10%	500 V	R35		
C31	22-2742	7.5 MMF GIMMICK TYPE	500 V	R36	63-4628	150K OHM A.B. (
C32	22-3139	20 MMF ±10%	500 V	R37	63-2398	470 OHM ±10%
C33	22-6	470 MMF DISC	1000 V			
C34	22-8	.0022 MFD DISC	500 V	L1	S-48046	1ST I.F. & 41.2
C35	22-3	.01 MFD DISC	500 V	L2	S-41883	ADJACENT CHANNE
C36	22-2622	.0022 MFD DISC	500 V	L3	S-47968	4TH I.F. WINDIN
C37	22-3239	.1 MFD PAPER MOLDED	400 V	L4	S-43619	DETECTOR SHUNT
C38	22-3	.01 MFD DISC	500 V	L5	S-41879	DETECTOR SERIES
C39	22-3239	.1 MFD PAPER MOLDED	400 V	L6	S-21888	CHOKE COIL ASSE
C40	22-11	.0033 MFD DISC	500 V	L7	S-43125	SOUND TAKE-OFF
C41	22-6	470 MMF DISC	1000 V	L8	S-16011	SHUNT PEAKING C
C42	22-3	.01 MFD DISC	500 V	L9	S-43618	SERIES PEAKING
C43	22-2621	.022 MFD PAPER MOLDED ±10%	400 V	L10	149-171	IRON CORE
C44	22-2656	.0068 MFD PAPER MOLDED ±10%	200 V	L11	S-41899	INTERCARRIER CO
C45	22-3135	.1 MFD PAPER MOLDED	400 V	L12	S-47702	QUADRATURE COIL
C46	22-3125	.1 MFD PAPER MOLDED	600 V	L13	S-45678	HORIZONTAL OSCIL
C47	22-17	.001 MFD DISC ±10%	1000 V	L14	S-22777	SPOOK COIL
C48	22-3040	.015 MFD PAPER MOLDED ±10%	1000 V			
C49A		100 MFD ELECTROLYTIC	50 V	T1	S-48046	1ST I.F. & TRAP
C49B	22-3137	40 MFD ELECTROLYTIC	400 V	T2	S-41889	2ND I.F. & TRAP
C49C		80 MFD ELECTROLYTIC	400 V	T3	S-46740	3RD I.F. TRANSF
C50	22-25	2 X 51 MMF DISC	500 V	T4	S-47967	4TH I.F. TRANSF
C51	22-3226	2 X .001 MFD DISC ±10%	500 V	T5	S-43126	SOUND TAKE-OFF
C52	22-1778	.047 MFD MOLDED	200 V	T6	S-43717	INTERCARRIER CO
C53	22-6	470 MMF DISC	1000 V	T7	95-1569	AUDIO OUTPUT TR
C54	22-3093	3300 MMF MICA ±10%	300 V	T8	95-1656	VERTICAL OUTPUT
C55	22-2901	680 MMF MICA ±10%	500 V	T9	95-1654	DEFLECTION YOKE
C56	22-6	470 MMF DISC	1000 V	T10	95-1680	POWER TRANSFORM
C57	22-3	.01 MFD DISC	500 V	T11		
C58	22-23	2 X .0015 MFD DISC	500 V	T12	95-1681	FILTER CHOKE
C59	22-3	.01 MFD	500 V	T13	S-47071	HORIZONTAL SWEE
C60	22-17	.001 MFD DISC ±10%	1000 V			
C61	22-1841	.1 MFD PAPER MOLDED	600 V			
C62	22-2694	110 MMF ±10%	4 KV			
C63	22-1516	4.7 MMF GIMMICK TYPE	500 V	X1	103-23	DIODE CRYSTAL
C64	22-3219	22 MMF MOLDED	600 V	X2	103-20	DUAL SELENIUM D
R1	63-2848	22K OHM ±10% A.B. ONLY	1/2 W	A1	87-5	INTEGRATOR
R2	63-2848	22K OHM ±10% A.B. ONLY	1/2 W	A2	87-4	INTEGRATOR
R3	63-4478	18K OHM A.B. ONLY	1/2 W	F1	136-38	700 MA. FUSE S
				F2	136-42	5 AMP. SLO-BLO FU
				CX		SUPPLIED WITH Y

63-4098	8.2K OHM $\pm 10\%$	3 W
63-4093	27K OHM $\pm 10\%$	2 W
63-4055	7.5K OHM $\pm 10\%$	4 W
63-4489	30K OHM CONTRAST CONTROL	
63-4676	250K OHM BRIGHTNESS CONTROL	
63-2149	470K OHM	1 W
63-4455	3 MEGOHM FOCUS CONTROL	
63-3284	750 OHM BUZZ CONTROL	
63-4093	27K OHM $\pm 10\%$ A.B. ONLY	2 W
63-4679	1 MEGOHM TONE CONTROL	
63-4661	1 MEGOHM VOLUME CONTROL	
63-2290	680 OHM $\pm 10\%$	1 W
63-4012	5 MEGOHM FRINGE LOCK	
63-4080	3.3 MEGOHM $\pm 10\%$ A.B. ONLY	1/2 W
63-4095	10K OHM A.G.C. DELAY CONTROL	
63-4389	8.2 MEGOHM $\pm 10\%$ A.B. ONLY	1/2 W
63-1566	22K OHM $\pm 10\%$	2 W
63-4677	750K OHM VERTICAL HOLD CONTROL	
63-4660	5 MEGOHM VERTICAL SIZE CONTROL	
63-4077	2.2 MEGOHM $\pm 10\%$ A.B. ONLY	1/2 W
63-4620	1.5K OHM VERTICAL LINEARITY CONTROL	
63-3607	230K OHM	1/2 W
63-4441	6.8 MEGOHM $\pm 10\%$ A.B. OR STKPL. ONLY	1/2 W
63-2309	120K OHM $\pm 10\%$	2 W
63-4098	8.2K OHM $\pm 10\%$	3 W
63-4482	100K OHM $\pm 10\%$ I.R.C. ONLY	1/2 W
63-3205	6.8 OHM $\pm 10\%$ W.W.	1/2 W
63-4693	22K OHM A.B. OR STKP ONLY	1 W
63-1574	1K OHM	1 W
63-2315	1.5 MEGOHM	1 W
63-4628	150K OHM A.B. ONLY	1/2 W
63-2398	470 OHM $\pm 10\%$	1 W
S-48046	1ST I.F. & 41.25 MC TRAP COIL WIND. ASSEM.	
S-41883	ADJACENT CHANNEL TRAP COIL	
S-47968	4TH I.F. WINDING ASSEMBLY	
S-43619	DETECTOR SHUNT PEAKING COIL ASSEMBLY	
S-41879	DETECTOR SERIES PEAKING COIL	
S-21888	CHOKE COIL ASSEMBLY	
S-43125	SOUND TAKE-OFF WINDING ASSEMBLY	
S-16011	SHUNT PEAKING COIL	
S-43618	SERIES PEAKING COIL ASSEMBLY	
143-171	IRON CORE	
S-41899	INTERCARRIER COIL WINDING ASSEMBLY	
S-47702	QUADRATURE COIL ASSEMBLY	
S-45678	HORIZONTAL OSCILLATOR COIL ASSEMBLY	
S-22777	SPOOK COIL	
S-48046	1ST I.F. & TRAP COIL ASSEMBLY	
S-41889	2ND I.F. & TRAP COIL ASSEMBLY	
S-46740	3RD I.F. TRANSFORMER ASSEMBLY	
S-47967	4TH I.F. TRANSFORMER ASSEMBLY	
S-43126	SOUND TAKE-OFF COIL & CAP. ASSEMBLY	
S-43717	INTERCARRIER COIL CAP. & WIRE ASSEMBLY	
95-1569	AUDIO OUTPUT TRANSFORMER	
95-1656	VERTICAL OUTPUT TRANSFORMER	
95-1654	DEFLECTION YOKE	
95-1680	POWER TRANSFORMER	
95-1681	FILTER CHOKE	
S-47071	HORIZONTAL SWEEP TRANSFORMER	
103-23	DIODE CRYSTAL	
103-20	DUAL SELENIUM DIODE	
87-5	INTEGRATOR	
87-4	INTEGRATOR	
136-38	70C MA. FUSE SLO-BLO	
136-42	5 AMP. SLO-BLO FUSE	
	SUPPLIED WITH YOKE	

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ON
ANODE YO
ERS INO

PRINCIPLE COM

1812L	E1814P	E1814P	E2010C	E2010C	E2015L	E2015L	E2301R	E2301R	E2301Y	E2301Y	E2302R	E2302R	E2315L	E2315Y	E2316E
1D25	16E25	16D25	16E25Q	16D25Q	16E25Q	16D25Q	16E21	16D21	16E21	16D21	16E21	16D21	16E21	16E21	16E21
7DQP4	17DQP4	17DQP4	17DQP4	17DQP4	17DQP4	17DQP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4
1-2686 1-2728*	14-2877* 14-2872	14-2872 14-2877*	14-3116	14-3116	14-2873	14-2873	14-2721	14-2721	14-2722	14-2722	14-2726	14-2726	14-2696	14-2691	14-2694
12-280	192-280	192-280	192-280	192-280	192-280	192-280	192-285	192-285	192-284	192-284	192-285	192-285	192-279	192-279	192-279
7-2904	57-2906	57-2906	57-2903	57-2903	57-2905	57-2905	57-2925	57-2759	57-2925	57-2759	57-2925	57-2759	57-2712	57-2712	57-2712
45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-46726 S-45716*	S-46726 S-45716*	S-46726 S-45716*
5-2341	46-2344	46-2344	46-2344	46-2344	46-2341	46-2341	46-2173	46-2173	46-2180	46-2180	46-2173	46-2173	46-2180	46-2180	46-2173
49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-49420	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280
46215	S-46215	S-46215	S-46215	S-46215	S-46215	S-46215	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	46-1118	46-1118	46-1118
46665	S-46665	S-46665	S-46665	S-46665	S-46665	S-46665	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	None	None	None
45665	S-46665	S-46665	S-46665	S-46665	S-46665	S-46665	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	None	None	None
46665	S-46665	S-46665	S-46665	S-46665	S-46665	S-46665	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-46724	S-46724	S-46724
one	None	None	None	None	None	None	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	None	None	None
46760	S-46963	S-46963	S-49310	S-49310	S-47413	S-47413	S-48469	S-47937	S-48469	S-47937	S-48469	S-47937	S-48418	S-48418	S-48418
9-887	49-887	49-887	49-887	49-887	49-887	49-887	49-751	49-751	49-751	49-751	49-751	49-751	49-751	49-751	49-751
1-1666	95-1721	95-1666	95-1721	95-1666	95-1721	95-1666	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654
46564	S-48197	S-46564	S-48197	S-46564	S-48197	S-46564	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071
1-4491	63-4491	63-4491	63-4491	63-4491	63-4491	63-4491	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4677	63-4677
1-4647	63-4647	63-4647	63-4647	63-4647	63-4647	63-4647	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660
1-4492	63-4492	63-4492	63-4492	63-4492	63-4492	63-4492	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4676	63-4676
1-4485	63-4485	63-4485	63-4485	63-4485	63-4485	63-4485	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620
one	None	None	None	None	None	None	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4679	63-4679
1-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284
1-4493	63-4493	63-4493	63-4493	63-4493	63-4493	63-4493	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489
1-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4661	63-4661
47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679
1-3262	63-4095	63-3262	63-4095	63-3262	63-4095	63-3262	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095
1-4050	63-4050	63-4050	63-4050	63-4050	63-4050	63-4050	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012
1-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455
1-1700	95-1700	95-1700	95-1700	95-1700	95-1700	95-1700	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656
1-1665	95-1665	95-1665	95-1665	95-1665	95-1665	95-1665	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569
1-1667	95-1667	95-1667	95-1667	95-1667	95-1667	95-1667	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680
75-146	175-146	175-146	175-148	175-148	175-148	175-148	175-132	175-132	175-132	175-132	175-132	175-132	175-132	175-132	175-134
75-145	175-145	175-145	None	None	None	None	175-131	175-131	175-131	175-131	175-131	175-131	175-131	175-131	175-133
75-8	175-8	175-8	None	None	None	None	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8
43927	S-43927	S-43927	None	None	None	None	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733
45472	S-45472	S-45472	None	None	None	None	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-46862	S-46862	S-46862
one	None	None	None	None	None	None	24-989 24-955*	24-989 24-955*	24-989 24-955*	24-989 24-955*	24-989 24-955*	24-989 24-955*	24-963	24-961	24-961
12-1596	202-1577	202-1596	202-1576	202-1593	202-1576	202-1593	202-1569	202-1465	202-1569	202-1465	202-1569	202-1465	202-1569	202-1569	202-1563
one	None	None	S-48583	S-48583	S-48583	S-48583	None	None	None	None	None	None	None	None	None

***U** MODELS ONLY

E COMPONENTS CHART

:315L	E2315Y	E2316E	E2316R	E2316W	E2345E	E2345E	E2345R	E2345R	E2345W	E2345W	E2346E	E2346R	E2346W	E2347E	E2347E	E2347
E21	16E21	16E21	16E21	16E21	16E21	16D21	16E21	16D21	16E21	16D21	16E21	16E21	16E21	16E21	16D21	16E21
CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4
-2696	14-2691	14-2694	14-2693	14-2695	14-3003	14-2761E	14-3002	14-2761R	14-3001	14-2761W	14-3006	14-3005	14-3004	14-3009	14-2802E	14-301
2-279	192-279	192-279	192-279	192-279	192-285	192-285	192-285	192-285	192-285	192-285	192-285	192-285	192-285	192-279	192-279	192-27
-2712	57-2712	57-2712	57-2712	57-2712	57-2926	57-2760	57-2926	57-2760	57-2926	57-2760	57-2926	57-2926	57-2926	57-2713	57-2713	57-271
46726 45716*	S-46726 S-45716*	S-46726 S-45716*	S-46726 S-45716*	S-46726 S-45716*	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-45716	S-46726 S-45716*	S-46726 S-45716*	S-4672 S-4571
-2180	46-2180	46-2173	46-2173	46-2173	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-217
46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-46280	S-4628
-1118	46-1118	46-1118	46-1118	46-1118	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	46-1118	46-111
one	None	None	None	None	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	S-46725	S-46725	None	S-46725	None
one	None	None	None	None	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	S-46725	S-46725	None	S-46725	None
46724	S-46724	S-46724	S-46724	S-46724	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-46724	S-46724	S-4672
one	None	None	None	None	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	S-46725	S-46725	None	S-46725	None
48418	S-48418	S-48418	S-48418	S-48418	S-48492	S-47119	S-48492	S-47119	S-48492	S-47119	S-48509	S-48509	S-48509	S-48542	S-47275	S-4854
1-751	49-751	49-751	49-751	49-751	49-780	49-780	49-780	49-780	49-780	49-780	49-818	49-818	49-818	49-893 (2)	49-893 (2)	49-893
-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-165
47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-4707
-4677	63-4677	63-4677	63-4677	63-4677	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4677	63-4677	63-4677	63-4486	63-467
-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-466
-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4676	63-4676	63-4676	63-4487	63-467
-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-462
1-4679	63-4679	63-4679	63-4679	63-4679	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4679	63-4679	63-4679	63-4488	63-467
1-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-328
1-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-448
1-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4661	63-4661	63-4661	63-4610	63-466
45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-4567
1-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-405
1-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-401
1-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-445
5-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-165
5-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-156
5-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-168
75-132	175-132	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-13
75-131	175-131	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-13
75-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8
-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-4573
-46862	S-46862	S-46862	S-46862	S-46862	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-45472	S-46862	S-4686
4-963	24-961	24-961	24-961	24-961	S-48494 S-48502*	S-45743 S-45746*	S-48494 S-48502*	S-45743 S-45746*	S-48494 S-48502*	S-45743 S-45746*	S-48494 S-48502*	S-48494 S-48502*	S-48494 S-48502*	24-961	24-961	24-961
02-1569	202-1569	202-1563	202-1563	202-1563	202-1563	202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	202-1563	202-1563	202-1563	202-1466	202-15
one	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None

IMPORTANT - IN USING THE PRINCIPLE COMPONENTS CHART, USE THE CHASSIS NUMBER AS A GUIDE IF A PARTICULAR MODEL IS LISTED TWICE AS AN EXAMPLE, MODEL E2010C APPEARS IN TWO COLUMNS. ASCERTAIN FROM THE MODEL ON HAND THE CHASSIS NUMBER AND USE THE LIST IN WHICH THAT CHASSIS NUMBER APPEARS.

E2348R	E2348W	E2348H	E2350H	E2350H	E2350M	E2350M	E2350R	E2350R	E2350W	MODEL
16D21	16E21	16D21	16E21	16D21	16E21	16D21	16E21	16D21	16E21	CHASSIS
21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	C. R. TUBE
14-2810R	14-3012	14-2810W	14-3018	14-2770H	14-3015	14-2770M	14-3016	14-2770R	14-3017	CABINET
192-279	192-279	192-279	192-262	192-262	192-262	192-262	192-262	192-262	192-262	GLASS
57-2713	57-2713	57-2713	57-2761	57-2761	57-2761	57-2761	57-2761	57-2761	57-2761	ESCUTCHEON
S-46726 S-45716*	S-46726 S-45716*	S-46726 S-45716*	S-46726	S-45716	S-46726	S-45716	S-46726	S-45716	S-46726	VOLUME KNOB
46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	46-2171	CHANNEL KNOB
S-46280	S-46280	S-46280	S-46280	S-48280	S-46280	S-46280	S-46280	S-46280	S-46280	FINE TUNING KNOB
46-1118	46-1118	46-1118	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	76-1025	HORIZ. HOLD KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	VERT. HOLD KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	BRIGHTNESS KNOB
S-46724	S-46724	S-46724	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	S-41482	CONTRAST KNOB
S-46725	None	S-46725	S-46725	S-43672	S-46725	S-43672	S-46725	S-43672	S-46725	tone knob
S-47348	S-48543	S-47348	S-48520	S-47094	S-48520	S-47094	S-4*520	S-47094	S-48520	CABINET BACK
49-831 & 49-893	49-831 & 49-893	49-831 & 49-893	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851	SPEAKER
95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	DEF' L YOKE
S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	HORIZ. SWEEP
63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	VERT. HOLD CONTROL
63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	VERT. SIZE CONTROL
63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	BRIGHTNESS CONTROL
63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	VERT. LIN. CONTROL
63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	tone control
63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	BUZZ CONTROL
63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	CONTRAST CONTROL
63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	VOLUME CONTROL
S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	HORIZ. HOLD CONTROL
63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	A G C CONTROL
63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	FRINGE LOCK CONTROL
63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	FOCUS CONTROL
95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	VERT. OUTPUT TRANS.
95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	AUDIO OUTPUT TRANS.
95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	POWER TRANSFORMER
175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	175-134	V H F TUNER
175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	175-133	V H F TUNER*
175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	175-8	U H F CONT. TUNER*
S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	S-45733	U H F DIAL KNOB*
S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	S-46862	U H F DRIVE BELT*
24-961	24-961	24-961	S-48494	S-45743	S-48494	S-45743	S-48494	S-45743	S-48494	CONTROL COVER
202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	202-1466	202-1563	INSTRUCTION BOOK
None	None	None	None	None	None	None	None	None	None	SPACE COMMAND CHASSIS

** 'U' MODELS ONLY

	E2755R	E2755W	E2764W	E3000R	E3000Y	E3002E	E3002E	E3002R	E3002R	E3002W	E3002W	E3004E	E3004R	E3004W	E3005E	E3005E
55E	18E20	18E20	18E20	16E21Q	16E21Q	16E21Q	16D21Q	16E21Q	16D21Q	16E21Q	16D21Q	16E21Q	16E21Q	16E21Q	16E21Q	16D21Q
P4	23JP4	23JP4	23JP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4
1031	14-3030	14-3029	14-3032	14-2721	14-2722	14-2694	14-2694	14-2693	14-2693	14-2695	14-2695	14-3035	14-3034	14-3033	14-3038	14-2757E
e	None	None	None	192-263	192-263	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279
1840	57-2840	57-2840	57-2840	57-2935	57-2935	57-2722	57-2722	57-2722	57-2722	57-2722	57-2722	57-2875	57-2875	57-2875	57-2722	57-2722
1726	S-46726	S-46726	S-46726	S-45716	S-45716	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726
1341	46-2341	46-2341	46-2341	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420
1420	S-49420	S-49420	S-49420	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035
1118	46-1118	46-1118	46-1118	76-1025	76-1025	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118
e	None	None	None	S-46725	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	S-46725
e	None	None	None	S-46725	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	S-46725
1431	S-48431	S-48431	S-48431	S-41482	S-41482	S-46724	S-46724	S-46724	S-46724	S-46724	S-46724	S-48431	S-48431	S-48431	S-46724	S-46724
e	None	None	None	S-46725	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	S-46725
1374	S-48374	S-48374	S-48374	S-48538	S-48538	S-48466	S-46779	S-48466	S-46779	S-48466	S-46779	S-48617	S-48617	S-48617	S-48479	S-47206
118 & 151	49-818 & 49-851	49-818 & 49-851	49-818 & 49-851 (2)	49-751	49-751	49-889	49-889	49-889	49-889	49-889	49-889	49-780	49-780	49-780	49-907	49-907
1695	95-1695	95-1695	95-1695	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654
1662	S-47662	S-47662	S-47662	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071
1678	63-4678	63-4678	63-4678	63-4677	63-4677	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4677	63-4677	63-4677	63-4486
1635	63-4635	63-4635	63-4635	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660
1676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4676	63-4676	63-4676	63-4487
1636	63-4636	63-4636	63-4636	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620
1679	63-4679	63-4679	63-4679	63-4679	63-4679	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4679	63-4679	63-4679	63-4488
1284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284
1489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489
1661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4661	63-4661	63-4661	63-4610
1150	S-47150	S-47150	S-47150	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679
1095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095
1012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012
1455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455
1696	95-1696	95-1696	95-1696	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656
1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569
1693	95-1693	95-1693	95-1693	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680
144	175-144	175-144	175-144	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136
143	175-143	175-143	175-143	None	None	None	None	None	None	None	None	None	None	None	None	None
8	175-8	175-8	175-8	None	None	None	None	None	None	None	None	None	None	None	None	None
1733	S-45733	S-45733	S-45733	None	None	None	None	None	None	None	None	None	None	None	None	None
1862	S-46862	S-46862	S-46862	None	None	None	None	None	None	None	None	None	None	None	None	None
1002	24-1002	24-1002	24-1002	S-45827	S-45827	24-962	24-962	24-962	24-962	24-962	24-962	24-964	24-964	24-964	24-962	24-962
1560	202-1560	202-1560	202-1560	202-1571	202-1571	202-1571	202-1504	202-1571	202-1504	202-1571	202-1504	202-1585	202-1585	202-1585	202-1571	202-1504
e	None	None	None	S-48563	S-48563	S-48573	S-47053	S-48573	S-47053	S-48573	S-47053	S-48433	S-48433	S-48433	S-48573	S-47053

***U** MODELS ONLY

PRINCIPLE COMPONENTS CHART

1004W	E3005E	E3005E	E3005M	E3005M	E3005R	E3005R	E3005W	E3005W	E3006E	E3006R	E3006W	E3006Y	E3007E	E3007E	E3007M	E3007M
E21Q	16E21Q	16D21Q	16E21Q	16D21Q	16E21Q	16D21Q	16E21Q	16D21Q	16E21Q	16E21Q	16E21Q	16E21Q	16E21Q	16D21Q	16E21Q	16D21Q
CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4	21CXP4
-3033	14-3038	14-2757E	14-3039	14-2895M	14-3037	14-2757R	14-3036	14-2757W	14-3042	14-3041	14-3040	14-3043	14-3046	14-2801E	14-3047	14-2895M
12-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279	192-279
1-2875	57-2722	57-2722	57-2722	57-2722	57-2722	57-2722	57-2722	57-2722	57-2875	57-2875	57-2875	57-2875	57-2722	57-2722	57-2722	57-2722
46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726
47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420
1-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035
1-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118
one	None	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	None	S-46725	None	S-46725
one	None	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	None	S-46725	None	S-46725
-48431	S-46724	S-46724	S-46724	S-46724	S-46724	S-46724	S-46724	S-46724	S-48431	S-48431	S-48431	S-48431	S-46724	S-46724	S-46724	S-46724
one	None	S-46725	None	S-46725	None	S-46725	None	S-46725	None	None	None	None	None	S-46725	None	S-46725
-48617	S-48479	S-47206	S-48479	S-47206	S-48479	S-47206	S-48479	S-47206	S-48575	S-48575	S-48575	S-48575	S-48479	S-47206	S-48479	S-47206
9-780	49-907	49-907	49-907	49-907	49-907	49-907	49-907	49-907	49-842 (2)	49-842 (2)	49-842 (2)	49-842 (2)	49-893 (2)	49-907	49-893 (2)	49-907
5-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654	95-1654
-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071	S-47071
3-4677	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4486	63-4677	63-4677	63-4677	63-4677	63-4677	63-4486	63-4677	63-4486
3-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660	63-4660
3-4676	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4487	63-4676	63-4676	63-4676	63-4676	63-4676	63-4487	63-4676	63-4487
3-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620	63-4620
3-4679	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4488	63-4679	63-4679	63-4679	63-4679	63-4679	63-4488	63-4679	63-4488
13-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284
3-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489
3-4661	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4610	63-4661	63-4661	63-4661	63-4661	63-4661	63-4610	63-4661	63-4610
-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679	S-45679
3-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095
3-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012
13-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455
15-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656	95-1656
15-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569
15-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680	95-1680
175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136	175-136
tone	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
tone	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
tone	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
tone	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
14-964	24-962	24-962	24-962	24-962	24-962	24-962	24-962	24-962	24-964	24-964	24-964	24-964	24-962	24-962	24-962	24-962
102-1585	202-1571	202-1504	202-1571	202-1504	202-1571	202-1504	202-1571	202-1504	202-1582	202-1582	202-1582	202-1582	202-1571	202-1504	202-1571	202-1504
-48433	S-48573	S-47053	S-48573	S-47053	S-48573	S-47053	S-48573	S-47053	S-48434	S-48434	S-48434	S-48434	S-48573	S-47053	S-48573	S-47053

IMPORTANT - IN USING THE PRINCIPLE COMPONENTS CHART, USE THE CHASSIS NUMBER AS A GUIDE IF A PARTICULAR MODEL IS LISTED TWICE. AS AN EXAMPLE, MODEL E210C APPEARS IN TWO COLUMNS. ASCERTAIN FROM THE MODEL ON HAND THE CHASSIS NUMBER AND USE THE LIST IN WHICH THAT CHASSIS NUMBER APPEARS.

	E3013H	E3014W	E3015L	E3354E	E3354R	E3354W	E3356E	E3356H	E3356R	E3360W	MODEL
	16E27Q	16E27Q	16E27Q	18E20Q	18E20Q	18E20Q	18E20Q	18E20Q	18E20Q	18E20Q	CHASSIS
	21CXP4	21CXP4	21CXP4	23JP4	23JP4	23JP4	23JP4	23JP4	23JP4	23JP4	C. R. TUBE
	14-3069	14-3070	14-3071	14-3082	14-3078	14-3074	14-3091	14-3092	14-3090	14-3093	CABINET
	192-279	192-279	192-279	None	None	None	None	None	None	None	GLASS
	57-2875	57-2875	57-2875	57-2841	57-2841	57-2841	57-2841	57-2841	57-2841	57-2841	ESCUTCHEON
	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	S-46726	VOLUME KNOB
	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	S-47420	CHANNEL KNOB
	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	46-2035	FINE TUNING KNOB
	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	46-1118	HORIZ. HOLD KNOB
	None	None	None	None	None	None	None	None	None	None	VERT. HOLD KNOB
	None	None	None	None	None	None	None	None	None	None	BRIGHTNESS KNOB
	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	S-48431	CONTRAST KNOB
(2)	S-46726 (2)	S-46726 (2)	S-46726 (2)	None	None	None	None	None	None	None	TONE KNOB
	S-48601	S-48603	S-48605	S-48447	S-48447	S-48447	S-48436	S-48436	S-48436	S-49075	CABINET BACK
(2) & (2)	49-830 (2) & S-23829 (2)	49-831 (2) & S-23829 (2)	49-830 (2) & S-23829 (2)	49-831 (2)	49-831 (2)	49-831 (2)	49-752 & 49-818	49-752 & 49-818	49-752 & 49-818	49-831 (2)	SPEAKER
	95-1654	95-1654	95-1654	95-1695	95-1695	95-1695	95-1695	95-1695	95-1695	95-1695	DEF'L YOKE
	S-46592	S-46592	S-46592	S-47662	S-47662	S-47662	S-47662	S-47662	S-47662	S-47662	HORIZ. SWEEP
	63-4577	63-4677	63-4677	63-4678	63-4678	63-4678	63-4678	63-4678	63-4678	63-4678	VERT. HOLD CONTROL
	63-4660	63-4660	63-4660	63-4635	63-4635	63-4635	63-4635	63-4635	63-4635	63-4635	VERT. SIZE CONTROL
	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	63-4676	BRIGHTNESS CONTROL
	63-4620	63-4620	63-4620	63-4636	63-4636	63-4636	63-4636	63-4636	63-4636	63-4636	VERT. LIN. CONTROL
	63-4499 & 63-4592	63-4499 & 63-4592	63-4499 & 63-4592	63-4679	63-4679	63-4679	63-4679	63-4679	63-4679	63-4679	TONE CONTROL
	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	63-3284	BUZZ CONTROL
	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	63-4489	CONTRAST CONTROL
	63-4659	63-4659	63-4659	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	63-4661	VOLUME CONTROL
	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	S-47150	HORIZ. HOLD CONTROL
	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	63-4095	A G C CONTROL
	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	63-4012	FRINGE LOCK CONTROL
	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	63-4455	FOCUS CONTROL
	95-1656	95-1656	95-1656	95-1696	95-1696	95-1696	95-1696	95-1696	95-1696	95-1696	VERT. OUTPUT TRANS.
	95-1703	95-1703	95-1703	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	95-1569	AUDIO OUTPUT TRANS.
	95-1726	95-1726	95-1726	95-1693	95-1693	95-1693	95-1693	95-1693	95-1693	95-1693	POWER TRANSFORMER
	175-138	175-138	175-138	175-136	175-136	175-136	175-136	175-136	175-136	175-136	V H F TUNER
	None	None	None	None	None	None	None	None	None	None	V H F TUNER*
	None	None	None	None	None	None	None	None	None	None	U H F CONT. TUNER*
	None	None	None	None	None	None	None	None	None	None	U H F DIAL KNOB*
	None	None	None	None	None	None	None	None	None	None	U H F DRIVE BELT*
	24-964	24-964	24-964	24-1002	24-1002	24-1002	24-1002	24-1002	24-1002	24-1002	CONTROL COVER
	202-1584	202-1584	202-1584	202-1566	202-1566	202-1566	202-1567	202-1567	202-1567	202-1567	INSTRUCTION BOOK
	S-48434	S-48434	S-48434	S-48433	S-48433	S-48433	S-48434	S-48434	S-48434	S-48434	SPACE COMMAND CHASSIS