

TECHNICAL MANUAL

**GENERAL SUPPORT AND DEPOT MAINTENANCE
MANUAL INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST**

**TEST SETS, TELEGRAPH
ANIGGM-15(V)1 (NSN 6625-00-464-1702)
ANIGGM-15(V)2 (NSN 6625-00-442-6131)
AND
OSCILLOSCOPE OS-2061GGM-15(V)
(NSN 6625-00-442-6135)**

**This copy is a reprint which includes current
pages from Changes 1 through 3.**

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1972

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OSCILLOSCOPE OS-206/GGM-15(V) 1,800 volts

CHANGE

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC,

No. 3

General Support and Depot Maintenance Manual

**TEST SETS, TELEGRAPH AN/GGM-15(V)1
(NSN 6625-00-464-1702)
AND ANIGGM-15(V)2
(NSN 6625-00-442-6131);
OSCILLOSCOPE OS-206/GGM-15(V)**

TM 11-6625-1668-45-3, 7 June 1972, is changed as follows:

1. Title of manual is changed as shown above.
2. Remove old pages and insert new pages as indicated below. New or changed material is indicated by a vertical bar in the margin of the page. Added or revised illustrations are indicated by a vertical bar adjacent to the identification number.

<i>Remove pages</i>	<i>Insert pages</i>
i and ii.....	i and ii
1-1/(1-2 blank)	1-1/(1-2 blank)
3-3 and 3-4	3-3 and 3-4
5-1 through 5-4.....	5-1 through 5-4
6-3 through 6-6.....	6-3 through 6-6
Figure 6-14	Figure 6-14
Figure 6-20.....	Figure 6-20

3. File this change sheet in the front of the publication for reference purposes.

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General Support and Depot Maintenance Manual

**TEST SETS, TELEGRAPH AN/GGM-15(V)1 (NSN 6625-00-464-1702)
AND AN/GGM-15(V)2 (NSN 6625-00-442-6131); OSCILLOSCOPE OS-206/GGM- 15(V)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-ME-PS, Fort Monmouth, New Jersey 07703-5000. In either case a reply will be furnished direct to you.

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CHAPTER 1

GENERAL

1-1. Scope

a. This manual covers general support and depot maintenance for Oscilloscope OS-206/GGM-15(V). It includes instructions for troubleshooting, testing, adjusting, and repairing the equipment; replacing maintenance parts; and repairing maintenance parts. It also lists tools, materials, and test equipment for general support and depot maintenance. Detailed functions of the equipment are covered in chapter 2.

b. The complete technical manual for this equipment includes TM 11-6625-1668-12.

c. Official nomenclature followed by (*) is used to indicate all models of the equipment item covered in this manual; therefore Test Set, Telegraph AN/GGM5(V)(*) represents Test Sets, Telegraph AN/GGM-15(V)I ad AN/GGM-15(V)2.

NOTE

For applicable forms and records refer to TM 11-6625-1668-12.

1-2. Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of I)A Pam 25-30 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

1-3. Maintenance Forms, Records, and Reports

a. *Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

b. *Reporting of Item and Packaging Discrepancies.* Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J.

c. *Transportation Discrepancy Report (TDR) (SF 361).* Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-3.1. Reporting Equipment Improvement Recommendations (EIR)

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about the design. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to Commander, US Army Communications Electronics Command and Fort Monmouth, ATTN: AMSEL-PA-MA-D, Fort Monmouth, New Jersey 07703-5000. We'll send you a reply.

1-3.2. Administrative Storage

Administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts before storing. When removing the equipment from administrative storage, the PMCS should be performed to assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage is covered in paragraph 5-2.

1-3.3. Destruction of Army Electronics Materiel

Destruction of Army Electronics materiel to prevent enemy use shall be in accordance with TM 750-2442.

CHAPTER 2

FUNCTIONING OF EQUIPMENT

Section I. SYSTEM OPERATION

2-1. General

Test Set, Telegraph AN/GGM-15(V)(*) is comprised of three units; Generator, Signal SG-860/GGM-15(V); Analyzer, Signal Distortion TS-2862/GGM-15(V); and Oscilloscope OS-206/GGM-15(V). Hinged front panels on the test set units provide access to fuses and printed circuit boards.

2-2. Major Components

The three major components of the AN/GGM15(V) are completely self-contained. The TS-2862/GGM-15(V) and the OS-206/GGM-15(V) function as a unit and may be used in conjunction with the SG-860/GGM-15(V).

a. The SG-860/GGM-15(V) will produce a test message, either clear or distorted, to simulate telegraph data signals. The SG-860/GGM-15(V) output can be selected as a repeated character, 1:1 reversals, or *quick brown fox* test message. Distortion is produced in 1-percent increments up to 49-percent marking, spacing, switching bias, marking, or spacing end. The output data signal is selected as a 5, 6, 7, or 8 level code with a

character length of from 7 to 16 bits. Both high and low level outputs are available.

b. The TS-2862/GGM-15(V) is used to measure distortion on high or low level data signals without interrupting traffic. Average and peak distortion is measured on synchronous 5, 6, 7, or 8 level data signals. The distortion percentage is displayed through digital readout nixie tubes on the TS-2862/GGM-15(V) front panel. The TS-2862/GGM-15(V) also generates a low-level, undistorted MIL-STD-188B error code. Distortion can be introduced when the SG-860/GGM-15(V) and the TS-2862/GGM-15(V) are in the proper mode of operation for such function. The error code is then available at both high-level and low-level outputs. Errors are detected and counted by monitoring the error code with another TS-2862/GGM-15(V).

c. The OS-206/GGM-15(V) receives a vertical input signal from the TS-2862/GGM-15(V) input circuits. The same signal presented to the TS-2862/GGM-15(V) is displayed on the cathode-ray tube (crt). Positioning gain and sweep controls facilitate display adjustment. Calibration signals are provided to aid in accurate waveshape analysis.

Section II. COMPONENT FUNCTIONING

2-3. Block Diagram Analysis

(fig. 2-1)

The OS-206/GGM-15(V) circuits are functionally diagrammed in figure 2-1. All input triggers are applied to the trigger inverter, while binary-coded decimal signals are provided by the

TS-2862/GGM-15(V). The display release generator operates in two modes, variable and manual, and is shunted from the circuit during normal operation. The sweep and trigger select switch connects the sweep circuits to internal, free-running, or automatic. During the automatic mode, the trigger amplifier provides the off

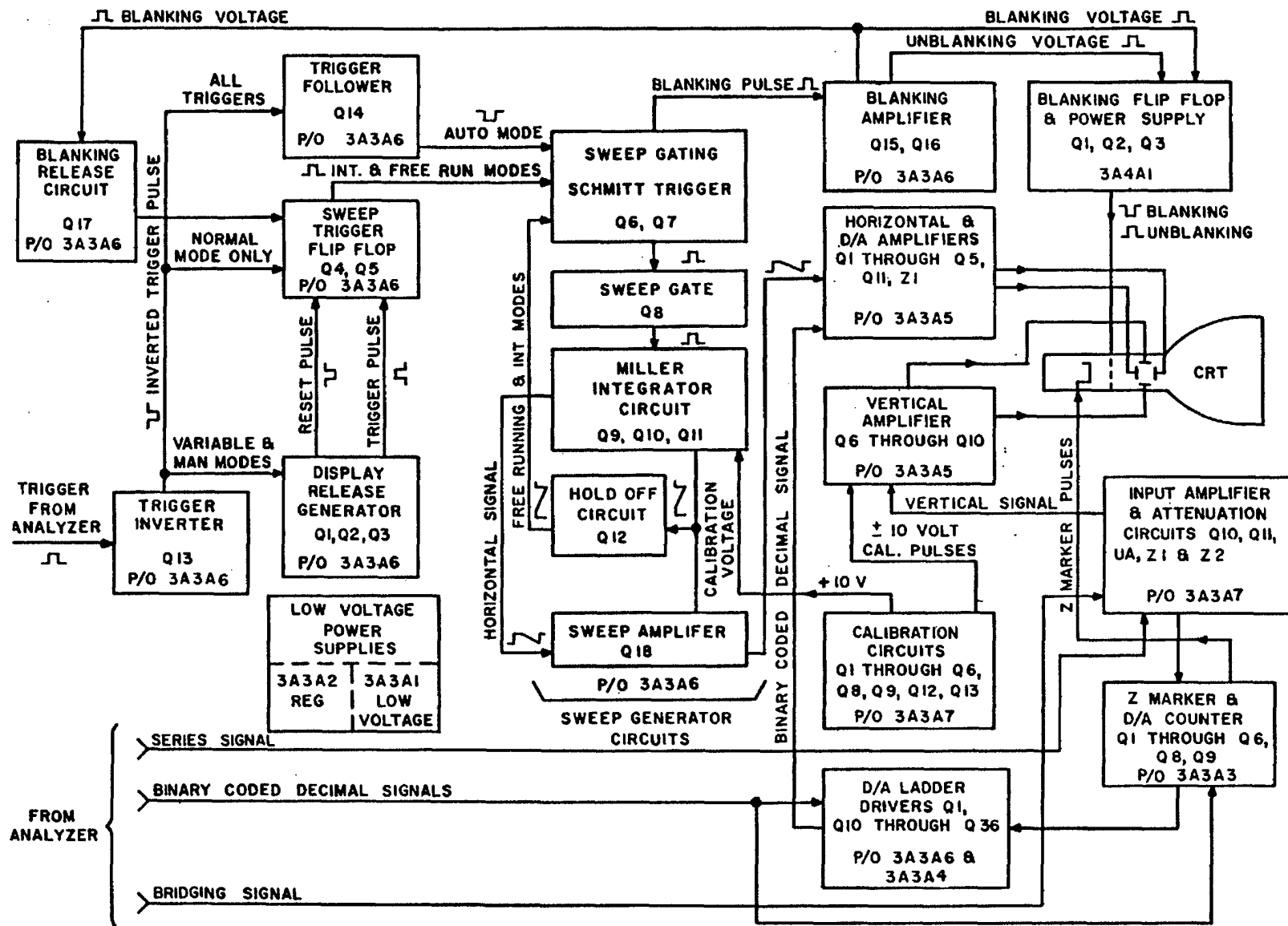


Figure 2-1. Oscilloscope OS-206/GGM-15(V), block diagram.

trigger to the Schmitt trigger. During the internal and free-running modes, the hold off circuit replaces the sweep trigger flip-flop by providing the on voltage for the Schmitt trigger. The sweep amplifier provides the horizontal sweep voltage to the horizontal amplifier. The Schmitt trigger provides the turn-on pulses for the sweep gate to start the sweep cycle, and to the blanking amplifier to unblank the crt. The digital-to-analog (D/A) counter and the D/A ladder drive provide the digital-to-analog conversion. A functional description of each circuit is given in a through t below.

a. *Trigger Inverter.* The trigger inverter accepts positive trigger pulses from the TS-2862/GGM-15(V) timing circuits and applies negative trigger pulses to the display release generator in the variable and manual modes, and to the sweep trigger flip-flop in the normal mode, while all triggers are applied to the trigger follower.

b. *Display Release Generator.* The display release generator accepts inverted triggers in the variable and manual modes from the trigger inverter. In the variable mode, the sweep release rate is determined by the setting of the DISPLAY RELEASE RATE variable control and sync pulse from the TS-2862/GGM-15(V) through the trigger inverter. In the manual mode, the display release generator is manually set to on by operating the SINGLE switch, and turned off by a pulse from the TS-2862/GGM-15(V) through the trigger inverter. The output of the display release generator is a positive-going pulse and is applied to the sweep trigger flip-flop.

c. *Trigger Amplifier.* The trigger amplifier accepts trigger pulses from the trigger inverter, but its output is used only in the automatic sweep mode to trigger the sweep gating Schmitt trigger. The trigger amplifier is emitter-coupled and its output is a negative-going pulse used to switch the sweep gating Schmitt trigger from the stable on state to off.

d. *Sweep Trigger Flip-Flop.* The sweep trigger flip-flop accepts trigger pulses from the trigger inverter or the display release generator, and reset pulses from the blanking-release circuits, and provides but a single output to the sweep gating Schmitt trigger for blanking-off and sweep-on purposes.

e. *Sweep Gating Schmitt Trigger.* The sweep gating Schmitt trigger accepts the positive starting trigger for a sweep, or series of sweeps, from the sweep trigger in internal and free-running mode, and from the trigger amplifier in the automatic mode; turns the sweep gate off; and triggers the crt unblanking flip-flop, making the sweep visible. At the end of the sweep, the sweep gating Schmitt trigger returns to the quiescent state and resets the blanking flip-flop to blank the retrace from the crt.

f. *Sweep Gate.* The sweep gate is first cut off by the sweep gating Schmitt trigger, permitting the sweep capacitors to charge. At the end of the sweep, it is turned on permitting the sweep capacitors to discharge. Its output is applied to the Miller integrator circuit.

g. *Miller Integrator Circuit.* The Miller integrator circuit is first turned on by the sweep gate, permitting it to charge the selected sweep capacitor. During the linearly controlled charging rate, the integrator circuit provides a sweep output voltage to the sweep amplifier and emitter follower by the hold-off circuit.

h. *Hold-Off Circuit.* The hold-off circuit provides the cutoff trigger pulse during internal or free-running modes for the sweep-gating Schmitt trigger. It also provides a hold-off voltage on the Schmitt trigger, preventing it being retriggered during the retrace period.

i. *Sweep Amplifier.* The sweep amplifier conducts in phase with the Miller integrator output voltage, providing a horizontal sweep voltage for the horizontal amplifier.

j. *Blanking Amplifier.* The blanking amplifier is turned on by the switching action of the sweep gating Schmitt trigger turning the unblanking section on. This section provides a positive voltage for the crt high-voltage unblanking flipflop. When the sweep has ended and the Schmitt trigger is resetting to its monostable state, the unblanking section turns off and the blanking section of the flip-flop is turned on. This section now provides a positive pulse that divides into two paths: one to the crt high-voltage blanking flip-flop section blanking out the retrace on the crt, and the other to the blanking release circuit.

k. *Blanking Unblanking Flip-Flop.* The high-voltage unblanking flip-flop is turned on by a

positive voltage from the blanking monostable flip-flop unblanking the crt for sweep visibility. The blanking high-voltage flip-flop is turned on by the blanking monostable flip-flop blanking the crt retrace from visibility.

l. Blanking Release Circuit. The blanking release circuit effectively disables the sweep trigger during retrace, preventing it from triggering the sweep generator circuits. After the retrace cycle, it restores the sweep trigger to its normal state.

m. Horizontal Amplifier. The horizontal amplifier receives its sweep voltage from the sweep amplifier for sweeping the trace horizontally across the crt. The binary coded decimal (BCD) signal pulses are supplied from the D/A ladder drivers to the DIA amplifier to sweep the trace at an analog rate.

n. Vertical Amplifier. The vertical signal pulses are received from the input amplifier and attenuation circuits.

o. Input Amplifier and Attenuation Circuits. The input amplifier and attenuation circuits attenuate the input signal and then amplify it for the desired vertical level. The desired level is applied to the vertical amplifier and the Z marker amplifier.

p. D/A Ladder Drivers. The D/A ladder drivers receive nine binary coded decimal input pulses from the D/A counter and one pulse from the TS-2862/GGM-15(V). The output voltage sets the amplitude of the digital sweep at the summing resistors in the D/A amplifier on 3A3A5.

q. Z Marker. The Z marker provides pulses to intensify the Space-to-mark (S/M) and mark-to-space (M/S) transitions, and are alternating current (ac) coupled to the crt.

r. Calibration Circuits. The calibration circuits provide +10-volts and -10-volts calibration pulses for the vertical amplifier and for calibration of the TS-2862/GGM-15(V) series input isolation circuit.

s. Low-Voltage Power Supplies. The low-voltage power supplies provide low voltage of +15, -15, +70, and -70 volts to the low-voltage regulators.

t. Low-Voltage Regulators. The low-voltage regulators provide voltage regulation between the output of the low-voltage power supplies and the using circuits. The output voltages are 1.5, +3.5 to +5.0, +5.5, +15, -15, +56 and -56-volts.

2-4. Unit Analysis

a. Trigger Inverter AS3A6 (fig. 6-17). The trigger inverter, Q13, inverts positive input triggers to negative-going triggers for input to the sweep release generator or sweep trigger flip-flop. The trigger inverter also provides an input signal to the trigger follower.

b. Display Release Generator 3A3A6 (fig. 6-17). The display release generator is comprised of Q1, Q2, Q3, and CR1. The display release generator has two modes of operation: variable and manual. In the variable mode, the circuit functions as a monostable flip-flop and its release rate is made variable by adjusting DISPLAY RELEASE RATE variable control A1R8 to the desired rate. In the manual mode, the SINGLE switch is actuated and released to release a character. In the variable mode, with Q1 conducting, a differentiated positive trigger applied through CR1 to the base of Q1 causes Q1 to turn off, and its negative output pulse turns Q2 on. The positive-going output of Q2 is applied simultaneously to Q3 and the sweep trigger flip-flop. When Q3 is turned off, -15 volts is removed from its lower end and the +15-volt source is applied; therefore, C4 begins to charge in series with the -15-volt source, R1, R8, S3A, S3B, C4, R7, and the +15-volt source. When C4 has reached its required charge level, the negative voltage turns Q1 on, Q2 off, and Q3 back on. When Q1 is turned on, it provides a positive-going output pulse that is coupled through C19 and CR9 to turn Q5 off and Q4, on, resetting the sweep trigger flip-flop. In the manual mode, the circuit becomes a bistable flip-flop. Pressing and releasing the SINGLE switch turns Q1 on; Q1 will stay on until a trigger pulse switches it off. The output is the same as in the variable mode. Transistor Q1 remains off until the SINGLE switch is again actuated for each release.

c. Trigger Follower 3A3A6 (fig. 6-17). The trigger follower is comprised of transistor Q14 and is used only during automatic mode. At the end of a sweep, the trigger follower is turned on and its negative-going output is applied to the base of Q6 in the Schmitt trigger, switching the Schmitt trigger from on to off. When a trigger is applied to its base from the trigger inverter, its negative-going output pulse is delayed by the resistance-capacitance (rc) circuit composed of R47 and C15; therefore, the trigger arrives at Q6 to coincide with the sweep trigger flip-flop output.

d. Sweep Trigger Flip-Flop 3A3A6 (fig. 6-17). The sweep trigger flip-flop is a monostable flipflop comprised of Q4 and Q5 with Q4 normally conducting. A positive pulse from the trigger inverter in the normal mode, or the display release generator in the variable or manual modes, switches Q4 off and Q5 on. The output is a positive-going pulse that triggers the sweep gating Schmitt trigger to initiate a sweep. The sweep trigger flip-flop is also held cut off by the blanking release circuit during crt blanking.

e. Sweep Gating Schmitt Trigger 3A3A6 (fig. 6-17). The sweep gating Schmitt trigger is comprised

of Q6 and Q7 and stabilizing diodes CR2 and CR3. In the normal cutoff state, Q6 is not conducting because of the negative cutoff pulse applied to its base by the trigger amplifier in the automatic mode. Transistor Q6 is cut off by the action of the hold-off circuit at the end of a sweep in the internal and free-running modes, and stabilized to cut off by STABILITY control R18 and diodes CR2 and CR3. A positive pulse from the sweep trigger flip-flop switches Q6 on. Transistor Q6 simultaneously switches Q7 off and blanking amplifier Q15 on. During the sweep cycle, Q6 is on and Q7 is off. At the start of the retrace cycle Q6 switches off and Q7 switches on.

f. Sweep Gate 3A3A6 (fig. 6-17). The sweep gate is comprised of Q8 and CR4. When Q7 in the Schmitt trigger is turned off, it removes the negative voltage from the base of Q8, thereby cutting Q8 off. When Q8 is cut off, the cathode of CR4 is back-biased and also cut off, thus unclamping the base of Q9 in the Miller integrator and allowing a sweep capacitor to start charging. Transistor Q8 and diode CR4 will remain cut off (luring the sweep cycle. When the Schmitt trigger is reset for the retrace cycle, Q8 is turned on, thus removing the back bias on CR4 and allowing a sweep capacitor to discharge into the Miller integrator. During the nonsweep period, Q8 and CR4 remain shunted across a sweep capacitor, preventing it from charging.

g. Miller Integrated Circuit 3A3A6 (fig. 6-17). The Miller integrator circuit is comprised of Q9, Q10, and Q11. When a pulse initiates a sweep and Q8 and CR4 are disabled, the base of Q9 is left floating by the uncharged but charging condition of a sweep capacitor shunted across Q9, Q10, and Q11. As the sweep capacitor begins to charge, a positive voltage is applied to the base of Q9 and the sweep capacitor through CAL SWEEP control and TIME MILLISEC VARIABLE (fine sweep rate) control A1R7. At this point, Q9 begins to conduct, turning Q10 off, while Q10 turns Q11 on. As the sweep capacitor charges, Q9 conducts more and Q10 conducts less, which causes Q11 to conduct more. As Q11 conducts more, the negative voltage through Q11 charges the sweep capacitor. The negative charging voltage through Q11 is a linear ramp voltage that is also coupled to sweep amplifier Q18. Hold-off transistor Q12 is also coupled to this point.

h. Hold-Off Circuit 3A3A6 (fig. 6-17). The hold-off circuit is comprised of Q12 and four hold-off capacitors and is used in the internal and free-running modes. In the free-running mode, it replaces the sweep-on trigger by resetting the Schmitt trigger to off. In the internal mode, it provides a direct current (dc) level for

stability control. In either mode, Q12 follows the emitter voltage of Q11 and applies a linear negative voltage to a selected hold-off capacitor. When the hold-off capacitor is charged to its present level, it discharges at a linear rate, turning the Schmitt trigger to its retrace state and holding Q6 cut off during the retrace cycle. When the Miller integrator circuit is in the quiescent state, Q12 is turned off and a positive voltage is present at the base of Q6 and on the hold-off capacitor.

i. Sweep Amplifier 3A3A6 (fig. 6-17). The sweep amplifier consists of Q18 and follows the emitter voltage of Q11 in the Miller integrator circuit. As Q11 conducts heavier and its emitter voltage goes more negative, Q18 applies the same phase negative voltage to the horizontal sweep amplifier. Sweep gain control is provided by sweep gain adjust control R71.

j. Blanking Amplifier 3A3A6 (fig. 6-17). The blanking amplifier is comprised of Q15 and Q16 and diodes CR7, CR8, and CR9. When the sweep gating Schmitt trigger is in the nonsweep state, Q15 is cut off by the positive voltage on its base through R48; however, Q16 is conducting, holding the blanking flip-flop in the blanking state. Diode CR6 is reverse-biased and cut off when Q15 is nonconducting, thus isolating it from Q16. When a sweep is initiated, Q6 is turned on and CR6 becomes forward-biased, placing a positive signal pulse on the base of Q16, turning it off. Transistor Q15 now connects a positive voltage to the blanking flip-flop, unblanking the crt for trace visibility. Diodes CR7 and CR8 are clamping diodes.

k. Blanking Flip-Flop and High-Voltage Power Supply 3A4A1 (fig. 6-19). The blanking flip-flop is comprised of transistors Q1, Q2, and Q3 and diodes CR3 and CR4. During the nonsweep condition, the crt is blanked by conducting Q1 and nonconducting Q2. Transistor Q3 is turned on, or off, by Q2. When Q2 is conducting, Q3 is turned off by the voltage drop across R13, and is on when Q2 is off and the voltage at its base is more negative. When a sweep is initiated, the unblanking pulse from Q15 in the trigger amplifier switches the flip-flop by applying a positive pulse through CR4 to the base of Q2. This action switches Q2 on and Q1 and Q3 off, thus removing the negative cutoff voltage from the grid of the crt and making the trace visible. When the retrace pulse from blanking amplifier Q16 is applied through CR3 to the base of Q1, Q1 is turned on and Q2 is turned off. When Q2 turns off, the base voltage of Q3 goes more negative and Q3 is turned on. This action applies a high negative voltage to the grid of the crt, cutting the cathode emission off, blanking the crt.

l. Blanking Release 3A3A6 (fig. 6-17). The

blanking release is comprised of Q17. Transistor Q17 is normally conducting, keeping the high negative voltage from CR11 cathode and capacitors C21 and C22. During the sweep time Q17 is conducting, R65 is grounded and the sweep may be triggered. At the beginning of the retrace, Q16 provides a positive output to the high-volt blanking flip-flop and the blanking release circuit. The positive voltage at the base of Q17 turns Q17 off; therefore, the entire -15 volts appear at the junction of CR11, C21, and C22, preventing the capacitors from charging and permitting a pulse to trigger the sweep trigger.

m. Horizontal and DIA Amplifiers 3A3A5 (fig. 6-16). The horizontal and D/A amplifiers are on assembly 3A3A5 and are comprised of Z1, Q1 through Q5, Q11, Q12, Zener diodes CR2, CR8, CR9, and CR10, and diodes CR6, CR7, and CR11. The DIA amplifier receives binary coded decimal signals from the D/A ladder drivers through resistances R1 through R10 and amplified by amplifier Z1. During the automatic mode only, the output of Z1 is applied through CR8 and CR9 and, in parallel with code-level resistors R76 through R80, and the code level switch on the TS-28621GGM-15(V) front panel (shunted by R72) to the base of Q11. The emitter follower output of Q11 is a negative-going pulse applied through S2B (in automatic mode position) to the base of Q12. The output of Q12 is through Zener diode CR10 and diode CR11 connected cathode-to-cathode to provide a linear-rise clamping circuit. The voltage is applied to the base of Q1. The circuit formed by Q1 through Q4 constitutes a balanced voltage bridge. The input voltage to the base of Q1 is offset by the setting of the horizontal position control at the base of Q4. Transistor Q5 and Zener diode CR2 constitute a current-limiter circuit clamping the bridge to a fixed level. At the balanced position, the emitter currents of Q1 and Q4 are equal; therefore, the collector voltages are equal and hold the bases of Q2 and Q3 at equal levels. The crt display will be horizontally centered at this position. A change in the base voltage of Q1 in a more negative direction will cause Q1 to conduct more, thus reducing the negative bias on the base of Q2. As Q2 begins to conduct more, the collector voltage is reduced in a negative direction, changing the deflection voltage at the crt horizontal plates and moving the trace accordingly. R30 and R41 provide feedback voltages to the bases of Q1 and Q4 insuring a uniform and linear sweep. In the internal and free-running modes, the D/A amplifier is disengaged by S2B and is not used. The horizontal sweep voltage is applied to the base of Q12. The circuit function from Q12 through the horizontal amplifier is the

same as described for the automatic mode.

n. Vertical Amplifier 3A3A5 (fig. 6-16). The vertical amplifier is comprised of transistors Q6 through Q10 and Zener diode CR5. The circuit functions are identical to the horizontal amplifier, Q1 through Q5, except the output is connected to the crt vertical deflection plates.

o. DIA Ladder Converter and Drivers 3A3AS 3A3A4 (fig. 6-14 and 6-15). The D/A converter is on assembly 3A3A3 and the D/A ladder drivers are on assembly 3A3A4. The D/A converter is comprised of Q7, Zener diodes CR9 and CR10, diode CR11, and integrated circuits Z3, Z4, Z5, and Z6. The input to the D/A converter from the TS-2862/GGM-15(V) is a digital-coded signal. The D/A converter produces a summing analog output that is applied to the D/A ladder driver where a step rise voltage is developed for the horizontal sweep amplifier.

p. Input Amplifier and Attenuation Circuits 3A3A7 (fig. 6-18). The input amplifier and attenuation circuits are comprised of Q10 and Q11, and integrated circuits Z1 and Z2. The input amplifiers accept current and voltage inputs for input to the vertical amplifier. Amplifier Z1 and Q10 constitute the current amplifier and impedance circuit, thus converting a current input to a voltage output which is then applied to voltage amplifier Z2. Voltage inputs are applied directly to integrated amplifier Z2 the output of which is applied to Q11. The output of Q11 is emitter-coupled to the attenuation resistances comprised of R28 through R33 for input to the vertical sweep amplifier and the Z marker.

q. Z Marker Circuits 3A3A3 (fig. 6-14). The Z marker circuit is comprised of Q1 through Q6, Q8, Q9, CR1 through CR8, an integrated amplifier Z1, and flip-flops Z2FF1 and Z2FF2. The Z marker circuit accepts input signals from the TS-2862/GGM-15(V) and clock input from the D/A converter, and its output is applied to the cathode of the crt to intensify the S/M and M/S transitions.

r. Calibration Circuit 3A3A7 (fig. 6-18). The calibration circuit is comprised of Q1 through Q6, Q8, Q9, Q12, Q13, Zener diodes CR1, CR2, and diodes CR3, CR4, and CR7 through CR10. The circuit, comprised of transistors Q1, Q2, Q5, and Q8, provides a regulated + 10-volt output for the calibrated sweep circuits and the TS-2862/GGM-15(V) series input isolation circuits, while Q3, Q4, Q6, and Q9 provide a regulated -10-volt output for the same circuits. The + 15-volt input to Q1 reverse biases the base collector junction, while CR1 clamps the emitter voltage on Q1. Transistor Q2 stabilizes the emitter to collector level and R5 provides feedback control. Transistors Q5 and Q6 are chopped by an ac voltage from a winding on the low-voltage power supply

transformer, thus regulating the on-off cycle of Q5 and Q6. The negative section functions in a similar way. Transistors Q12 and Q13 function as a constant current generator providing stability to the power supply output.

s. *Low-Voltage Power Supplies 3A3A1* (fig. 6-10). Assembly 3A3A1 contains the low-voltage rectifier diodes CR1 through CR12 with filter capacitors C1 through C4, resistors R1 through R6, sweep capacitors C5 through C8, and holdoff capacitors C9 through C12. The low-voltage power supply provides the unregulated dc voltage to the dc voltage regulators on assembly 3A3A2. The sweep and hold-off capacitors are connected to assembly 3A3A3 Miller integrator and hold-off circuits.

t. *Low-Voltage Regulator Assembly 3A3A2* (fig. 6-13). Assembly 3A3A2 contains the -1.5-, +3.5-to +5.0-, +5.5-, +15-, -15-, +56-, and -56-volt regulators. The + 15-volt regulator, comprised of Q1, CR1, and CR2, provides a + 15-volt output to the +3.5- to +5- and +5.5-volt regulators. The +3.5- to +5-volt regulator is comprised of Z1, Q2, CR3, and CR4. The +5.5-volt regulator is comprised of Q12 and CR11. The -15-volt regulator is comprised of Q3, Q4, CR5, CR6, and CR7. The +56-volt regulator is comprised of Q5, Q6, and CR8. The -56-volt regulator is comprised of Q9, Q10, Q11, and CR10.

Change 1 2-7

CHAPTER 3

TROUBLESHOOTING

Section I. GENERAL TROUBLESHOOTING INFORMATION

3-1. General Instructions

WARNING

Be extremely careful when troubleshooting or making repairs in this equipment. Voltages as high as 1,800 volts are present internally. Use insulated test probes when making required voltage measurements. Always disconnect the power cord from the equipment before touching any of the internal parts. Transistorized circuits are used in this equipment; be careful when testing or damage to transistors may result.

a. Troubleshooting at general support and depot maintenance categories includes all the techniques outlined for organizational maintenance and any special or additional techniques required to isolate a defective part. The general support and depot maintenance procedures are not complete in themselves but supplement the procedures described in organizational maintenance. The systematic troubleshooting procedure, which begins with the operational and sectionalization checks performed at the organizational category must be completed by further localizing and isolating techniques.

CAUTION

Troubleshooting is to be performed with the equipment disconnected from operating communication lines to prevent interference with communications.

b. Troubleshooting may be performed with the equipment operating as a unit, thereby making use of its

other units for detecting symptoms of fault. Most of the equipment circuits are mounted in removable circuit cards. An extender card is provided to assist the repairman in reaching parts for measurement purposes while the equipment is operating. When chassis-mounted parts are to be tested, the unit must be removed from its rack and the cover panel removed to reach these parts.

c. When troubleshooting the OS-206/GGM-15(V), remove the top cover panels and swing open the hinged front panel for visual inspection and to reach internal parts.

d. To troubleshoot the OS-206/GGM-15(V), follow the steps outlined in the troubleshooting chart (para 3-7b).

3-2. Organization of Troubleshooting Procedures

a. *General.* The first step in servicing a defective equipment is to sectionalize the fault. Sectionalization means tracing the fault to the major component. The second step is to localize the fault. Localization means tracing the fault to the defective submodule. The third step, isolation, means tracing the fault to the defective part. Some faults, such as burned-out resistors or arcing or shorted transformers, can often be isolated by sight, smell, or hearing; however, the majority of faults must be isolated by checking waveshapes, voltages, and resistances.

b. *Sectionalization.* After the trouble has been sectionalized, make an operational test (para 3-5) with the suspected unit disconnected from the system and the power on. Perform a continuity test (para 3-6) with the power off in cases where an operational test does not apply.

The operational test serves as a check of the sectionalizing test. It is another indication of whether the unit is functioning properly.

c. *Localization.* The tests listed below will aid in localizing the trouble. First, localize the trouble to a submodule; then, isolate the trouble by waveshape analysis, or voltage, resistance, or continuity measurements. Use the trouble symptoms listed in the troubleshooting chart (para 3-7) as an aid in localizing trouble to a component part.

d. *Isolation.*

(1) *Voltage and resistance measurements.*

This equipment is transistorized. Observe all cautions given to prevent transistor damage. Make voltage and resistance measurements in this equipment only as specified. When measuring voltages, use tape or sleeving to insulate the entire test

prod, except for the extreme tip. A momentary short circuit can ruin the transistors. Use resistor inductor, and capacitor color codes (fig. 6-12) to find the correct value of components. Use voltage and resistance diagrams to find normal readings and compare them with the readings taken.

(2) *Intermittent troubles.* In all tests, the possibility of intermittent troubles should not be overlooked. If present, this type of trouble often may be made to appear by tapping or jarring the equipment. Check the wiring, soldering, and connections to the other units of the AN/GGM15(V).

(3) *Waveform analysis.* (fig. 3-1 through 3-5). This equipment is provided with test points on each assembly (3A3A2 through 3A3A5 and 3A3A7). The test points aid localization and isolation of troubles. Special attention must be given to the notes accompanying each waveform.

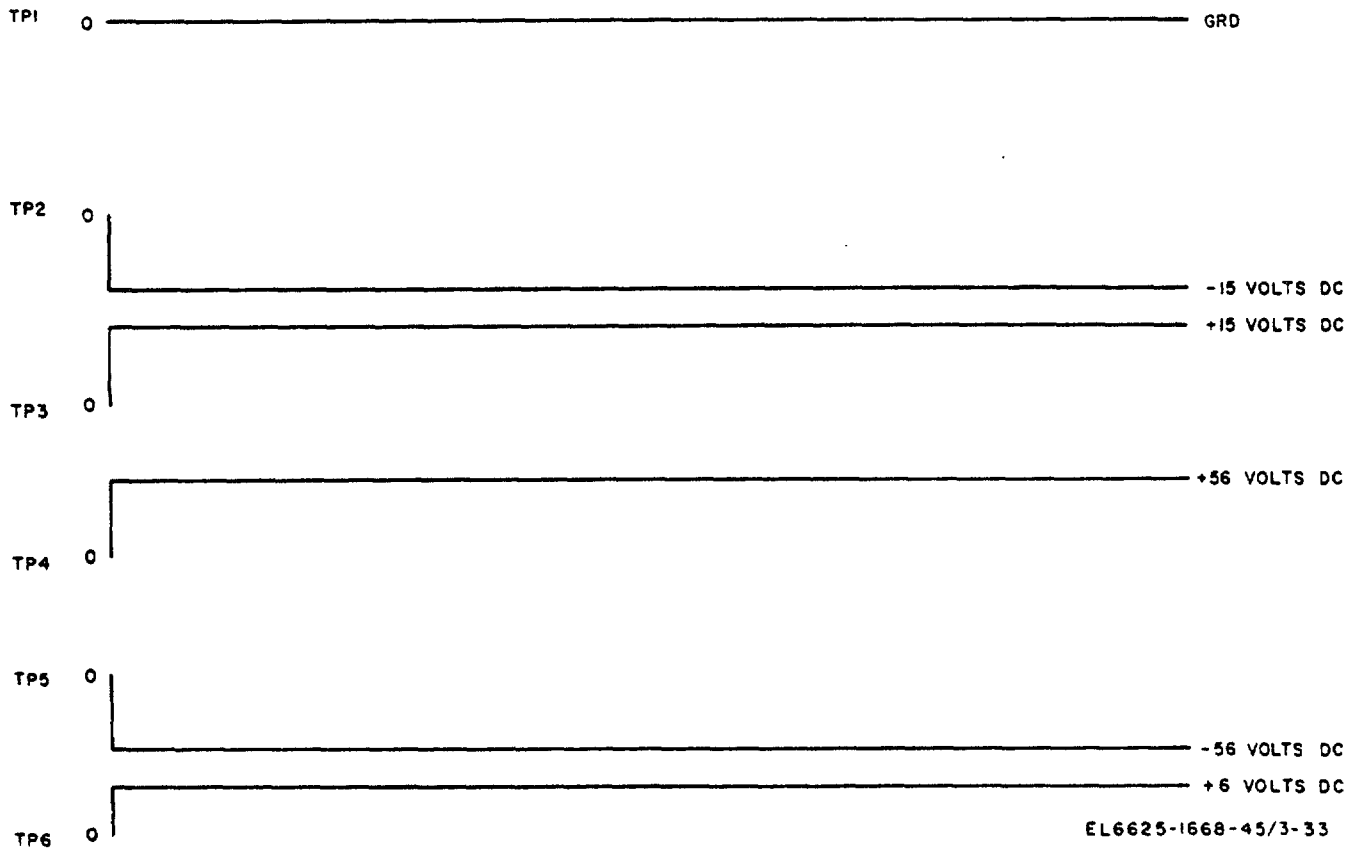


Figure 3-1. Low voltage regulator 3A3A2, waveforms.

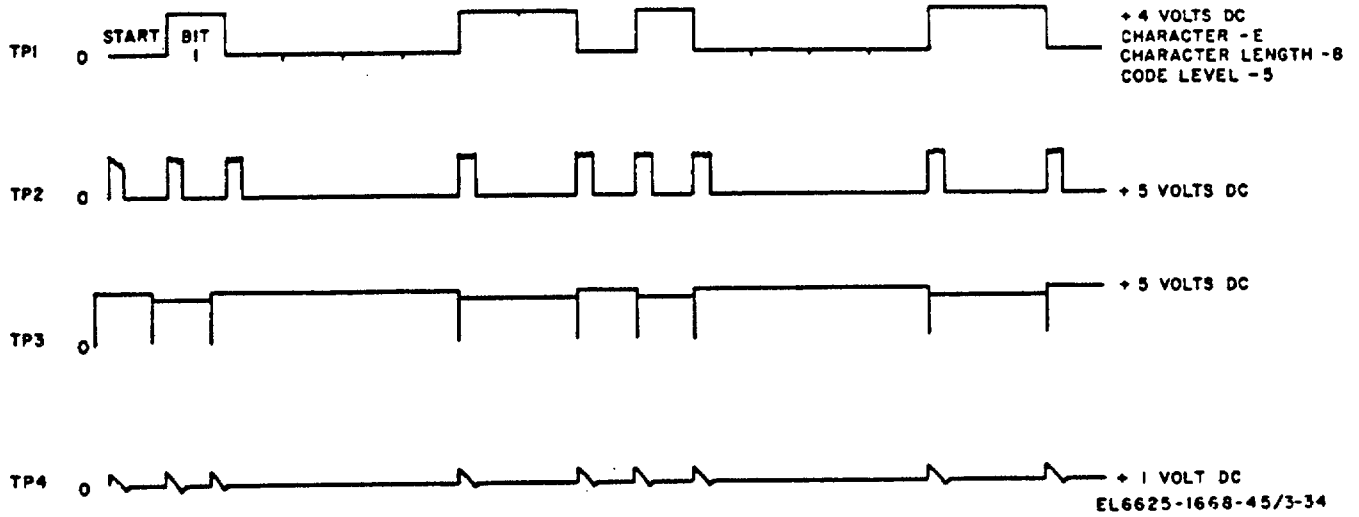


Figure 3-2. Z markers and D/A converter 3A3A3, waveforms.

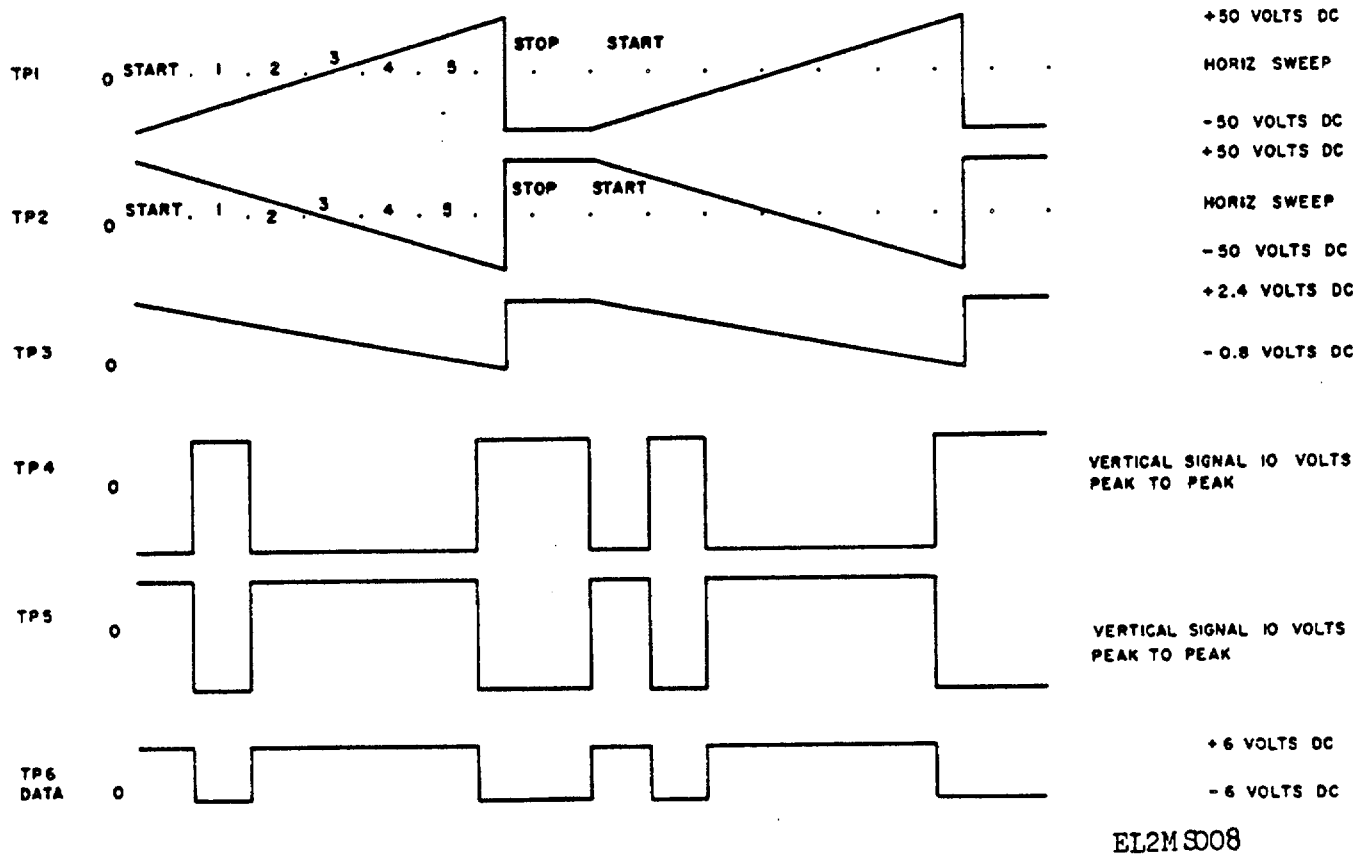


Figure 3-3. Horizontal and vertical amplifier 3A3A5, waveforms.

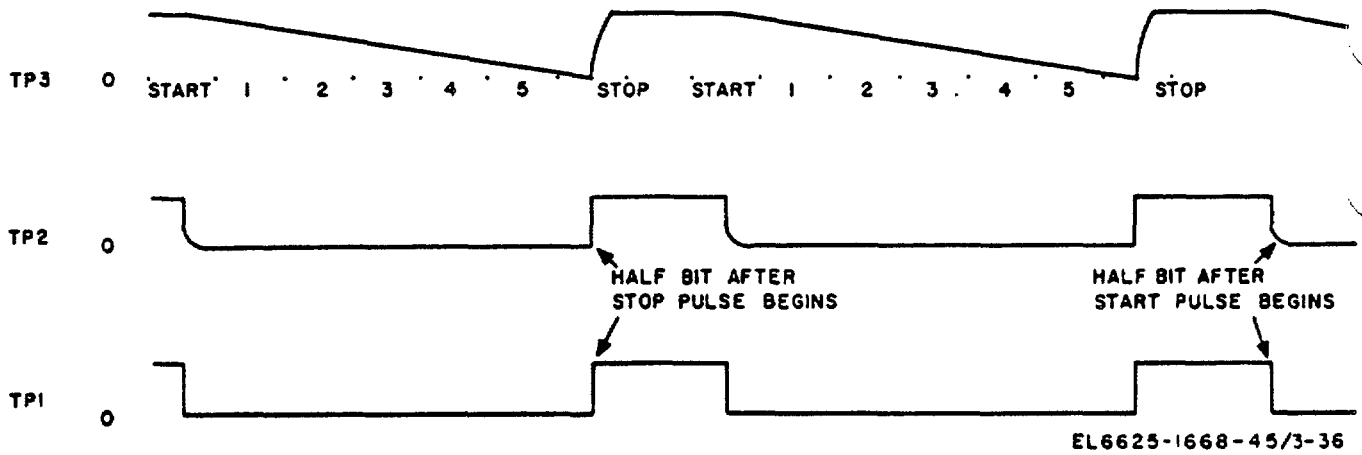


Figure 3-4. Triggering and sweep generator circuits 3A3A6, waveforms.

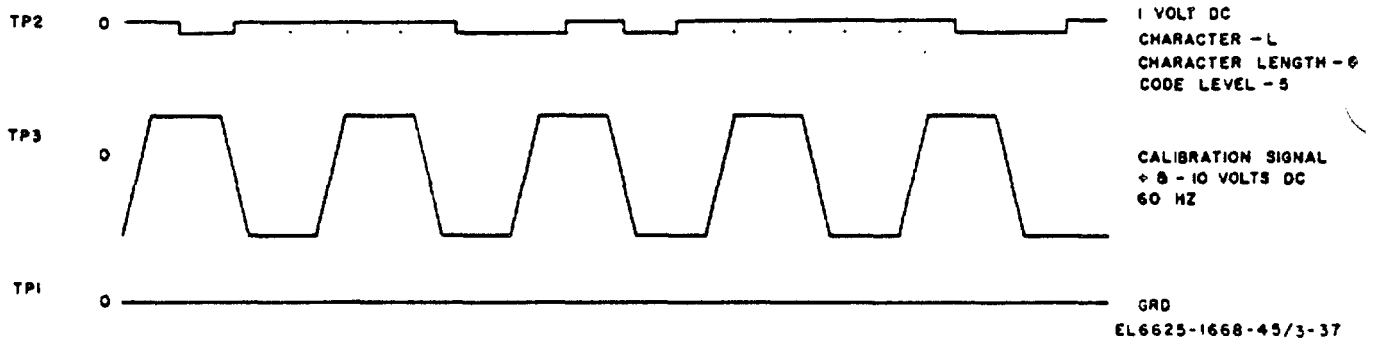


Figure 3-5. Calibration and input circuits 3A3A7, waveforms.

3-3. Test Equipment Required

The chart below lists test equipment required for troubleshooting the OS-206/GGM-15(V). Also, it lists associated technical manuals for each test equipment.

<i>Test equipment or tool</i>	<i>Technical Manual</i>	<i>Test equipment or tool</i>	<i>Technical Manual</i>
Generator, Signal SG-860/GGM-15(V).	TM 11-6625-1668-12	Analyzer, Signal Distortion TS-2862/GGM-15(V).	TM 11-6625-1668-12
		Multimeter AN/PSM-613	TM 11-6625-475-10
		Digital Readout, Electronic Counter AN/USM .207.	TM 11-6625-700-10
		Oscilloscope AN/USM-281	TM 9-6625-2362-12
		Pulse Generator Set AN/UPM-15A	TM 11-6625-368-10
		Power Supply PP 3941/G	TM 11-6130-242-15

Section II. TROUBLESHOOTING

3-4. Operational Pretest Setup

The OS-206/GGM-15(V) must be interconnected to Analyzer, Signal Distortion TS-2862/GGM-15(V) during operational testing. Refer to TM 11-6625-1668-45/1 for this test. The TS-2862/GGM-15(V) CODE LEVEL switch is common to both units; the trigger pulse is supplied to the OS-206/GGM-15(V) by the TS-2862/GGM-15(V). The calibration voltage from the +10-volt power supply is routed through the TS-2862/GGM-15(V) back to the OS-206/GGM-15(V) input amplifiers. The binary-coded decimal (BCD) signal is supplied by the TS-2862/GGM-15(V) to the D/A ladder drivers, as are the Z marker pulses. Connect the OS-2061 GGM-15(V) to the TS-2862/GGM-15(V) with the interconnecting cable as follows:

- a. 2A4P3 to 2A4J3.
- b. 3A4P2 to 3A4J2.

3-5. Operational Tests

a. *General.*

(1) This test provides an operational test of the OS-206/GGM-15(V) for voltage and current calibration, and a time base test. For each test, set the panel switches to the preliminary positions listed below:

- (a) PWR switch: OFF
- (b) DISPLAY RELEASE RATE switch: NORMAL.
- (c) TRIGGER and SWEEP SELECT switch: AUTO.
- (d) Z MARKERS switch: ON.

(2) Adjust the crt INTENSITY, HORIZONTAL GAIN, VERTICAL VARIABLE, HORIZONTAL POSITION, VERT POS, FOCUS, AND ASTIG controls for the best crt display.

b. *Vertical Voltage Calibration Test* (fig. 3-6). Connect the equipment as shown in the test setup (fig. 3-6) and proceed as follows:

(1) Set the PWR switches to ON on all units in the test setup.

(2) On the OS-206/GGM-15(V) set the VERTICAL VOLTS (MA)/CM switch to 5, and adjust the VARIABLE (small) control for a 2-centimeter deflection on the crt.

(3) Use the following switch settings and results for each calibration check.

Switch	Position	Crt indication
VERTICAL VOLTS (MA)/CM.	2V/CM	10-cm deflection
	10V/CM	2-cm deflection
	20V/CM	1-cm deflection
	50V/CM	2/5-cm deflection
(For the 200V/CM test apply a 300-volt polar signal to the TS-2862/GGM-15(V) from the PP-3341/G.	200V/CM	±3/4-cm deflection

c. *Vertical Current Calibration Test* (fig. 3-7). Connect the equipment as shown in the test setup (fig. 3-7) and proceed as follows:

(1) Set the PWR switches to ON on all units in the test setup.

(2) Adjust the PP-3341/G for a 30-milliampere (ma) series neutral signal input to the TS-2862/GGM-15(V).

(3) Set the TS-2862/GGM-15(V) INPUT switch to 60 N.

(4) Set the VERTICAL VOLTS (MA)/CM switch to 10.

(5) On the crt, a 3-cm vertical deflection should be present.

d. *Time Base Test* (fig. 3-8). Connect the equipment as shown in the test setup (fig. 3-8) and proceed as follows:

(1) Set the PWR switches to the ON position on all units in the test setup.

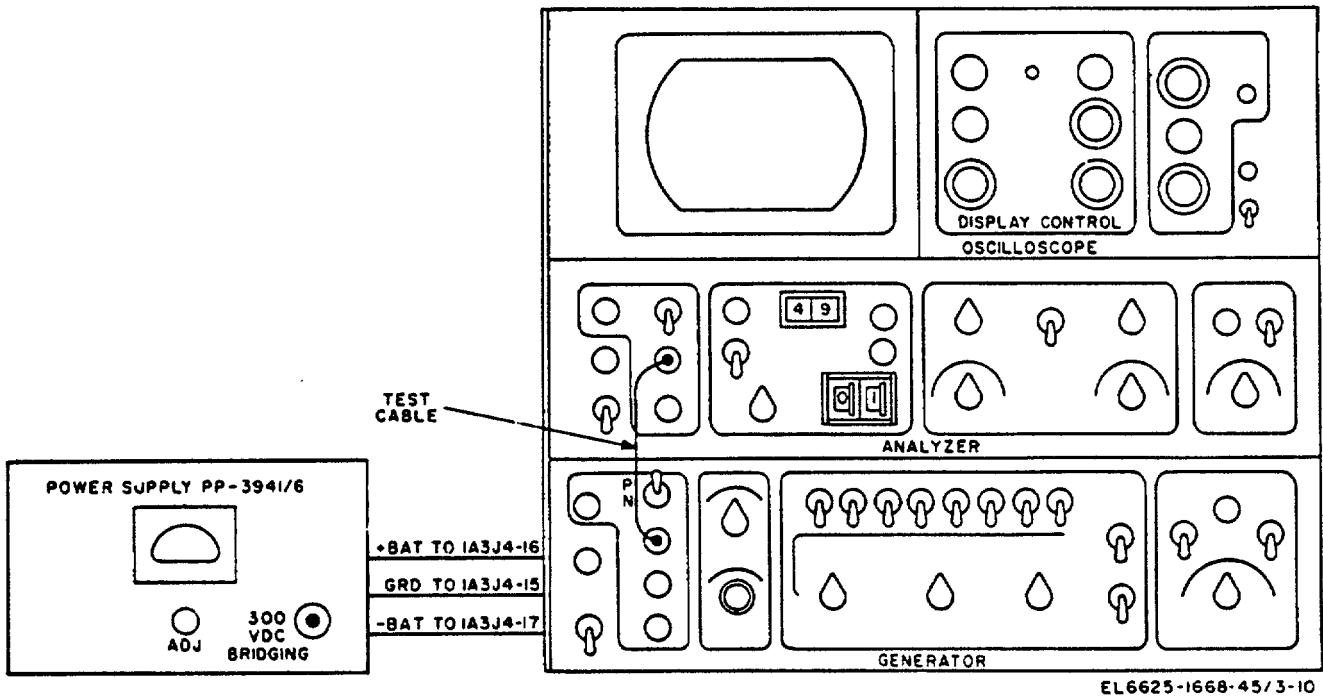


Figure 3-6. Vertical voltage calibration test setup.

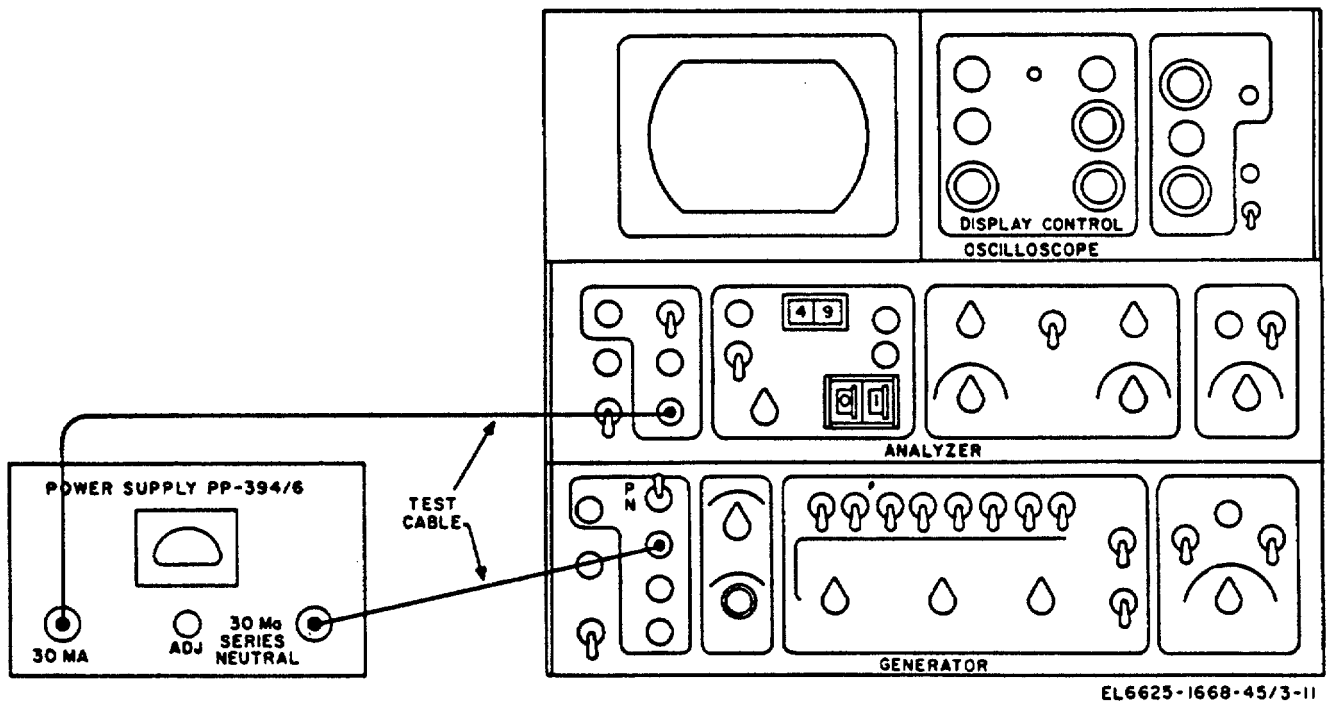
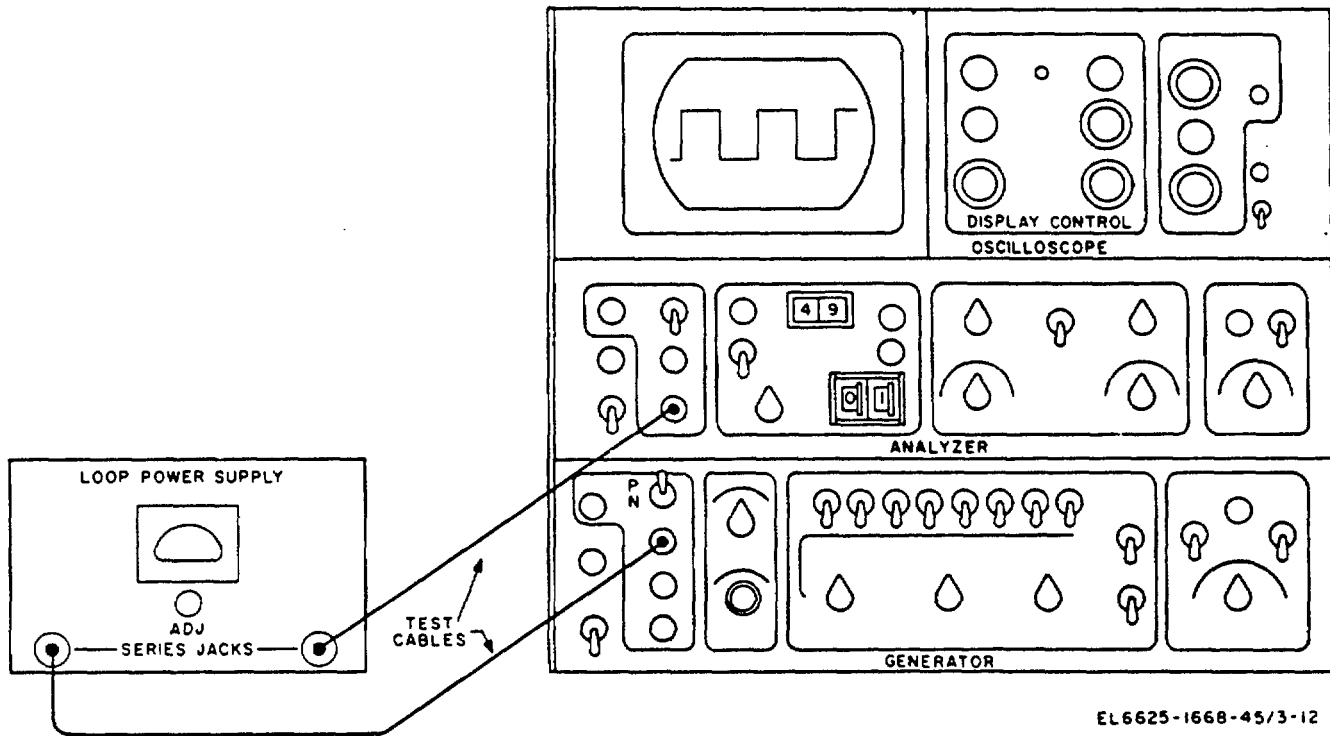


Figure 3-7. Vertical current calibration test setup.



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Figure 3-8. Time base test setup.

(2) Set the SG-860/GGM-15(V) MESSAGE SELECT switch to 1: 1 and the CODE LEVEL switch to 5.

(3) Three cycles of the waveform must be displayed on the crt.

(4) Simultaneously change the SG-860/GGM-15(V) and the TS-2862/GGM-15(V) RATE switches from 37.5 to 9600.

(5) The crt display should not change shape.

(6) Set the TS-2862/GGM-15(V) CODE LEVEL switch to 8, and slowly rotate the TRANSITION switch from 1 to 9.

(7) The M/S and S/M shall alternately be displayed on the crt as each transition is selected.

(8) Set the TRIGGER & SWEEP SELECT switch to INT.

(9) The crt should display a synchronized sweep.

(10) Set the SG-860/GGM-15(V) and the TS-2862/GGM-15(V) BAUD RATE switches to 50.

(11) Set the TIME MILLISEC VARIABLE control fully counter-clockwise (ccw).

(12) Set the TIME MILLISEC switch to 500; then to 50, 5, 0.5, and 0.05.

(13) The sweep should increase speed at each setting.

(14) Set the DISPLAY RELEASE RATE switch to VARIABLE.

(15) Rotate the small variable knob.

(16) The release rate display should increase and decrease with knob rotation.

(17) Set the DISPLAY RELEASE RATE switch to MAN; then operate the momentary SINGLE switch to SINGLE and release.

(18) A single character should display on the crt each time the switch is operated.

3-6. Continuity Tests

Continuity tests are performed to locate faults not found by other tests. Power cables, interconnecting cables, or phone jacks are a sample of the faults located by continuity testing. To perform these tests, use the applicable schematic diagram of the circuit being tested.

CAUTION

Do not continuity test diodes or transistors with power on.

WARNING

Do not continuity test the crt high-voltage supply until the crt has been discharged and the power supply short strapped to ground; 1,800 volts is present during operation, or until the power supply is discharged.

3-7. Localizing Troubles

a. General. Procedures are outlined in the troubleshooting chart (b below) for localizing troubles to the individual circuit of the component as a result of performing the operational tests and not obtaining the correct results. Depending on the nature of the operational symptoms, one or more of the localizing procedures will be necessary. When use of the procedures results in localization of trouble to a particular submodule, use the procedures outlined in paragraphs 5-5, 5-6, and 5-7 to isolate the trouble to a particular part.

b. Troubleshooting Chart. The troubleshooting chart is designed to supplement the operational tests given in TM 11-6625-1668-12. If operational symptoms are not known, perform the steps outlined in operational tests.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	No crt display	<p>a. Defective crt</p> <p>b. High-voltage power supply, or fuses.</p> <p>c. Blanking flip-flop defective</p> <p>d. Blanking amplifier defective</p>	<p>a. Check for filament continuity between crt pins 1 and 14.</p> <p>b. Check all ac and dc fuses behind hinged front panel. If fuses are good, check high-voltage transformer for secondary voltage. If voltage is good, check diodes CR1 and CR2. If diodes are good, check filter capacitors and resistors.</p> <p>c. Connect high-voltage dc test probes to crt pin 3 and pin 2. Trigger oscilloscope for sweep. If no dc voltage variations are noticed, blanking flip-flop is inoperative.</p> <p>d. Check blanking amplifier from sweep gating Schmitt trigger to blanking flip-flop for blanking trigger pulses. If trigger pulses are good, check diodes CR3 and CR4 and transistors Q1, Q2, and Q3 in blanking flip-flop by voltage and continuity methods. Check the blanking release circuit and Q17.</p>
2	No horizontal sweep	Horizontal amplifier on assembly 3A3A5 defective.	Connect AM/PSM-6B to TP1 and TP2 and sweep the amplifier. If good, a voltage variation should be noted. If not, check output of sweep amplifier Q18 on 3A3A6 for negative-going output. Check input from D/A ladder drivers. If input is good, check horizontal amplifier.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
3	Crt not blanked during retrace	Blanking amplifier or blanking flip-flop defective.	<p>If all above circuits are good, check sweep generator circuits.</p> <p>Use steps in item 2 for locating fault.</p> <p>Either Q1 in blanking flip-flop, or Q16 in blanking amplifier, or circuits are faulty.</p>
4	No vertical deflection straight horizontal line on crt.	Vertical amplifier on assembly 3A3A5.	<p>Connect AN/PSM-6B to TP4 and TP5 and sweep the amplifier. If good, a voltage variation should be noted. If it is not, check output of input amplifier on assembly 3A3A5 pin X for output voltage. If output voltage is good, vertical amplifier is defective, check output from TS-2862/GGM-15 to input amplifier, also check input amplifier. Check ± 10-volt calibration pulses from calibration circuits.</p>
5	No sweep on crt	<p>a. Power supplies defective</p> <p>b. Defective trigger inverter circuit.</p> <p>c. Defective display release generator.</p> <p>d. Defective sweep trigger flip-flop.</p> <p>e. Defective Schmitt trigger</p> <p>f. Defective sweep gate</p> <p>g. Defective Miller integrator</p> <p>h. Defective hold-off circuit</p> <p>i. Defective sweep amplifier</p>	<p>a. Check all power supplies for required output voltages. Check voltage regulators on 3A3A1 and high-voltage supply on 3A4A1. Check interconnection cabling.</p> <p>b. Check input and output of trigger inverter circuit.</p> <p>c. Check output of display release generator in variable and manual modes.</p> <p>d. Check output of sweep trigger flip-flop.</p> <p>e. Check output of sweep gating Schmitt trigger.</p> <p>f. Check output of sweep gate.</p> <p>g. Check output of Miller integrator circuit.,</p> <p>h. Check output of hold-off circuit.</p> <p>i. Check output of sweep amplifier.</p>

3-8. Isolating Trouble Within Submodule

When trouble has been localized to a submodule, either through operational checks or localization, use the following techniques to isolate the defective part.

CAUTION

Do not make any resistance or continuity measurements in this equipment with the power turned on; damage to transistors will result.

NOTE

Voltage measurements can be made with insulated test probes (except for extreme tips) while the equipment is turned on. Be extremely careful to prevent an accidental short between terminals.

a. *Transistor.* Make voltage measurements at voltage divider or voltage dropping points. A switching transistor will have sharp voltage changes at its collector, while a nonsaturating transistor will have a linear-like change at its collector. If no changes are noted, test the transistor in a transistor tester or the continuity checks given in paragraph 3-6 to determine if the transistor or its circuit is defective.

b. *Diode.* A diode is a conductor in the forward direction and a resistor in the reverse direction. When a diode is operating normally, a change in voltage level will be noted across the cathode and anode, or a high at one end and zero or low voltage at the other end. Use the continuity checks given in paragraph 3-6 to determine if the diode or its circuit is defective.

c. *Capacitor.* A capacitor conducts ac but opposes dc voltage. If voltage at both ends is the same, the capacitor may be shorted. Use the continuity checks given in paragraph 3-6 to determine if the capacitor is defective.

d. *Resistor.* Make voltage measurement across the resistor. A voltage change should be noted across resistor; if it is not, use the continuity checks given in paragraph 3-6 to determine if the resistor is defective.

e. *Transformer.* Make ac voltage measurements at output terminals. Check for heat or ac hum to indicate

an overload or shorted winding. Use the continuity checks given in paragraph 3-6 to determine if the transformer is defective. Make an ac hi-pot test of insulation.

f. *Switches and Jacks.* Make continuity check of switches or jacks in accordance with paragraph 3-6.

g. *Intermittent Troubles.* Intermittent troubles are a common fault at cable and switch contacts, variable resistance arms, poor solder joints, resistance and capacitance pigtail leads, and various junctions. Tap the chassis or suspected area to reveal the defective point. Rotating the switch or control will often reveal a defective contact.

h. *Integrated circuits.* When troubleshooting integrated circuits (IC) the repairman must use the IC configuration given in (1) through (6) below, and the schematic diagram. The IC configurations provide an internal logic diagram for each IC, pin connections, and truth tables. Only printed wiring assemblies 3A3A3 and 3A3A7 contain integrated circuit elements (see table 3-1). The operational amplifier is not supplied with a ground but receives +15 volts dc at pin 11, and -15 volts dc at pin 6. The differential comparator is supplied with +12 volts dc at pin 11, -6 volts dc at pin 6, and ground at pin 2. All other IC's are supplied with +5.5 volts dc at pin 14, and ground at pin 7. An oscilloscope is used to determine the presence of qualifying inputs. If such inputs are present, the output should appear as described in the circuit descriptions given in chapter 2, or as illustrated in the IC configurations. If the output does not appear as described and all inputs and supply voltages are present at the designated pins, the IC is defective. Be extremely careful when troubleshooting IC's with an oscilloscope and do not

**Table 3-1
Integrated Circuit Reference Designations**

Motorola	MC836P	MC853P	MCS52P	MC1709CP	MC1710CP	
Fairchild	USA993659X	U6A993659X	U6A909959X	FU6E7709393	U6E7710393	U6A995879X
3A3A3 3A3A7	Z3	Z2	Z4, Z5	Z1, Z2	Z1	Z6
Refer to figures 3-9 through 3-14						

short adjacent pins with the test probe. A defective IC cannot be repaired, and replacement requires a great deal of care to prevent damage to the printed circuit. In (1) through (6) below, logic level represents 0 volt dc, and a 1 logic level represents +5.5 volts dc.

(1) The hex inverter (fig. 3-9) is comprised of six inverter circuits. Pins 1, 3, 5, 9, 11, and 13 are inputs, and pins 2, 4, 6, 8, 10, and 12 are outputs. The inverter reproduces the input signal and inverts the signal polarity.

(2) The dual J-K flip-flops (fig. 3-10), with separate clock (CP) and separate direct-set (SD) input, include two directly coupled flip-flops. The direct-set input overrides the synchronous inputs (asynchronous truth table, fig. 3-10). When an 0 is applied to the direct-set input of either flip-flop, the Q output will be 1. When the direct-set input is 1, the state of the \bar{Q} output is determined by the state of the J-K inputs when a clock pulse is applied (J-K truth table, fig. 3-10). If both J and K inputs are 0 when a clock pulse is applied the Q output will not change state; however, if both J and K inputs are 1 the Q output will change state when the clock pulse goes negative. When the J input is 0 and the K input is 1, the Q output will be 0 after the clock pulse. If K input is 0 and J input is 1, Q will be 1 after the clock pulse.

(3) The dual J-K flip-flops (fig. 3-11) with common clock pulse inputs, common direct-clear (CD) inputs and

separate direct-set (SD) inputs include two directly coupled flip-flops. The J-K truth table for this IC is the same as discussed in (2) above; however, the asynchronous truth table now includes the function of the direct-clear input. The direct-clear and direct-set inputs both override the clock pulse and J-K inputs. If both direct-set and direct-clear inputs are 1, the Q and \bar{Q} outputs will not change state. If both direct set and direct clear inputs are 0 both Q and \bar{Q} will be 1.

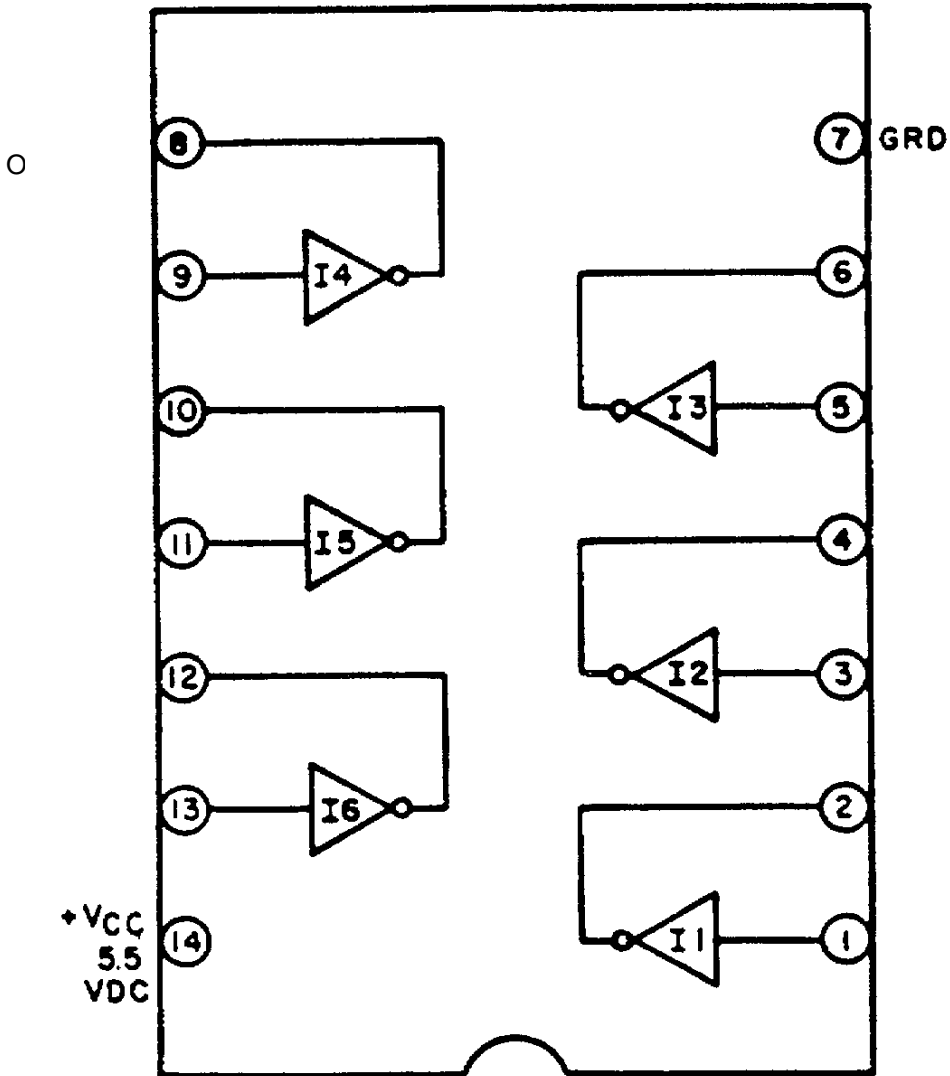
(4) The operational amplifier (fig. 3-12) is provided with an inverting and a noninverting input. A signal applied to pin 4 will appear inverted at pin 10 (output). An input signal applied to pin 5 will appear at pin 10 with the same polarity.

(5) The decade counter (fig. 3-13) is comprised of four cascaded binary triggered flip-flops with a reset gate which is enabled at the end of the count from 0 to 9, enabling the next input transition to reset the decade to 0.

(6) the differential comparator (fig. 3-14) is an operational amplifier with an inverting and noninverting input. A signal applied to pin 4 will appear inverted at pin 9. An input signal applied to pin 3 will appear at pin 9 with the same polarity.

HEX INVERTER

MOTOROLA - MC836P
FAIRCHILD - U6A993659X



THIS ELEMENT CONSISTS
SIX INVERTER CIRCUITS

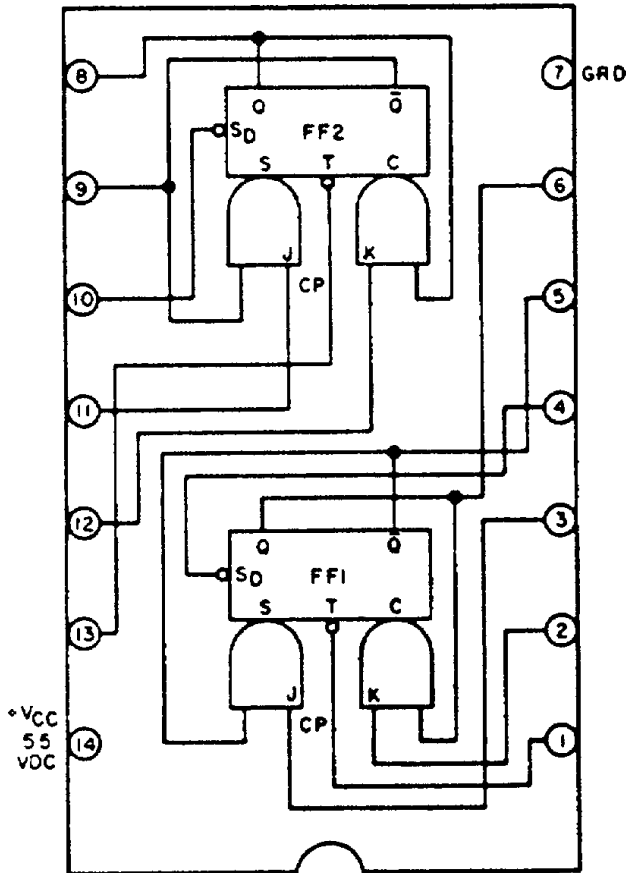
EL6625 - 1568 - 45/3-15

Figure 3-9. Hex inverter.

DUAL J-K FLIP-FLOPS

MOTOROLA - MC853P
FAIRCHILD - U6A909359X

TWO



THIS ELEMENT CONSISTS OF DIRECTLY COUPLED FLIP-FLOPS, SEPARATE CLOCK (CP) AND SEPARATE DIRECT SET (S_D) INPUTS.

S_D	Q	\bar{Q}
1	NC	NC
0	1	0

		Q_n	Q_{n+1}
J	K	0	1
0	0	0	0
0	1	0	1
1	0	1	0
1	1	1	\bar{Q}_n

LOGIC LEVELS

HI OR "1" = + 5.5 VOLTS

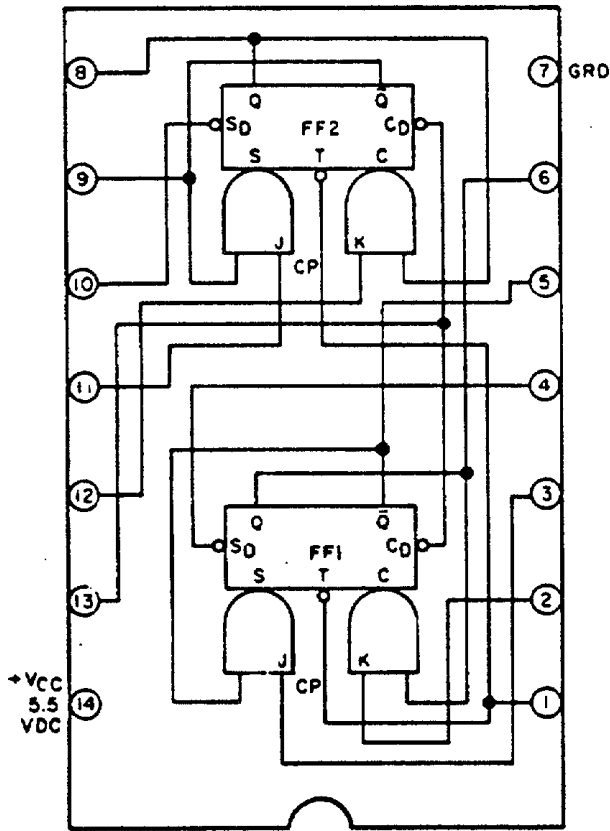
LOW OR "0" = 0 VOLTS

EL6625 - 1668 - 45/3 - 16

Figure 3-10. Dual J-K flip-flops with separate clock inputs.

DUAL J-K FLIP-FLOPS

MOTOROLA - MC852P
FAIRCHILD - U6A909959X



THIS ELEMENT CONSISTS OF TWO DIRECTLY COUPLED FLIP-FLOPS WITH COMMON CLOCK PULSE (CP) DIRECT CLEAR (C_D) AND SEPARATE DIRECT SET (S_D) INPUTS.

S_D	C_D	Q	\bar{Q}
1	1	NC	NC
0	1	1	0
1	0	0	1
0	0	1	1

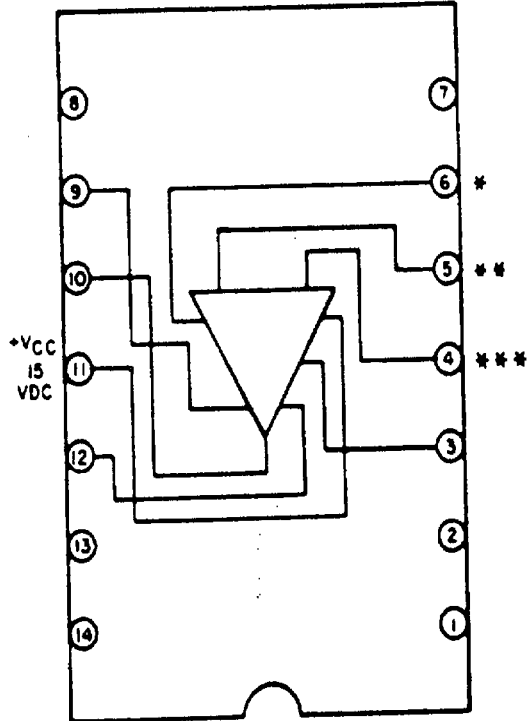
t_n		t_{n+1}
J	K	Q
0	0	Q_n
1	0	1
0	1	0
1	1	\bar{Q}_n

LOGIC LEVELS
HI OR "1" = + 5.5 VOLTS
LOW OR "0" = 0 VOLTS
EL6625-1668-45/3-17

Figure 3-11. Dual J-K flip-flops with common clock inputs.

OPERATIONAL AMPLIFIER

MOTOROLA - MC1709CP
 FAIRCHILD - U6E7709393



THIS ELEMENT CONTAINS ONE OPERATIONAL AMPLIFIER DESIGNED FOR USE AS A SUMMING AMPLIFIER INTEGRATOR, OR AMPLIFIER WITH OPERATING CHARACTERISTICS AS A FUNCTION OF THE EXTERNAL FEED BACK COMPONENTS

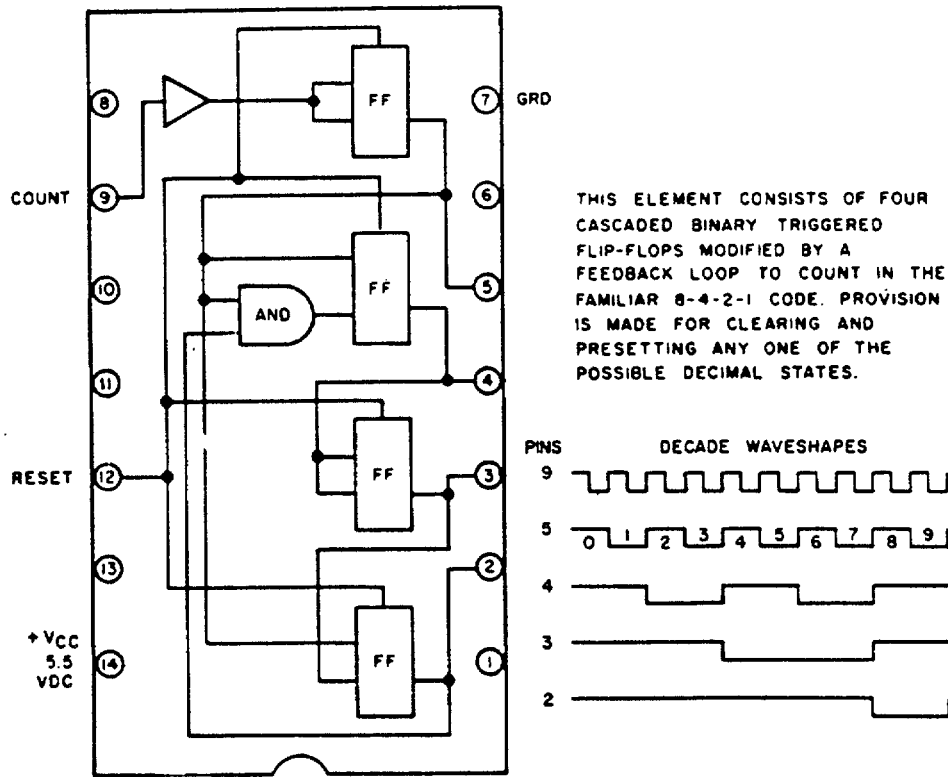
NOTES:

- * PIN 6 IS -V_{CC} -15 VDC
 - ** PIN 5 IS NONINVERTING
 - *** PIN 4 IS INVERTING
- EL6625 - 1668 - 45/3-18

Figure 3-12. Operational amplifier.

DECADE COUNTER

FAIRCHILD - U6A995879X



TRUTH TABLE										
COUNT										
PINS	0	1	2	3	4	5	6	7	8	9
5	1	0	1	0	1	0	1	0	1	0
4	1	1	0	0	1	1	0	0	1	1
3	1	1	1	1	0	0	0	0	1	1
2	1	1	1	1	1	1	1	1	0	0

LOGIC LEVELS
 HI OR "1": + 5.5 VOLTS
 LOW OR "0": 0 VOLTS

EL6625-1668-45/3-31

Figure 3-13. Decade counter.

DIFFERENTIAL COMPARATOR

MOTOROLA - MC1710CP
 FAIRCHILD - U6E7710393

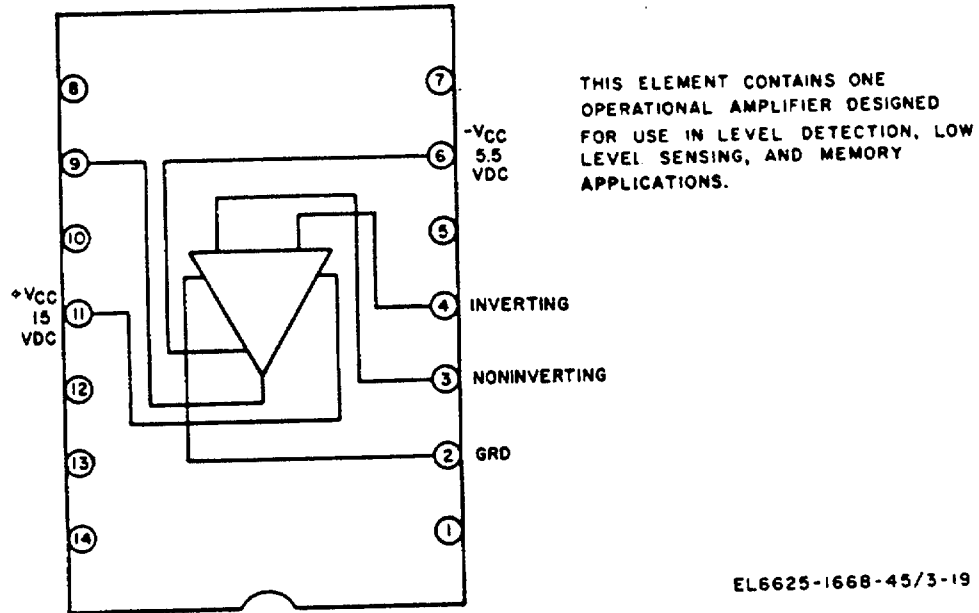


Figure 3-14. Differential comparator.

CHAPTER 4

REPAIRS AND ADJUSTMENT

4-1. General Parts Replacement Techniques

(fig. 6-1 through 6-9)

The parts in the OS-206/GGM-15(V) can be reached easily and replaced without special procedures; however, diodes, transistors, and integrated circuit packs must be installed using a heat-absorbing sink between the soldered end and body to prevent heat damage. Also, the polarity of diodes and capacitors must be observed during replacement. Install each replacement part in the exact position occupied by the old part. Do not reroute circuit wires; otherwise, circuit capacitance will be altered and require readjustment. Use the same length and dress of transistor leads as used originally. Use a pencil-type soldering iron with a heat capacity of not over 25 watts. Do not use a soldering gun; damaging voltages can be induced into components.

4-2. Test Equipment Required

Whenever frequency or voltage determining parts are replaced, adjustment is usually required. All adjustments are listed in table 4-1. The test equipment and tools listed below are required for adjustment of the OS-206/GGM-15(V).

<i>Item</i>	<i>Technical manual</i>
Power Supply PP-3941/G	TM 11-6130-242-15
Analyzer, Signal Distortion TS-2862/GGM-15(V).	TM 11-6625-1668-12
Generator, Signal SG-806/GGM-15(V)	TM 11-6625-1668-12
Digital Readout, Electronic Counter AN/USM-207	TM 11-6625-700-10
Multimeter AN/PSM-6B	TM 11-6625-475-10
Low level driver.....	MIL-STD-188B
Oscilloscope AN/USM-281	TM 9-6625-2362-12
Pulse Generator Set AN/UPM-15	TM 11-6625-368-10

Table 4-1. Internal Adjustments

Assembly	Ref Des	Name	Function
3A3A2	R7	RAMP CONTROL	Adjusts amplitude of analog ramp voltage.
	R14	-15V SET	Adjusts voltage regulator to -15 vdc.
	R24	+56V SET	Adjusts voltage regulator to +56 vdc.
	R41	-56V SET	Adjusts voltage regulator to -56 vdc.
3A3A3	R7	Z BALANCE	Balances inputs to Z marker differential amplifier.
	R40	Z INTENSITY	Adjusts intensity level of Z markers.
3A3A5 amplifiers.	R34	H BALANCE	Balances outputs of horizontal differential
	R57	V BALANCE	Balances outputs of vertical differential amplifiers.
3A3A6	R18	STABILITY	Adjust synchronization of internal sweep to an external trigger.
	R30	CAP SWEEP	Used to calibrate sweep rate.
	R71	SWEEP GAIN ADJ.	Used to adjust horizontal length of sweep on crt.
3A3A7	R5	+V CAL	Used to adjust +10-volt calibration voltage.
	R11	-V CAL	Used to adjust -10-volt calibration voltage.

4-3. Adjustment Procedures

Before making any adjustment, check to see that all plug-in circuit boards are in place, and all controls and switches are set as indicated in the chart below. Connect the power cord to required power source.

<i>Control</i>	<i>Position</i>
PWR switch.....	OFF
DISPLAY RELEASE RATE switch.....	NORMAL
TRIGGER & SWEEP SELECT switch.....	AUTO
Z MARKERS switch.....	OFF

a. Operate the PWR switch to ON and adjust the FOCUS, ASTIG, and INTENSITY CRT controls for the best waveform display.

b. Properly position the waveform by use of the VERT POS and HORIZONTAL POSITION controls.

c. Operate the PWR switch to OFF.

d. Adjust sweep gain control R71 as follows:

(1) Extend assembly 3A3A6 with extender card 3A3A8.

(2) Set the PWR switch to ON.

(3) Set the TIME MILLISEC switch to 500.

(4) Start and maintain automatic horizontal sweep. Check for sweep distance on the crt. If the sweep is too short or too long, adjust cal sweep control R71 for a proper trace length. Also perform the procedures given in e, f, and g below if linearity is not attained.

e. Adjust cal sweep control R30 as follows:

(1) Extend assembly 3A3A6 with extender card 3A3A8.

(2) Set the PWR switch to ON.

(3) Set the TIME MILLISEC switch to 500.

(4) Start and maintain automatic horizontal sweep.

(5) Stop the sweep on the crt and check time lengths. If they are too short or too long, adjust cal sweep control R30 until the sweep time corresponds to the time distance on the crt scale. Also perform the procedures given in f and g below if linearity is not attained.

f. Adjust stability control R18 as follows:

(1) Extend assembly 3A3A6 with extender card 3A3A8.

(2) Set the TRIGGER & SWEEP SELECT switch to INT.

(3) Set the PWR switch to ON.

(4) Set the TIME MILLISEC switch to 500.

(5) Start and maintain a horizontal sweep. If it is not possible to start a sweep, adjust stability control R18 until a sweep starts. Adjust R18 until the sweep starts with each trigger and stops when not triggered.

g. Horizontal and vertical BALANCE controls R34 and R57, respectively, are identical; therefore, only horizontal BALANCE control R34 will be described. Adjust R34 as follows:

(1) Extend assembly 3A3A5 with extender card 3A3AS.

(2) Set the PWR switch to ON.

(3) Set the TIME MILLISEC switch to 0.05.

(4) Start and maintain a horizontal sweep.

(5) Stop the sweep trace by rotating the VARIABLE control.

(6) Slowly set the TIME MILLISEC switch to 0.5, 5, 50, and 500, holding the sweep described in (5) above. The length of the sweep trace shall be an equal distance each side of center. If it is not, adjust R34 until the ends of the trace are an equal distance from center.

h. Adjust intensity modulation (Z) balance control R7 as follows:

(1) Extend assembly 3A3A3 with extender card 3A3A8.

- (2) Set the PWR switch to ON.
- (3) Set the Z MARKERS switch to ON.
- (4) Set the TIME MILLISEC to any position that gives a good display.

(5) Stop the sweep trace. The Z markers must be lined up with the start and end of each pulse; if not, adjust control R7 until Z markers are set on the start and end of each pulse.

i. Adjust Z marks intensity control R40 as follows:

(1) Perform the procedures given in *h*(1) through (5) above.

(2) Adjust Z marks intensity control R40 to the desired intensity.

j. Adjust positive volts calibration control R5 as follows:

(1) Extend assembly 3A3A5 with extender card 3A3A8.

(2) Connect the AN/PSM-6B positive test lead to terminal 16, and the negative test lead to any ground terminal R through Z.

(3) Set the PWR switch to ON. The AN/PSM-6B shall indicate exactly +10 volts dc. If it does not, adjust +V CAL control R5 until the correct voltage indication is obtained.

k. Adjust negative volts calibrate V CAL control R11 as follows:

(1) Extend assembly 3A3A7 with extender card 3A3A8.

(2) Connect the AN/PSM-6B positive test lead to any ground terminal R through Z, and the negative test lead to terminal 21.

(3) Set the PWR switch to ON. The AN/PSM-6B shall indicate exactly -10 volts dc. If it does not, adjust negative volts calibrate control R11 until the correct voltage indication is obtained.

l. Adjust ramp control R7 as follows:

(1) Extend assembly 3A3A2 with extender card 3A3A8.

(2) Connect the AN/PSM-6B negative lead to TP1.

(3) Connect the AN/PSM-6B positive lead to TP6.

(4) Set the PWR switch to ON. The AN/PSM-6B shall indicate +5.5 volts dc ± 0.5 volts on the multimeter.

(5) Remove the test lead from TP6 And connect it to terminal F. The AN/PSM-6B shall indicate +3.5 to +5 volts dc. The upper and lower limits specified shall be accomplished by the adjustment of ramp control R7.

m. Adjust -15-volt set control R14 as follows:

(1) Extend assembly 3A3A2 with extender card 3A3A8.

(2) Connect the AN/PSM-6B positive test lead to TP1.

(3) Connect the AN/PSM-6B negative test lead to TP2.

(4) Set the PWR switch ON. The AN/PSM6B shall indicate exactly -15 volts dc. If it does not, adjust R14 until the correct indication is obtained.

(5) Disconnect the test lead from TP2 and connect it to terminal E. The AN/PSM-6B shall indicate -1.5 dc ± 0.5 .

n. Adjust +56-volts set control R24 as follows:

(1) Extend assembly 3A3A2 with extender card 3A3A8.

(2) Connect the AN/PSM-6B negative test lead to TP1.

(3) Connect the AN/PSM-6B positive test lead to TP4.

(4) Set the PWR switch to ON. The AN/PSM-6B shall indicate exactly +56 volts dc. If it does not, adjust R24 until the correct indication is obtained.

o. Adjust -56-volt set control R41 as follows:

(1) Extend assembly 3A3A2 with extender card 3A3A8.

(2) Connect the AN/PSM-6B negative lead to TP1.

(3) Connect the AN/PSM-6B positive lead to TP5.

(4) Set the PWR switch to ON. The AN/PSM-6B shall indicate exactly -56 volts dc. If it does not, adjust R41 until the correct voltage is obtained.

CHAPTER 5

GENERAL SUPPORT TESTING PROCEDURES

5-1. General

a. Testing procedures are prepared for use by Electronics Field Maintenance Shops and Electronics Service Organizations responsible for general support maintenance of electronics equipment to determine the acceptability of repaired equipment. These procedures set forth specific requirements that repaired equipment must meet before it is returned to the using organization.

b. Comply with the instructions preceding the body of each chart before proceeding to the chart. Perform each test in sequence. *Do not vary the sequence.* For each step, perform all the actions required in the *Test equipment* and *Equipment under test* columns; then, perform each specific test procedure and verify it against its performance standards.

5-2. Test Equipment Required

The test equipment required to perform the testing procedures given in this chapter is listed in the chart below and is authorized under TA-11-17 and TA-11-100(11-17).

<i>Nomenclature</i>	<i>Technical Manual</i>
Oscilloscope AN/USM-281.....	TM 9-6625-2362-12
Digital Readout, Electronic Counter AN/USM-207.	TM 11-6625-700-10
Multimeter AN/PSM-6B.....	TM 11-6625-475-10
Power Supply PP-3941/G.....	TM 11-6130-242-15
Pulse Generator Set AN/UPM-15.	TM 1 -6625-368-10
Analyzer, Signal Distortion TS-2862/GGM-15(V).	TM 11-6625-1668-12
Generator, Signal SG-860/GGM-15(V).	TM 11-6625-1668-12

5-3. Test Facilities

A power source that provides 115 or 230 volts ac at 47-63 Hertz (Hz) with a power capability of 105 watts is required. No special procedures are required for connecting the unit to the power source. The input power is supplied through the power cable that connects the equipment to the power source.

5-4. Modification Work Orders

The performance standards listed in the tests (para 5-5, 5-6, and 5-7) assume that no modification work orders have been performed on the equipment. A listing of current modification work orders is given in DA Pam 25-30. If a modification work order is performed on the equipment, an allowance must be made for any test connections or test results that may differ from those given in the following test procedures.

5-5. Vertical Voltage Calibration Test

a. *Test Equipment and Material.*

- (1) Analyzer, Signal Distortion TS-2862/GGM-15(V).
- (2) Generator, Signal SG-860/GGM-15(V).
- (3) Power Supply PP-3941/G.

b. *Initial Test Equipment Calibration.*

- (1) Strap the SG-860/GGM-15(V) to produce a high-level polar output at the DRY CONTACTS jack.

(2) Adjust the PP-3941/G for ±150 volts dc mark and -150 volts dc space.

GAIN, VERTICAL GAIN, HORIZONTAL POSITION, VERT POS, FOCUS, AND ASTIG controls for the best crt display.

c. Test Connections and Conditions.

(4) Set the TS-2862/GGM-15(V) MARK POLARITY switch as required for signal indication.

- (1) Connect the test setup as shown in figure 3-6.
- (2) Turn on the power for all components.
- (3) Adjust the INTENSITY, HORIZONTAL

d. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	SG-860/GGM-15(V): P --N: P DISTORTION SELECT: BIAS M. PERCENT DISTORTION: 0 MESSAGE SELECT: 1:1 CODE LEVEL : 5 CHARACTER LENGTH : 7 CHARACTER FREE RELEASE: RUN OSC: INT. ALARM: DISABLE. BAUD RATE : 150 TS-2862/GGM-15(V): RESET: AUTO. DISPLAY MODE: DIST % THRESHOLD: 00. CODE LEVEL: 5. TRANSITION: ALL. INPUT: VCAL. DISTORTION: BIAS S/M. ALARM: DISABLE. BAUD RATE: 150.	OS-206/GGM- 15(V): Z MARKERS: OFF. DISPLAY RELEASE RATE: NORMAL TRIGGER & SWEEP SELECT FREE RUN. TIME MILLISEC: as desired.	a. Set VERTICAL VOLTS (MA)/CM to 20 and adjust VARIABLE for 4-cm deflection b. Set VERTICAL VOLTS (MA)/CM to following positions: 2 10 20 50 c. STS-2862/GGC-15(V) INPUT switch to HIZ and OS.206/GGC-15(V) VERTICAL VOLTS (MA)/CM TO 200.	a. CRT indicates 2-cm deflection. b. Crt will display calibrate signal with following deflection (cm). 10 2 2 2/5 c. Crt will display a polar signal +3/4 and -3/4 cm.

5-6. Vertical Current Calibration Test

a. Test Equipment and Material.

- (1) Analyzer Signal Distortion TS-2862/GGM-15(V).
- (2) Generator, Signal SG-860/GGM-15(V).
- (3) Power Supply PP-3941/G.

b. Initial Test Equipment Calibration.

- (1) Strap the SG-860/GGM-15(V) for high-level, neutral, series, front access operation.
- (2) Adjust the PP-3941/G current to 30 ma.

c. Test Connections and Conditions.

- 3-7.
- (1) Connect the test setup as shown in figure
 - (2) Turn on the power for all components.
 - (3) Adjust the INTENSITY, HORIZONTAL GAIN, VERTICAL GAIN, HORIZONTAL POSITION,

VERT POS, FOCUS, AND ASTIG controls for the best crt display.

- (4) Set the TS-2862/GGM-15(V) MARK POLARITY switch as required for signal indication.

d. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	SG-860/GGM-15(V): P --N: P DISTORTION SELECT: BIAS M. PERCENT DISTORTION: 0 MESSAGE SELECT: 1:1 CODE LEVEL : 5 CHARACTER LENGTH : 7 CHARACTER RELEASE: FREE RUN OSC: INT. ALARM: DISABLE. BAUD RATE : 150 TS-2862/GGM-15(V): RESET: AUTO. DISPLAY MODE: DIST % THRESHOLD: 0. CODE LEVEL: 5. TRANSITION: ALL. INPUT: 60N. DISTORTION: BIAS S/M. ALARM: DISABLE. BAUD RATE: 150.	OS-206/GGM- 15(V): Z MARKERS: OFF. VERTICAL VOLTS (MA)/CM: 10 TRIGGER & SWEEP SELECT FREE RUN. TIME MILLISEC: as desired.	<ol style="list-style-type: none"> a. Set TS-2862/GGM-15(V) INPUT to I CAL and adjust 2A2A6R1 for 2-cm deflection. Adjust 2A2A6R11 for +1 and -1 cm deflection. b. Set SG-280/GGM-15(V) INPUT to 60N. c. Crt displays 2-cm signal centered on 0 reference. 	<ol style="list-style-type: none"> a. CRT displays 2-cm signal centered on 0 reference. b. Crt displays 3-cm signal Centered on 0 reference.

5-7. Time Base Test

a. Test Equipment and Material.

- (1) Analyzer Signal Distortion TS2862/GGM-15(V).
- (2) Generator, Signal SG-860/GGM-15(V).
- (3) Power Supply PP-3941/G.

b. Initial Test Equipment Calibration.

- (1) Strap the SG-860/GGM-15(V) for high level, neutral, series, front access operation.

c. Test Connections and Conditions.

- 3-8.
- (1) Connect the test setup as shown in figure

- (2) Turn on the power for all components.
- (3) Adjust the INTENSITY, HORIZONTAL, GAIN, VERTICAL, VOLTS (MA)/CM, HORIZONTAL POSITION, VERT POS, FOCUS, AND ASTIG controls for the best crt display.

- (4) Set the TS-2862/GGM-15(V) MARK POLARITY switch as required for signal indication.

d. Procedure.

Step No.	Control settings		Test procedure	Performance standard
	Test equipment	Equipment under test		
1	SG-860/GGM-15(V): P - N: N. DISTORTION SELECT: BIAS M. PERCENT DISTORTION: 0. MESSAGE SELECT: 1:1. CODE LEVEL: 5. CHARACTER LENGTH: 7. CHARACTER RELEASE: FREE RUN. OSC: INT. ALARM: DISABLE. BAUD RATE: 50. TS-2862/GGM-15(V): RESET: AUTO. DISPLAY MODE: DIST %. THRESHOLD: 0. CODE LEVEL: 5. TRANSITION: ALL. INPUT: 60N. DISTORTION: BIAS SIM. ALARM: DISABLE. BAUD RATE: 50.	OS-206/GGM-15(V): Z MARKERS: OFF. VERTICAL VOLTS (MA)/CM: 10. DISPLAY RELEASE RATE: NORMAL. TRIGGER & SWEEP SELECT: AUTO. TIME MILLISEC: 5.	a. Check crt display. b. Set TS-2862/GGM-15(V) CODE LEVEL to 8, and rotate TRANSITION switch from 1 to 9. c. Set OS-206/GGM-15(V) TRIGGER & SWEEP SELECT to INT. d. Rotate TIME MILLISEC VARIABLE fully counter- clockwise and adjust 3A3A4R30 for 20-millisecond pulse width. e. Set DISPLAY RELEASE RATE to VARIABLE. f. Set DISPLAY RELEASE RATE to MAN and operate SINGLE release switch.	a. crt displays 3 cycles. b. The M/S and S/M transitions will alternately appear as each transition is selected. c. Sweep will sync as VARIABLE TIME MILLISEC is adjusted. d. CRT displays a 20-ms pulse width. e. Release rate is varied with control. f. Sweep is released each time SINGLE switch is operated.

5-8. Summary of Performance Standards

Oscilloscope OS-206/GGM-15 (V)

		<i>Oscilloscope OS-206/GGM-15(V)</i>		<i>Oscilloscope OS-206/GGM-15 (V)</i>	
		<i>Test data</i>	<i>Performance standard</i>	<i>Test data</i>	<i>Performance standard</i>
Vertical voltage test	_____	_____	10 cm	_____	1 cm
	_____	_____	2 cm	_____	2/5 cm
Time base test	_____	_____		_____	±3/4 cm
	_____	_____		_____	3 cm
				_____	20 ms

CHAPTER 6

DEPOT OVERHAUL STANDARDS

6-1. Applicability of Depot Overhaul Standards

The tests outlined in this chapter are designed to measure the performance capability of repaired equipment. Equipment that meets the minimum standards stated in the tests will have performance capabilities equivalent to that of new equipment.

6-2. Applicable Reference

a. *Repair Standards.* Applicable procedures of the Signal Corps depots performing this test and its general standards for repaired signal equipment form a part of the requirements for testing this equipment.

b. *Technical Publications.* The following technical publications are applicable to this equipment.

Title	Number	Date
Operator and Organizational Maintenance Manual	TM 11-6625-1668-12	November 1970
General Support and Depot Maintenance Manual	TM 11-6625-1668-45-3	June 1972

c. *Modification Work Orders.* Perform all applicable Modification Work Orders pertaining to this equipment before making the tests specified. DA Pam 310-4 lists all current MWO's.

6-3. Test Equipment Required

The following test equipment, or suitable equivalents, will be used when determining compliance with the requirements of this standard.

Equipment	Stock No.	Qty. Req.	Applicable Literature
Oscilloscope AN/USM-140A	6625-053-3112	1	TM 11-6625-535-15
Counter, Electronic, Digital Readout, AN/USM-207	6625-911-6368	1	TM 11-6625-700-10 TM 11-6625-700-25
Multimeter, AN/PSM-6B	6625-957-4374	1	TM 11-6625-475-10 TM 11-6625-475-25
Polar Battery Supply		1	
Generator, Signal, SG SG-860/GGM-15(V)	6625-219-2525	1	TM 11-6625-1668-12
Analyzer, Signal Distortion, TS-2862/GGM-15(V)	6625-435-7776	1	TM 11-6625-1668-12

6-4. Test Setup for the Oscilloscope, OS-206/GGM-15

The purpose of the Oscilloscope test setup is to prepare the equipment for testing. (Refer to figures in chapter

3.) The acceptance test must be performed in the sequence given.

a. *Initial Control Settings*

- (1) Set the PWR switch to OFF

(2) Set the DISPLAY RELEASE RATE switch to NORMAL.

(3) Set the TRIGGER & SWEEP SELECT switch to AUTO.

(4) Set the Z MARKERS switch to OFF.

(5) Set the Vertical Volts (MA)/CM switch to 6.

b. Disconnect all external equipment and remove all plug-in assemblies from the cabinet.

NOTE

During each test it is assumed that all previous test results have been within acceptable limits.

6-5. Final Test Procedures

The purpose of the Final Test Procedures is to assure that the repaired or maintained equipment meets the same operational requirements as new equipment.

a. Power Supply Test.

(1) PWR switch to OFF.

(2) Install assemblies 3A3A1, 3A3A2 and 3A3A7.

(3) Connect the power cable to connector 3A4J1. Do not connect it to an ac power source.

(4) Set the multimeter to the R X 1 scale.

(5) With the multimeter check for continuity between ac ground and chassis.

(6) Check for no continuity between the high side of the ac line and chassis.

(7) With the multimeter check for no continuity between the low side of the ac line and chassis.

(8) Connect power cord to an ac power source.

(9) Set the PWR switch to ON.

(10) Set the multimeter to the 0-10 volt DC scale.

(11) Connect the positive probe of the multimeter to 3A312TP6.

(12) Connect the negative probe of the multimeter to 3A3A2TP1.

(13) Measure +5.5 volts DC \pm 0.5 volts on the multimeter.

(14) Set the multimeter to the 0-50 volt DC scale.

(15) Connect the negative probe of the multimeter to 3A3A2TP1 (GND).

(16) Connect the positive probe of the multimeter to 3A3A2TP3.

(17) Measure +15 volts DC \pm 1.5 volts on the multimeter.

(18) Connect the positive probe of the multimeter to 3A3A2TP1 (GND).

(19) Connect the negative probe of the multimeter to 3A3A2TP2.

(20) Measure -15 volts DC \pm 1.5 volts on the multimeter. If the correct reading is not obtained, adjust 3A3A2R14.

(21) Set the multimeter to the 0-250 VDC scale.

(22) Connect the positive probe of the multimeter to 3A3A2TP4.

(23) Connect the negative probe of the multimeter to 3A3A2TP1.

(24) Measure +56 \pm 1V DC on the multimeter. If the correct reading is not obtained, adjust 3A3A2R24.

(25) Connect the negative probe of the multimeter to 3A3A2TP5.

(26) Connect the positive probe of the multimeter to 3A3A2TP1.

(27) Measure -56 ±1V DC on the multimeter. If the correct reading is not obtained, adjust 3A3A2R41.

(28) Turn Power Switch to OFF.

(29) Place Assembly 3A3A7 on an Extender Card.

(30) Turn Power Switch to ON.

(31) Set the Multimeter to the 0-50 Volt DC-scale.

(32) Connect the positive probe of the Multimeter to 3A3A7, pin T.

(33) Connect the negative probe of the Multimeter to 3A3A2TP1.

(34) Measure +10 volts DC ± 0.1 volt on the Multimeter. If the correct reading is not obtained, adjust 3A3A7R5.

(35) Connect the positive probe of the Multimeter to 3A3A7TP1.

(36) Connect the negative probe of the Multimeter to 3A3A7, pin 14.

(37) Measure -10 volts DC ± 0.1 volt on the Multimeter. If the correct reading is not obtained, adjust 3A3A7R11.

(38) Set the Power Switch to OFF.

(39) Install all plug-in assemblies.

(40) Set the Power Switch to ON.

(41) To test the power supply assemblies under load, repeat steps 14, 15, 16 and 17.

(42) Repeat steps 18, 19 and 20.

(43) Repeat steps 21, 22, 23 and 24.

(44) Repeat steps 25, 26 and 27.

(45) Disconnect all test equipment and turn Power Switch to OFF.

b. Vertical Calibration.

(1) Set the Signal Distortion Analyzer (TS-2862/GGM-14(V)) controls as listed in table 6-1.

Table 6-1

Control	Position
MARK POLARITY	+ (PLUS)
RESET	OFF
DISPLAY MODE	DIST %
THRESHOLD	00
CODE LEVEL	5
INPUT	BRIDGING HIZ
FILTER	OUT
TRANSITION	ALL
DISTORTION	AVERAGE, BIAS S/M
ALARM	DISABLE
BAUD RATE	9600
POWER	ON

(2) Set the Generator controls as shown in table 6-2.

Table 6-2

Control	Position
MSG SELECT	1:1 REVERSALS
CODE LEVEL	5
CHAR LENGTH	7
BAUD RATE	9600
CHAR RELEASE	FREE RUN
DISTORTION SELECT	BIAS M
% DISTORTION	00
OSC. FAILURE ALARM	DISABLE
POWER	ON

(3) Set the Oscilloscope (OS-206/GGM-15(V)) controls as listed in Table 6-3.

Table 6-3

Control	Position
VERTICAL VOLTS (MA)/CM	5
DISPLAY RELEASE RATE to	NORMAL
TRIGGER - SWEEP SELECT	FREE RUN
TIME MILLISEC	0.5 - 0.05
POWER	ON

(4) Connect the interface cable between 3A4A2-2A3J3-1A3J2.

(5) Adjust the following on the oscilloscope for best display.

- FOCUS
- ASTIG
- INTENSITY
- SCALE
- HORIZONTAL GAIN

(6) Adjust the Vertical position control and position the trace on the X axis.

(7) Using the AN/USM-140A oscilloscope calibrator, set the calibrator output to 10 volts p-p.

(8) Insert the AN/USM-40A oscilloscope calibrator output into the Bridging HIZ input of the Analyzer.

(9) Adjust the VARIABLE Vertical Volts (MA)/CM control for + 2 centimeters of deflection.

(10) Remove the external 10 volt input to the Analyzer.

(11) Adjust the Vertical position control to position the trace on the X axis.

(12) Set the Analyzer INPUT switch to Bridging VCAL.

(13) Adjust oscilloscope control 3A3A7R5 for + 2 cm ± .1 cm of deflection.

(14) Adjust oscilloscope control 3A3A7R11 for - 2 cm ± .1 cm of deflection.

(15) Set Analyzer INPUT switch to Bridging HIZ.

(16) Connect the output of the AN/USM-140A calibrator to the input of the Analyzer and perform the steps as indicated in Table 6-4.

Table 6-4

Input to Analyzer	Vertical Volts(MA)/CM Control Position	CRT Deflection
+ 2 volts dc	2 VOLTS (MA)/CM	+ 1 CM ± .1
+ 5 volts dc	5 VOLTS (MA)/CM	+ 1 CM + .1

Input to Analyzer	Vertical Volts (MA)/CM Control Position	CRT Deflection
+ 10 volts dc	10 VOLTS (MA)/CM	+ 1 CM ± .1
+ 20 volts dc	20 VOLTS (MA)/CM	+ 1 CM ± .1
+ 50 volts dc	50 VOLTS (MA)/CM	+ 1 CM ± .1
+ 100 volts dc	200 VOLTS (MA)/CM	+ 1/2 CM ± .1

(17) Remove the external calibrator from the Analyzer Input.

(18) Set the Oscilloscope Vertical Volts (MA)/CM switch to 5.

(19) Adjust the Vertical Position Control and set the trace on the X axis.

(20) Set the Analyzer INPUT switch to VCAL and readjust the VARIABLE VOLT for 2 cm above and below X axis. ± .1 cm.

(21) Set the Analyzer INPUT switch to ICAL.

(22) Adjust the Analyzer Polar Valance Control 2A2A6-R11 for equal positive and negative deflection.

(23) Set the Analyzer INPUT switch to 20N.

(24) Set up the LOOP BATTERY Supply and adjust it for 0 ma 0 volts output.

(25) Set the Oscilloscope VERTICAL VOLTS (MA)/CM switch to 20.

(26) Adjust the Oscilloscope VERT POS control to position the trace on the X axis.

(27) Connect the LOOP BATTERY Supply to the Analyzer SERIES input jack.

(28) Adjust the LOOP BATTERY Supply current for an output of 2 ma marking current.

(29) Adjust Analyzer control 2A2A6R64 for + 1 CM of deflection on the Oscilloscope CRT.

(30) Disconnect the LOOP Battery and current source from the Analyzer SERIES Input jack.

(31) Set the Oscilloscope VERTICAL VOLTS (MA)/CM switch to 5.

- (32) Adjust the Oscilloscope Vertical Position control to position the trace on the X axis.
- (33) Set the Analyzer INPUT to ICAL.
- (34) Adjust Analyzer control 2A2A6R1 for ± 2 CM ± 1 of deflection on the CRT.
- (35) Set the Analyzer INPUT Switch to 20N.
- (36) Connect the LOOP Supply to the Analyzer SERIES input jack.
- (37) Check the vertical calibration of the Oscilloscope as compared to the output of the LOOP Supply. Refer to table 6-5.

Table 6-5

Input to Analyzer	Vertical Volts (MA)/CM Control Position	CRT Deflection
+ 2 ma.	2 VOLTS(MA)/CM	+ 1 CM
+ 5 ma.	5 VOLTS(MA)/CM	+ 1 CM
+ 10 ma.	10 VOLTS (MA)/CM	+ 1 CM
+ 20 ma.	20 VOLTS (MA)/CM	+ 1 CM

- (38) Disconnect the LOOP Supply.
- (39) Set the Analyzer INPUT switch to 60N.
- (40) Set the Oscilloscope VERTICAL VOLTS (MA)/CM switch to 20. Adjust the Vertical Position Control and position the trace on the X axis.
- (41) Connect the LOOP Supply and adjust the current for 30 milliamperes marking current.
- (42) Adjust the Analyzer control 2A2A6R62 for + 1.5 centimeters of deflection on the CRT.
- (43) Disconnect LOOP Supply.
- (44) Set the oscilloscope VERTICAL VOLTS (MA)/CM switch to 50.
- (45) Adjust the VERTICAL, position control and position the trace on the X axis. Connect current source. Adjust variable current source for 50 ma.

- (46) Check 1 cm Oscilloscope deflection.
- (47) Disconnect LOOP Supply.
- c. *Time Base Test.*
 - (1) Set the Signal Generator (SG-860/GGM-15) controls as listed in Table 6-6.

Table 6-6

Control	Position
P-N	N (neutral)
DISTORTION SELECT	NO DIST.
PERCENT DISTORTION	00
MESSAGE SELECT	1:1
SELECTED CHARACTER BITS	ALL TO S (SPACE)
CODE LEVEL	5
CHARACTER LENGTH	7
CHARACTER RELEASE	FREE RUN
SINGLE	NOT OPERATED
OSC	INT.
ALARM	DISABLE
BAUD RATE	9600
POWER	ON

- (2) Set the Analyzer INPUT switch to HIZ.
- (3) Set the Oscilloscope TRIGGER & SWEEP SELECT to AUTO and the VERTICAL VOLTS/CM to 5.
- (4) Connect a patch cord from the Generator DATA $\pm 6/12$ volts output jack to the Analyzer BRIDGING input jack.
- (5) The Oscilloscope displays three complete cycles on the CRT.
- (6) Simultaneously rotate the BAUD RATE switches on the Generator and Analyzer from 9600 to 37.5 and back to 9600 baud and note no change in the number of cycles displayed on the CRT.
- (7) Set the Analyzer CODE LEVEL switch to 8.

(8) Rotate the Analyzer TRANSITION switch from 1 to 9 and note that each transition as selected by the Analyzer is intensified on the CRT.

(9) Set the Analyzer Code Level to 6.

(10) Rotate the Analyzer TRANSITION SW to ALL.

(11) Set the Oscilloscope TRIGGER & SWEEP SELECT switch to INT.

(12) The Oscilloscope displays five full bits (2.5 cycles) with a locked-in or synchronized sweep.

(13) Set the Generator and Analyzer BAUD RATE switches to 9600.

(14) Set the Oscilloscope VARIABLE TIME MILLISEC control fully counterclockwise.

(15) Set the TIME MILLISEC switch 5 - .5.

(16) Set the AN/USM-140A Oscilloscope Sweep Time M switch to 1 millisecond per CM with Variable Control in the calibrated position.

(17) Set the Sensitivity (VOLTS/CM) switch of the AN/USM-140A to .2 volts/CM (using a 10:1 probe).

(18) Connect the probe of the AN/USM-140A to 3A3A5TP3 of OS-860/GGM-15(V).

(19) Insure that the Grounds of the two Oscilloscopes are connected.

(20) Trigger the AN/USM-140A to + INT and adjust the TRIGGER Level Control for a stable trace.

(21) The AN/USM-140A will display a 5 cm ramp pulse.

(22) The ramp portion of the pulse must measure 5 centimeters; if not, adjust 3A3A6-R30 for 5 centimeters.

(23) Remove the input probe and ground of the AN/USM-140A.

(24) Check the horizontal calibration of the Oscilloscope as compared to the operating speeds of the Generator and Analyzer. Refer to table 6-7.

Table 6-7

TIME MILLISEC Switch Position	VARIABLE TIME MILLISEC Control Position	BAUD RATE Generator and Analyzer	Display/Pulse Width
500-50	Counterclockwise	37.5	20 to 23 bits (1)
600-50	Clockwise	37.5	2.5 bits
50-5	Counterclockwise	300	Each bit equals 3.75 ms. (2)
5-.5	Counterclockwise	2400	Each bit equals .4 ms. (3)
.5-.05	Counterclockwise	9600	Each bit equals .1 ms or 2 div. (4)

- (1) Count each positive and negative translation.
- (2) Each top division of graticule X axis equals 5 ms.
- (3) Each top division of graticule X axis equals .5 ms.
- (4) Each top division of graticule X axis equals .05 ms.

(25) Disconnect the patch cord from the Generator DATA ± 6/12V output jack.

d. Clock Display Test.

(1) Connect the clock ± 6/12V output jack of the Generator to the BRIDGING input of the Analyzer.

(2) Set the Generator and Analyzer BAUD RATE switches to 9600.

(3) Set the Oscilloscope TIME MILLISEC switch to .5 - .05.

(4) Set the Oscilloscope VARIABLE TIME MILLISEC switch fully counterclockwise.

(5) The Oscilloscope displays each mark to space transition with a pulse width of .05 milliseconds.

e. Display Release Rate Test.

(1) Connect the DATA \pm 6/12V output jack of the Generator to the Analyzer Bridging input jack.

(2) Set the Generator and Analyzer Baud Rate switches to 9600.

(3) Set the Variable Time Millisec switch fully counterclockwise.

(4) Set the Display Release Rate switch to Variable.

(5) Adjust the Variable Display Release Rate Control and observe that speed of the release rate is controlled by this adjustment.

(6) Set the DISPLAY RELEASE RATE switch to MAN.

(7) Operate the SINGLE switch and note a horizontal sweep is released with each depression and release of the SINGLE switch.

f. Z Marker Test.

(1) Connect the Generator DATA \pm 6/12V outputs jack to the Analyzer BRIDGING INPUTS jack.

(2) Adjust the following on the Oscilloscope for best display.

FOCUS
ASTIG
VERT
POSITION
INTENSITY
SCALE

(3) Set the Oscilloscope DISPLAY RELEASE RATE switch to NORMAL.

(4) Set the TRIGGER & SWEEP SELECT to AUTO.

(5) Set the Z MARKERS switch to ON.

(6) The Oscilloscope displays Z axis intensification for all transitions.

(7) Set the Sensitivity (VOLTS/CM) switch of AN/USM-140A to .5, using 10:1 probe.

(8) Connect probe of AN/USM-140A to 3A3ATP4. Adjust 3A3A3R40 so that signal amplitude is greater than 15 volts.

(9) If the intensity of Z markers is unequal on the lower and upper portion of the signal, adjust 3A3A3-R7.

(10) Set the PWR switch to OFF and disconnect all test equipment.

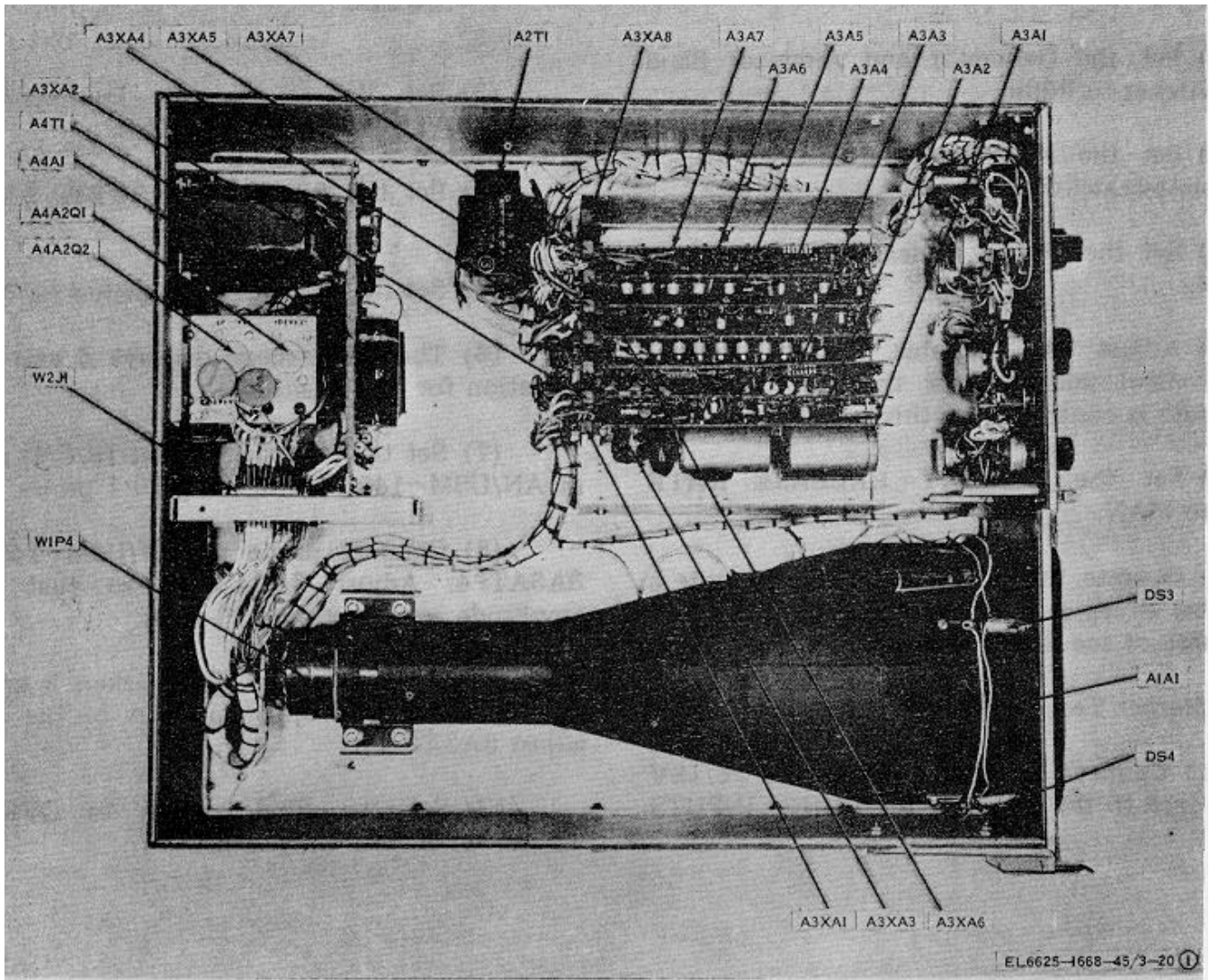


Figure 6-1 (1). Component location (sheet 1 of 2)

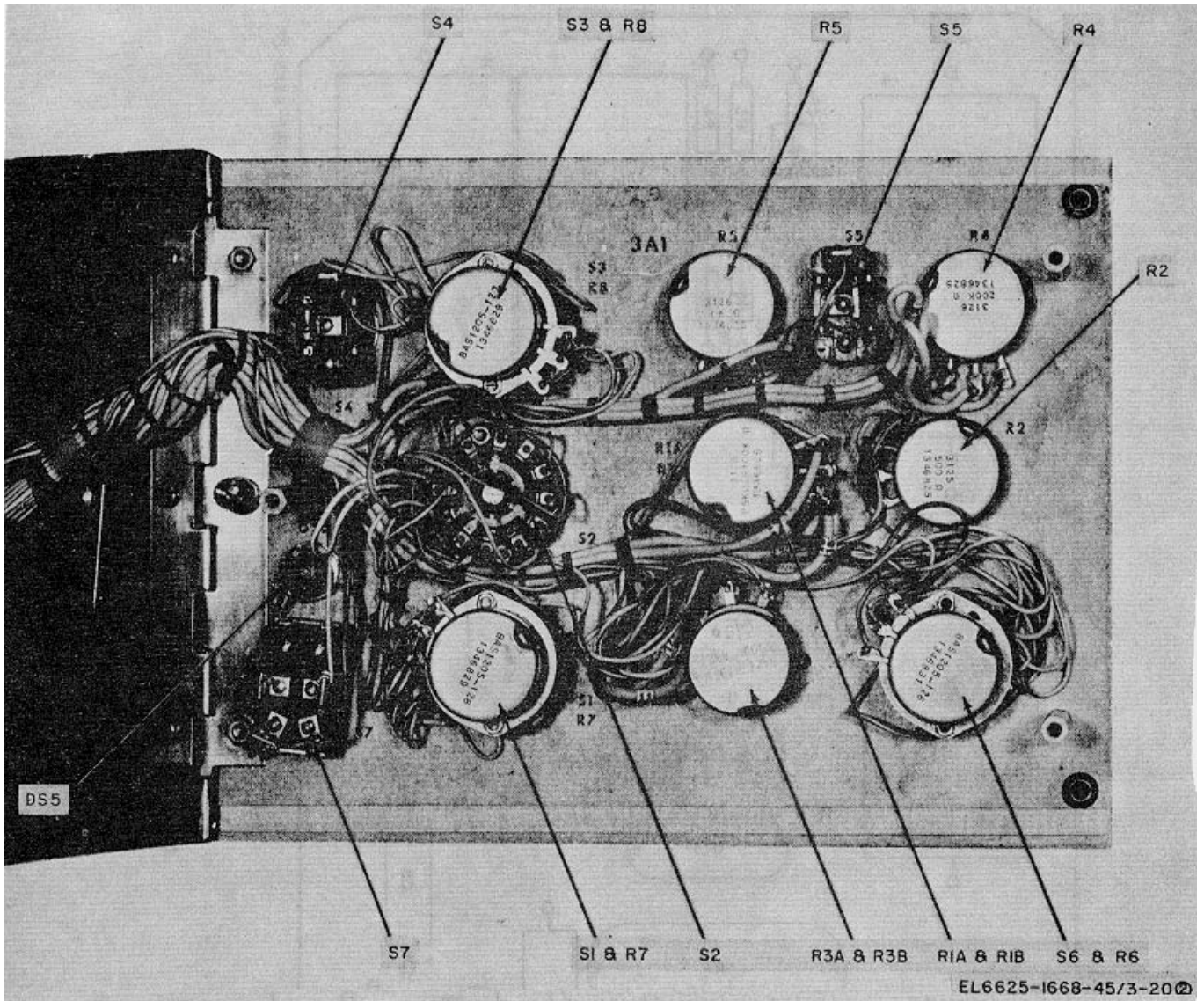
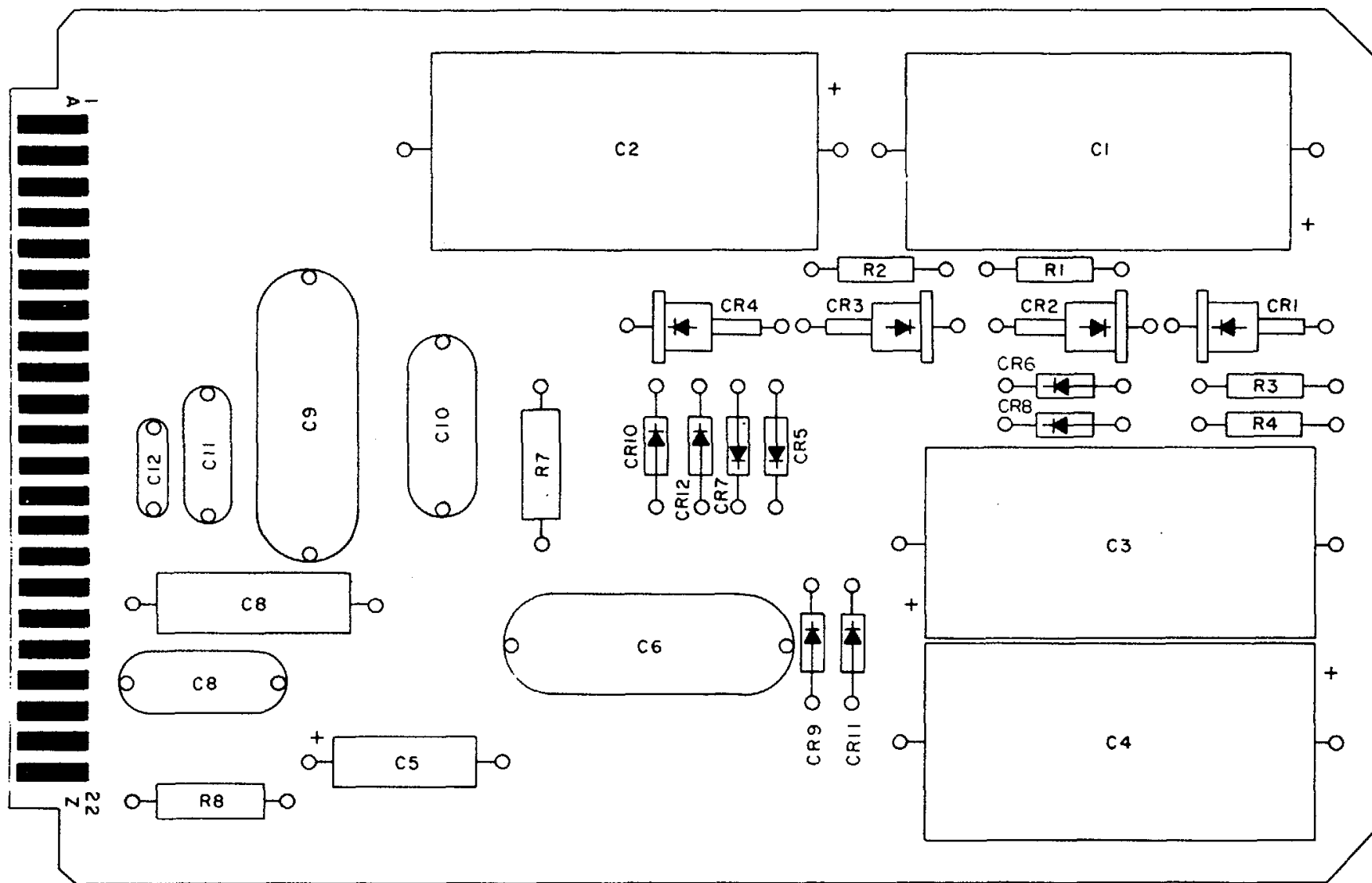
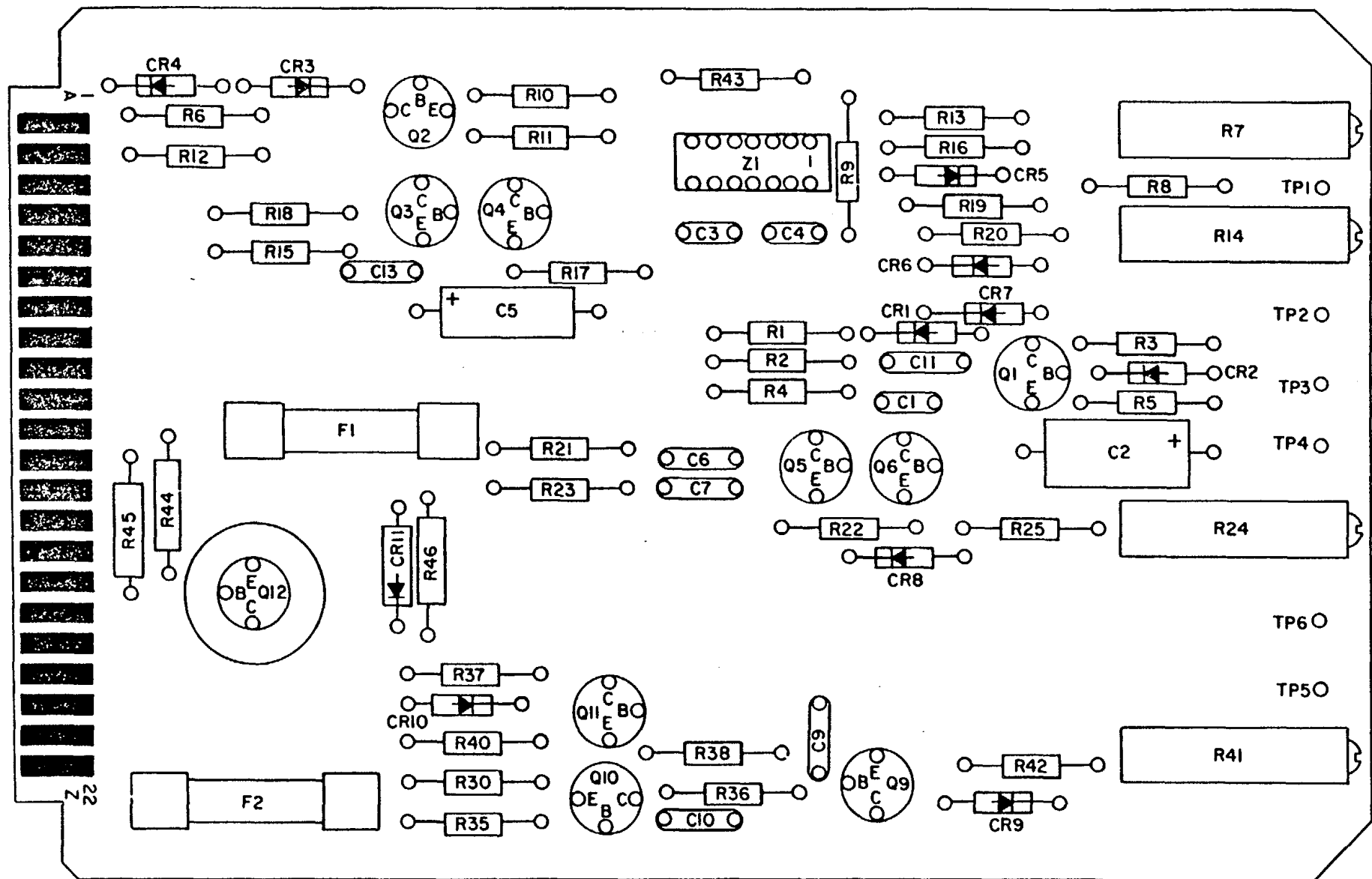


Figure 6-1 (2). Component location (sheet 2 of 2)



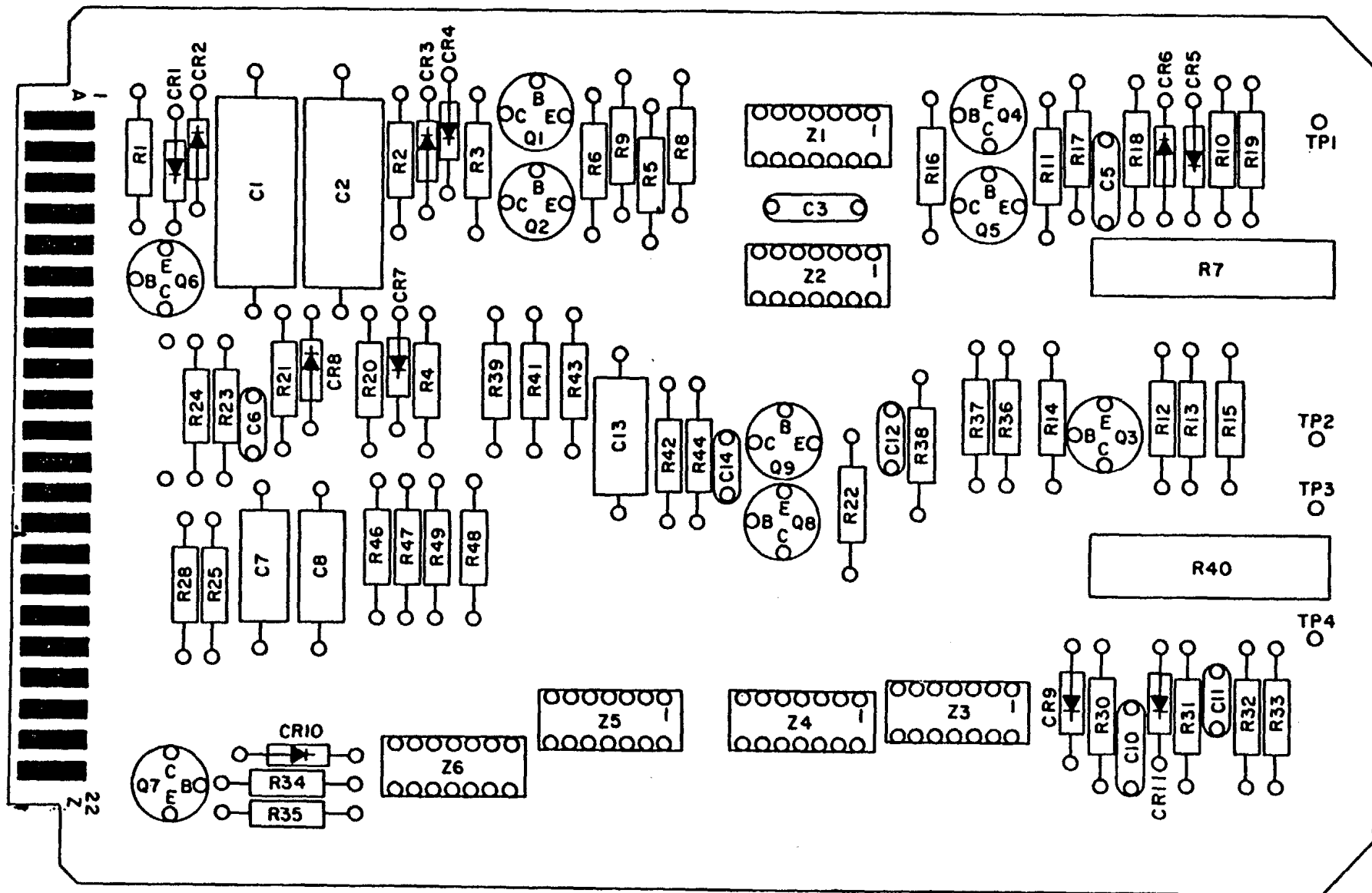
EL6625-1668-45/3-27

Figure 6-2. Assembly 3A3A1, parts locations.



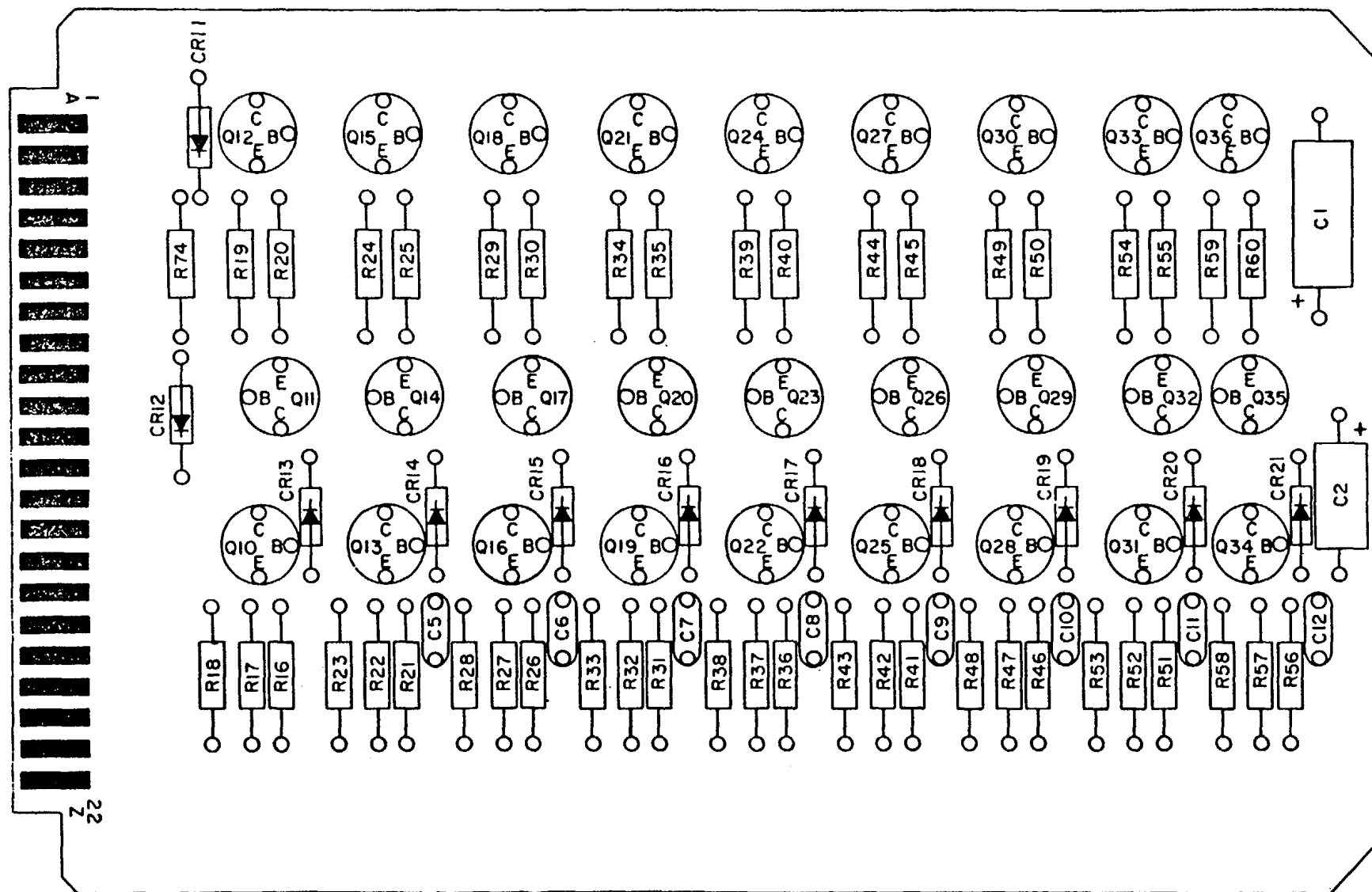
EL6625-1668-45/3-28

Figure 6-3. Assembly 3A3A2, parts locations.



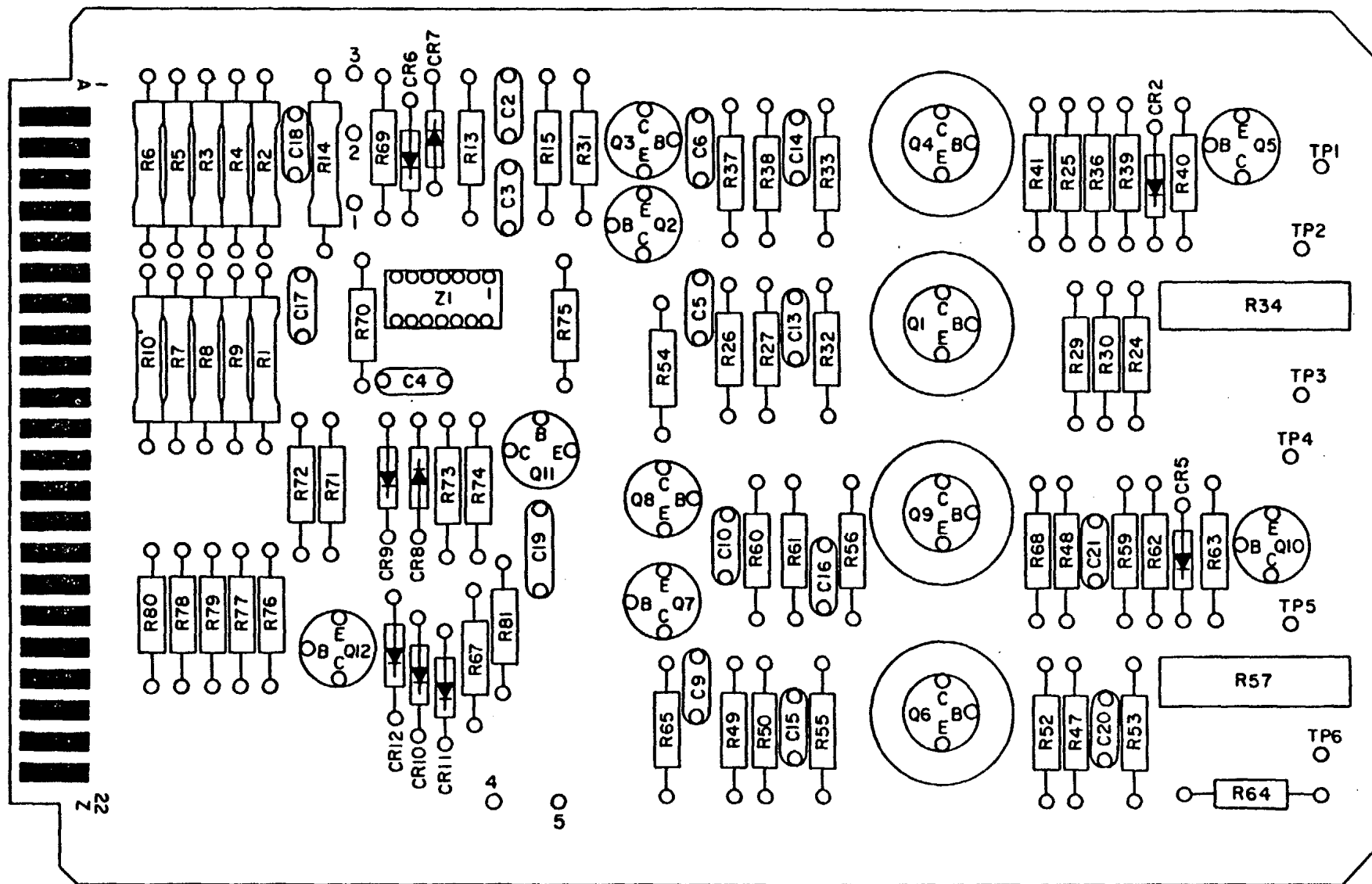
EL6625-1668-45/3-24

Figure 6-4. Assembly 3A3A3. parts locations.



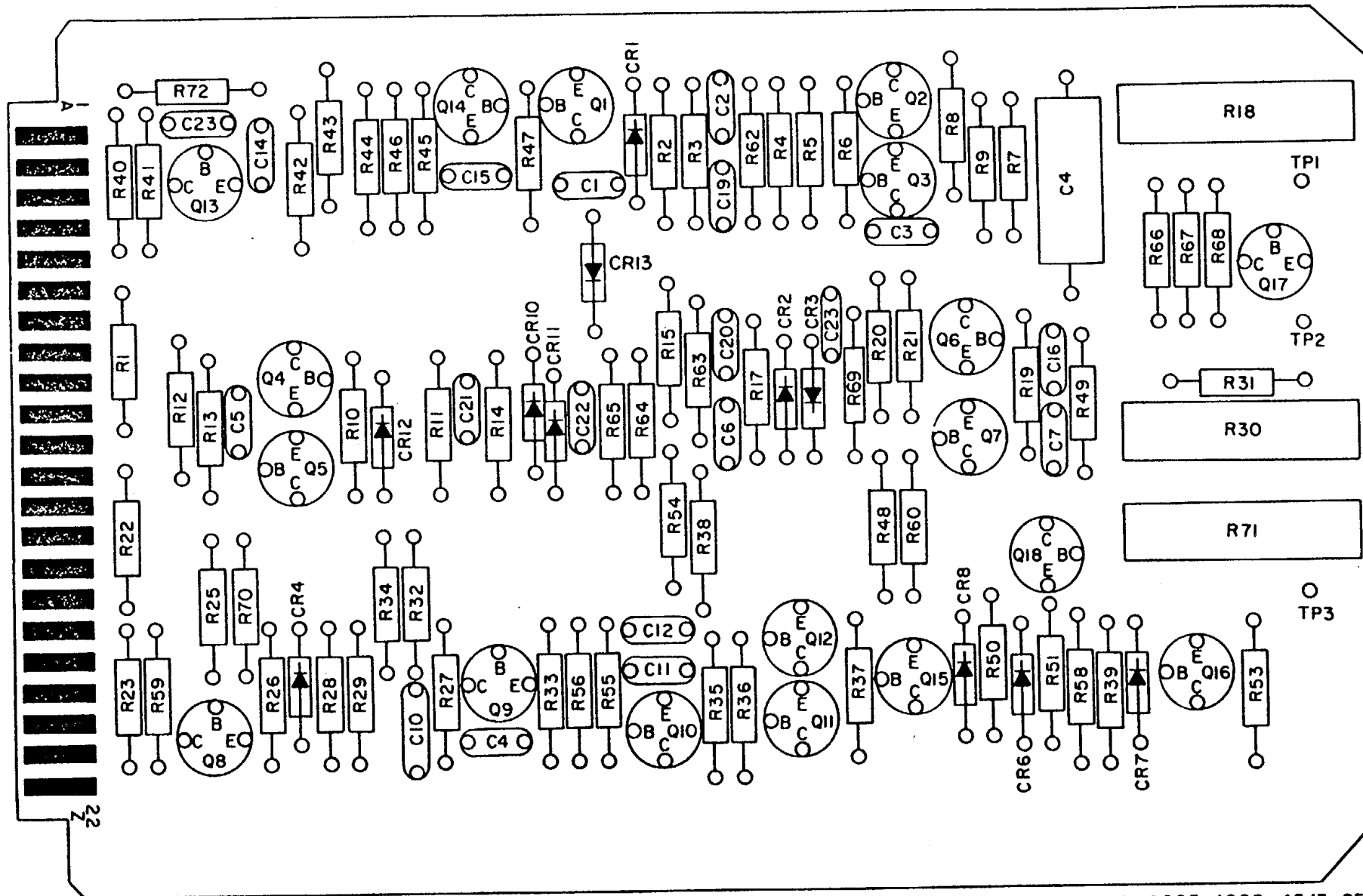
EL6625-1668-45/3-21

Figure 6-5. Assembly 3A3A4, parts locations.



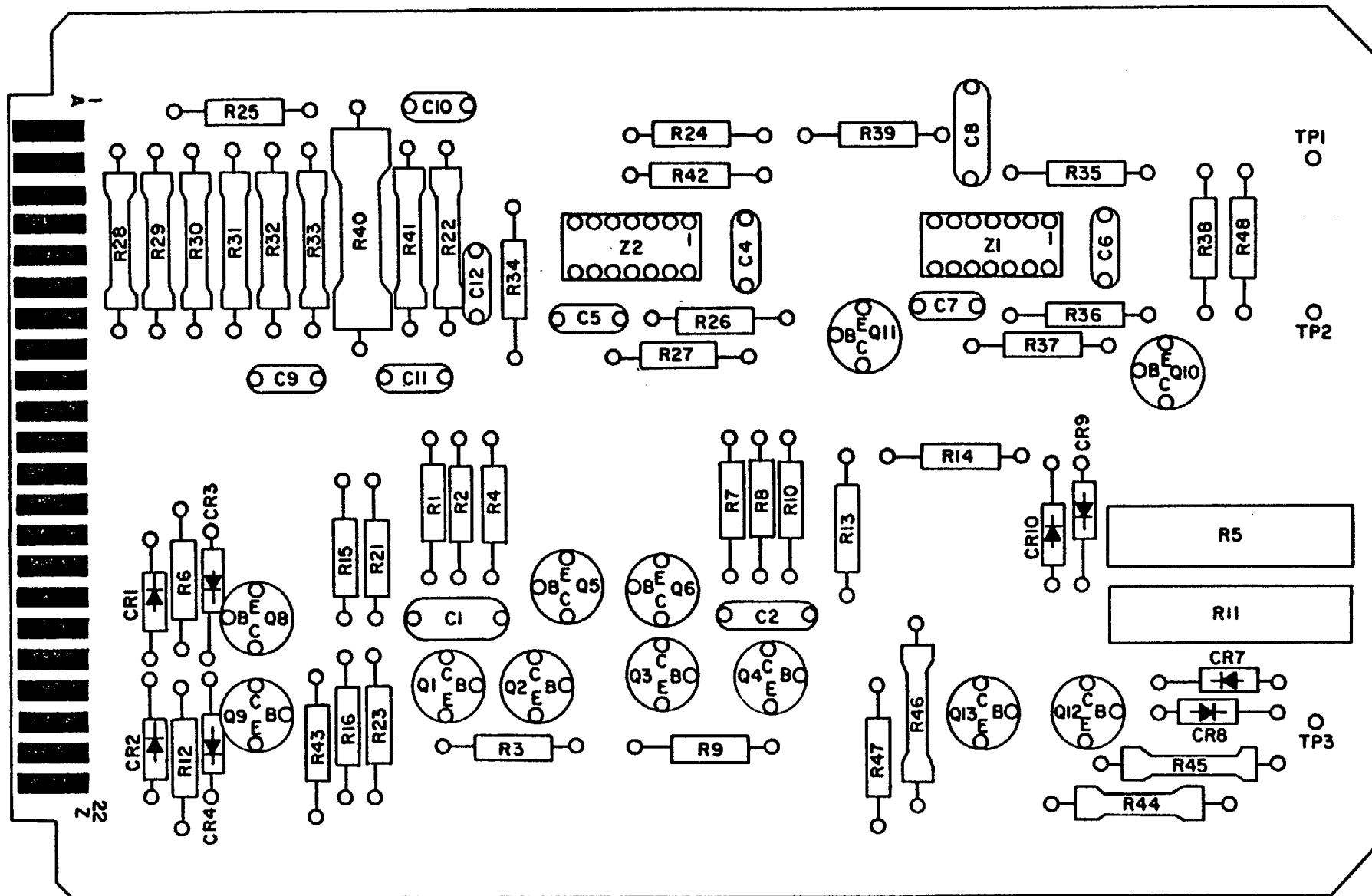
EL 6625-1668-45/3-26

Figure 6-6. Assembly 3A3A5. parts locations.



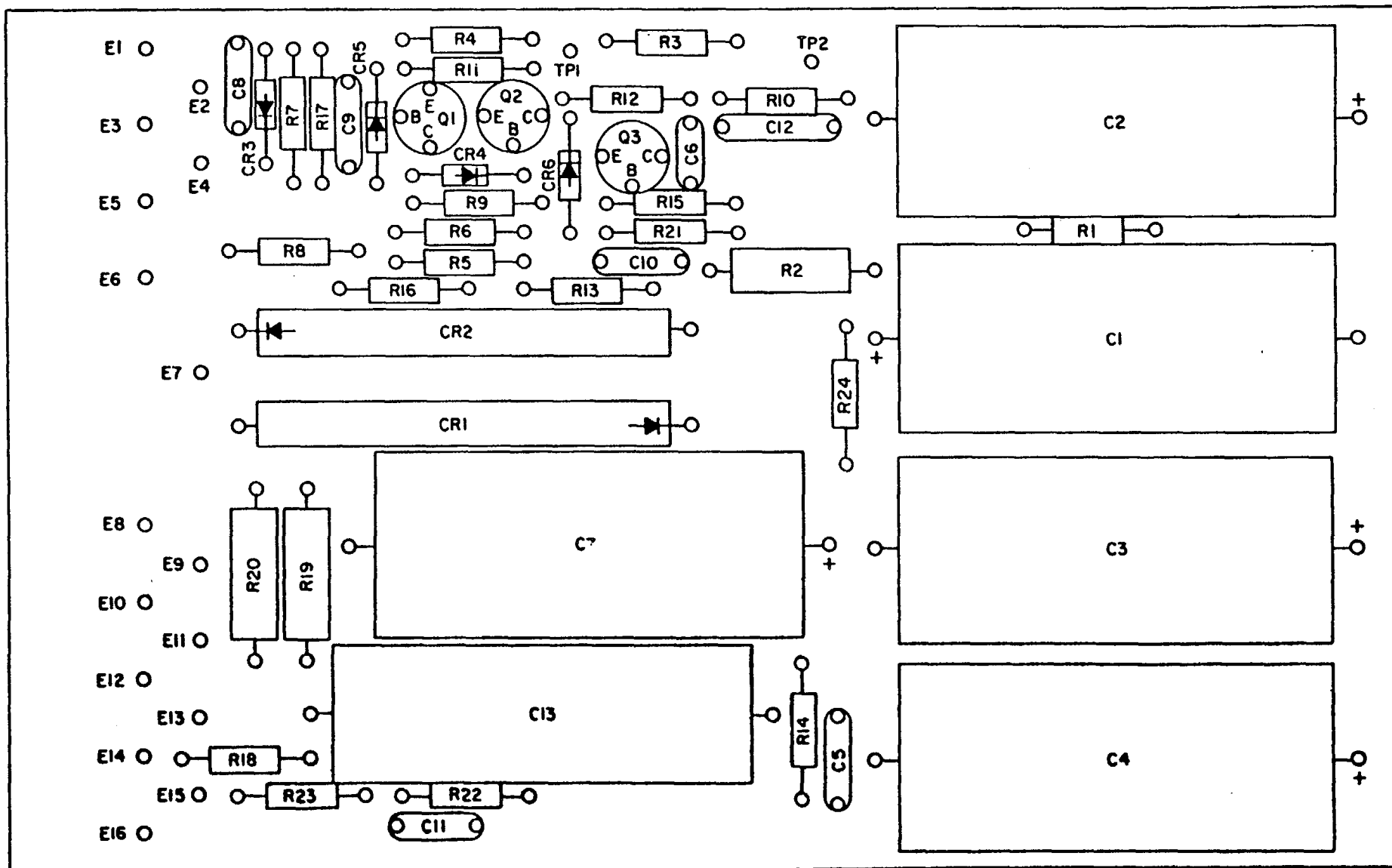
EL6625-1668-45/3-25

Figure 6-7. Assembly 3A3A6, parts locations.



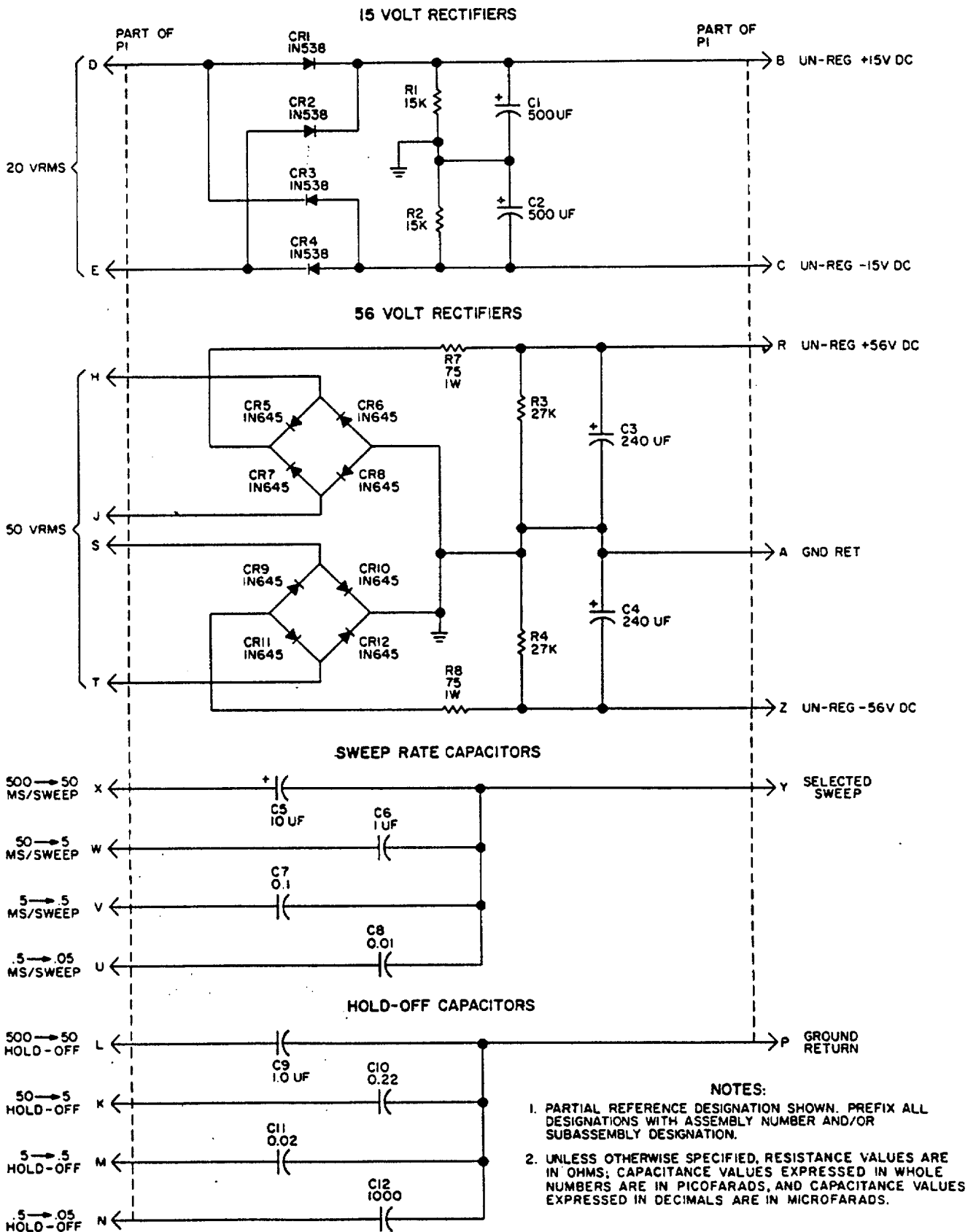
EL6625-1668-45/3-23

Figure 6-8. Assembly 3A3A7, parts locations.



EL6625-1668-45/3-22

Figure 6-9. Assembly 3A4A1, parts locations.



EL6625-1668-45/3-8

Figure 6-10. Low-voltage power supply 3A3A1, schematic diagram.

Figure 6-11. Not used.

Figure 6-12. Military standard color code markings.

(Located in back of manual.)

Figure 6-13. Low-voltage regulator 3A3A2, schematic diagram.

(Located in back of manual.)

Figure 6-14. Z markers and D/A converter 3A3A3, schematic diagram.

(Located in back of manual.)

Figure 6-15. D/A ladder driver 3A3A4, schematic diagram.

(Located in back of manual.)

Figure 6-16. Horizontal and vertical amplifiers 3A3A5, schematic diagram.

(Located in back of manual.)

Figure 6-17. Triggering and sweep generator circuits 3A3A6, schematic diagram.

(Located in back of manual.)

Figure 6-18. Calibration and input circuits 3A3A7, schematic diagram.

(Located in back of manual.)

Figure 6-19. High-voltage power supply and crt circuits 3A4A1, schematic diagram.

(Located in back of manual.)

Figure 6-20. Overall schematic diagram..

(Located in back of manual)

Figure 6-21 (1). Overall wiring diagram (sheet 1 of 5).

(Located in back of manual.)

Figure 6-21 (2). Overall wiring diagram (sheet 2 of 5).

(Located in back of manual.)

Figure 6-21 (3). Overall wiring diagram (sheet 3 of 5).

(Located in back of manual.)

Figure 6-21 (4). Overall wiring diagram (sheet 4 of 5).

(Located in back of manual.)

Figure 6-21 (5). Overall wiring diagram (sheet 5 of 5).

(Located in back of manual.)

APPENDIX A

REFERENCES

Following is a list of references available to the direct support and depot maintenance repairman of Oscilloscope OS-206/GGM-15(V).

- DA Pam 310-4Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8 and 9), Supply Bulletins, and Lubrication Orders.
- DA Pam 310-7U. S. Army Equipment Index of Modification Work Orders.
- MIL-STD-188BMilitary-Communication System Technical Standards.
- SB 38-100.....Preservation, Packaging and Packing Materials, Supplies, and Equipment Used by the Army.
- TA 11-17Signal Field Maintenance Shops.
- TA 11-100 (11-17).....Allowance of Signal Corps Expendable Supplies for Signal Field Maintenance Shops, Continental United States.
- TB SIG 222Solder and Soldering.
- TB SIG 355-1Depot Inspection Standard for Repair Signal Equipment.
- TB SIG 355-2Depot Inspection Standard for Refinishing Repaired Signal Equipment.
- TB SIG 355-3Depot Inspection Standard for Moisture and Fungus Resistant Treatment.
- TB 746-10Field Instructions for Painting and Preserving Electronics Command Equipment.
- TM 9-6625-2362-12.....Operator's Manual: Oscilloscope AN/USM-281.
- TM 11-6130-242-15.....Organizational DS, GS, and Depot Maintenance Manual including repair Parts and Special Tool Lists: Power Supply PP-3941/G.
- TM 11-6625-368-10.....Operator's Manual: Pulse Generator Sets AN/UPM-15 and AN/UPM-15A.
- TM 11-6625-475-10.....Operator's Manual: Multimeters AN/PSM-6, AN/PSM-6A and AN/PSM-6B.

- TM 11-6625-535-15-1.....Organizational, DS, GS, and Depot Maintenance Manual: Oscilloscopes AN/USM-140B, AN/USM-140C, AN/USM-141A, and AN/USM-141B.
- TM 11-6625-700-10.....Operator's Manual: Digital Readout, Electronic Counter AN/USM-207.
- TM 11-6625-1668-12.....Operator and Organizational Maintenance Manual Including Repair Parts and Special Tools List: Test Sets, Telegraph AN/GGM-15(V)1 and AN/GGM-15(V)2.
- TM 11-6625-1668-45-1.....GS and Depot Maintenance Manual Including Repair Parts and Special Tool List: Test Sets, Telegraph AN/GGM-15(V)1 and AN/GGM-15(V)2: Generator, Signal SG-860/GGM-15(V).
- TM 11-6625-1668-45-2.....GS and Depot Maintenance Manual Including Repair Parts and Special Tool Lists: Test Sets, Telegraph AN/GGM-15(V)1 and AN/GGM-15(V)2: Analyzer, Signal Distortion TS-2862/GGM-15(V).
- TM 38-750The Army Maintenance Management Systems (TAMMS).

APPENDIX B

GS MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS

LIST (INCLUDING DEPOT REPAIR PARTS AND SPECIAL TOOLS LIST)

Section I. INTRODUCTION

B-1. Scope

This manual contains a list of repair parts required for the performance of general support and depot maintenance for Oscilloscope OS-206/GGM-15(V).

NOTE

No special tools, test, and support equipment are required.

B-2. General

This repair parts list is divided into the following sections.

a. Repair Parts for Direct Support, General Support, and Depot Maintenance - Section II. A list of repair parts authorized for maintenance performance at general support and depot levels.

b. Federal Stock Number Cross-Reference Index - Section III. An index of Federal stock numbers cross-referenced to figure number and reference designation.

B-3. Explanation of Columns

The following is an explanation of the columns in section II:

a. Source, Maintenance, and Recoverability Codes, Column 1.

(1) Source code indicates the selection status and source for the listed item. Source codes used are:

<i>Code</i>	<i>Explanation</i>
P -	Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
M -	Repair parts which are not procured or stocked but are to be manufactured at indicated maintenance categories.
A -	Assemblies which are not procured or stocked as such but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately, and can be assembled by units at indicated maintenance categories.
X -	Parts and assemblies which are not procured or stocked and the mortality of which normally is below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1 -	Repair parts which are not procured or stocked. The requirement for such items will be filled by use of next higher assembly or component.

<i>Code</i>	<i>Explanation</i>
X2 -	Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain such parts through cannibalization. Where such repair parts are not obtainable through cannibalization, requirements will be requisitioned, with accompanying justification, through normal supply channels.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

<i>Code</i>	<i>Explanation</i>
H.....	General Support Maintenance
D.....	Depot Maintenance

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

<i>Code</i>	<i>Explanation</i>
R -	Repair parts and assemblies which are economically repairable at DSU and MSU activities and normally are furnished by supply on an exchange basis.
T -	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U -	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. The indenture code, the index number, the Federal item name, a five-digit manufacturer's code, and a part number are included in this column. For subsequent appearances of the same

item, the manufacturer's code and part number are omitted. The words "SAME AS" followed by the index number assigned to the item when it first appeared in the list will follow the item name; e.g. "RESISTOR, FIXED, COMPOSITION: SAME AS A293." The indenture codes indicate the end item, the assemblies, and the component parts. Identical codes are parts of the preceding higher code. An asterisk (*) indicates attaching hardware. The model column is not used.

d. Unit of Issue, Column 4. The unit used as a basis of issue; e.g. ea., pr, ft, yd, etc., is noted in this column.

e. Quantity Incorporated in Unit Pack, Column 5. The actual quantity contained in the unit pack is indicated in this column.

f. Quantity Incorporated in Unit, Column 6. The quantity of repair parts in an assembly is indicated in this column. Subsequent appearances of the same item in the same assembly are indicated by the letters "REF."

g. 30-Day GS Maintenance Allowances, Column 7.

(1) The allowance columns are divided into subcolumns. The total quantity of items authorized for the number of equipments supported is indicated in each subcolumn opposite the first appearance of each item. Subsequent appearances of the same item will have no entry in the allowance columns but will have a reference, in the description column, to the first appearance of the item. Items authorized for use as required, but not for initial stockage, are identified with an asterisk (*) in the allowance column.

(2) The quantitative allowances for GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

h. One-Year Allowances Per 100 Equipments/Contingency Planning Purposes, Column 8. This column indicates, opposite the first appearance of each item, the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

i. *Depot Maintenance Allowance Per 100 Equipments, Column 9.* This column indicates, opposite the first appearance of each item, the total quantity authorized depot maintenance for 100 equipments. Subsequent appearances of the same item will have no entry in this column, but will have a reference in the description column to the first appearance of the item.

j. *Illustration, Column 10.*

(1) *Figure number, column 10a.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number or reference designation, column 10b.* Indicates the reference designation used to identify the item in the illustration.

B-4. Special Information

Repair parts mortality is computed from failure rates derived from experience factors with the individual parts in a variety of equipments. Variations in the specific application and periods of use of electronics equipment, the fragility of electronic piece parts, plus intangible material and quality factors intrinsic to the manufacture of electronic parts, do not permit mortality to be based on hours of end item use. However, long periods of continuous use under adverse conditions are likely to increase repair parts mortality.

B-5. Location of Repair Parts

a. Use the Index of Federal Stock Numbers (sect. III) to locate the Federal stock number. The Federal stock numbers are listed in numerical ascending sequence and are cross-referenced to the figure number and reference designation.

b. Use the repair part list (sect. II), to locate the figure number and reference designation as noted in the Index of Federal Stock numbers.

B-6. Federal Supply Codes

This paragraph lists the Federal supply code and the associated manufacturer's name.

<i>Code</i>	<i>Manufacturer</i>
00530.....	DuMont Television and Radio Corp.
00656.....	Aerovox Corp.
01295.....	Texas Instruments Inc. Semiconductor - Components Division
02660.....	Amphenol Corp.
04713.....	Motorola Semiconductor Products Inc.
06540.....	Amatom Electronic Hardware Co. Inc.
08804.....	General Electric Co. Lamp Metals and Components Dept. Cleveland Wire Plant
09022.....	Cornell-Dubilier Electric Corp.
09922.....	Fromberg Inc.
13103.....	Thermalloy Co.
13691.....	Sensor Systems Inc.
14031.....	Digitech Inc.
14674.....	Corning Glass Works
17803.....	Fairchild Camera and Instrument Corp. Semiconductor Division Transducer Plant
22599.....	Elastic Stop Nut Corp. of America Fastener Division
25677.....	Fairchild Camera and Instrument Corp. Instrumentation Division
31356.....	J-B-T Instruments Inc.
33173.....	General Electric Co., Tube Dept.
46384.....	Penn Engineering and Mfg. Corp.
56289.....	Sprague Electric Co.
59730.....	The Thomas and Betts Co.
70318.....	Allmetal Screw Products Co.
70903.....	Belden Mfg. Co.
71279.....	Cambridge Thermionic Corp.
71468.....	ITT Cannon Electric Inc.
71590.....	Globe-Union Inc., Centralab Division
71785.....	Cinch Mfg. Co. and Howard B. Jones Div.
74545.....	Harvey Hubbell Inc.
74861.....	Industrial Condenser Corp.
75376.....	Kurz-Kasch Inc.
75915.....	Littelfuse Inc.
79089.....	Radio Corp. of America Solid State and Receiving Tube Division
80058.....	Joint Electronic Type Designation System
80294.....	Bourns Inc.
81349.....	Military Specifications
81831.....	The Filtron Co., Inc.
83330.....	Herman H. Smith Inc.
83701.....	Electronic Devices Inc.
90201.....	Mallory Capacitor Co.
91506.....	Augat Inc.
93332.....	Sylvania Electric Products Inc. Semiconductor Products Division
96906.....	Military Standards
97954.....	U. S. Components Inc.
99813.....	Jan Hardware Mfg. Co.

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)			
SOURCE CD (A)	MAINT. C.D. (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)							30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (8) CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER			(B) ITEM OR SYMBOL NUMBER			
				MODEL							DS									GS		
				1	2	3	4				5	6	IND CD			DESCRIPTION			(A)	(B)	(C)	(A)
			6625-442-6135						B	A098	OSCILLOSCOPE OS-206/GGM-15(V) (THIS ITEM IS NONEXPENDABLE)							6-1	3			
			6625-442-6135																			
X2	H		6115-065-8530						B	A099	CLAMP, CABLE: 59730; TY535M	EA	1	4				6-1	3MP2			
X2	H		6115-065-8530						B	A100	CLAMP, CABLE: SAME AS A099	EA	1	REF				6-1	3MP3			
X2	H		6115-065-8530						B	A101	CLAMP, CABLE: SAME AS A099	EA	1	REF				6-1	3MP4			
X2	H		6115-065-8530						B	A102	CLAMP, CABLE: SAME AS A099	EA	1	REF				6-1	3MP5			
X2	H		5340-964-2555						B	A103	CLAMP, CABLE: 09922; HP6N	EA	1	2				6-1	3MP6			
X2	H								*	A104	SCREW, MACHINE: 70318; 6-32X1-4FLHD CRES	EA	1	2				6-1	3H1			
X2	H								*	A105	WASHER, FLAT: 70318; 6CRESFL	EA	1	1				6-1	3H1			
X2	H								*	A106	WASHER, LOCK: 70318; 6CRESLK	EA	1	1				6-1	3H1			
X2	H								*	A107	NUT, PLAIN, HEXAGON: 70318; 6-32CRES	EA	1	1				6-1	3H1			
X2	H		5340-965-2555						B	A108	CLAMP, CABLE: SAME AS A103	EA	1	1				6-1	3MP7			
X2	H								*	A109	SCREW, MACHINE: SAME AS A104	EA	1	1				6-1	3H1			

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(4)		(5)		(6)		(7)						(8)		(9)		(10)	
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER						
				DS											GS															
				(A)	(B)	(C)	(A)	(B)	(C)																					
X2	H		5310-050-0458						*	A110	WASHER, FLAT: SAME AS A105	EA	1	1												6-1	3H1			
X2	H								*	A111	WASHER, LOCK: SAME AS A106	EA	1	1												6-1	3H1			
X2	H								*	A112	NUT, PLAIN, HEXAGON SAME AS A107	EA	1	1												6-1	3H1			
M	D								B	A113	PLATE IDENTIFICATION: 14031; SMC633086	EA	1	1												6-1	3MP5			
X2	H								*	A114	SCREW; MACHINE: 70318; 4-40X3-16PANHDCRES	EA	1	2												6-1	3H2			
X2	H								*	A115	WASHER, LOCK: 70318; 4CRESLK	EA	1	2												6-1	3H2			
X1	H								C	A116	PANEL ASSEMBLY, FRONT, RIGHT: 14031; SMD632968	EA	1	1														3A1		
X2	H								*	A117	SCREW, MACHINE: 70318; 6-32X380VAMCR	EA	1	3												6-1	3H3			
X2	H								*	A118	WASHER, LOCK: SAME AS A106	EA	1	3												6-1	3H3			
X2	H								*	A119	NUT, PLAIN, HEXAGON: SAME AS A107	EA	1	2												6-1	3H2			
X2	H								*	A120	NUT, SLEEVE: 83330; 2321	EA	1	1												6-1	3H1			
X2	H								*	A121	SCREW, MACHINE: 70318; 6-32X5-16TRUSSHD	EA	1	1												6-1	3H1			

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (A) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (B)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)			
M	H							D	A122	COVER, PROTECTIVE: 14031; SMC632981	EA	1	1										6-1	3A1MP19
X2	H							*	A123	SCREW, MACHINE: 70318; 6-32X3-8PANHDCRES	EA	1	3										6-1	3A1H3
X2	H							*	A124	WASHER, LOCK: SAME AS A106	EA	1	3										6-1	3A1H3
X2	H							*	A125	WASHER, FLAT: SAME AS A105	EA	1	3										6-1	3A1H3
P	H		5355-753-5164					D	A126	KNOB: 75376; S645-5LBB538	EA	1	5			*	2	2	19	10			6-1	3A1MP4
P	H		5355-753-5164					D	A127	KNOB: SAME AS A126	EA	1	REF										6-1	3A1MP5
P	H		5355-753-5164					D	A128	KNOB: SAME AS A126	EA	1	REF										6-1	3A1MP6
P	H		5355-753-5164					D	A129	KNOB: SAME AS A126	EA	1	REF										6-1	3A1MP7
P	H		5355-753-S164					D	A130	KNOB: SAME AS A126	EA	1	REF										6-1	3A1MP8
P	H		5355-739-7668					D	A131	KNOB: 75376; S656-3LBB549	EA	1	5			*	2	2	19	10			6-1	3A1MP9
P	H		5355-739-7668					D	A132	KNOB: SAME AS A131	EA	1	REF										6-1	3A1MP10
P	H		5355-739-7668					D	A133	KNOB: SAME AS A131	EA	1	REF										6-1	3A1MP11

SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER					
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)									
				1	2	3	4	5	6	IND CD															
P	H		5355-739-7668							D	A134	KNOB: SAME AS A131	EA	1	REF								6-1	3A1MP12	
P	H		5335-739-7668							D	A135	KNOB: SAME AS A131	EA	1	REF								6-1	3A1MP13	
P	H		5355-765-4582							D	A136	KNOB: 75376; 8747-3LBB	EA	1	2		*	*	2	10	4	6-1	3A1MP14		
P	H		5355-765-4582							D	A137	KNOB: SAME AS A136	EA	1	REF								6-1	3A1MP15	
P	H		5355-929-9315							D	A138	KNOB: 75376; 8748-3LBB	EA	1	2		*	*	2	10	4	6-1	3A1MP16		
P	H		5355-929-9315							D	A139	KNOB: SAME AS A138	EA	1	REF								6-1	3A1MP17	
P	O		6240-892-4420							D	A140	LAMP, GLOW: 96906; MS25252NE2D	EA	1	1				2	2	2	19	10	6-1	3A1DS5
P	H									D	A141	LAMPHOLDER: 81349; LH74LC13CN	EA	1	1		*		2	2	12	5	6-1	3A1XDS5	
X2	H									D	A142	NUT SLEEVE: 06540; 82318S0632-7	EA	1	3								6-1	3A1MP20	
X2	H									*	A143	SCREW MACHINE: SAME AS A117	EA	1	3								6-1	3A1H1	
X2	H									D	A144	NUT SLEEVE: SAME AS A142	EA	1	REF								6-1	3A1MP21	
X2	H									*	A145	SCREW MACHINE: SAME AS A117	EA	1	REF								6-1	3A1H1	

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (A)	PL. CNTG (B)	DEPOT MAINT. ALW. PER 100 EQUIP. (C)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL										DS								GS		
				1	2	3	4	5	6					IND CD	(A) 1-20	(B) 21-50						(C) 51-100	(A) 1-20	(B) 21-50
X2	H							D	A146	NUT, SLEEVE: SAME AS A142	EA	1	REF						6-1	3A1MP22				
X2	H							*	A147	SCREW, MACHINE: SAME AS A117	EA	1	REF						6-1	3A1H1				
X1	H							D	A148	PANEL FRONT: 14031; SMD632970	EA	1	1						6-1	3A1MP1				
P	H		5905-197-4051					D	A149	RESISTOR, VARIABLE: 14031; B3125	EA	1	1	*	*	*	5	2	6-1	3A1R2				
P	H		5905-196-6804					D	A150	RESISTOR, VARIABLE: 14031; 53126	EA	2	2	*	*	2	10	4	6-1	3A1R4				
P	H		5905-196-6804					D	A151	RESISTOR, VARIABLE: SAME AS A150	EA	1	REF						6-1	3A1R5				
P	H		5905-196-6805					D	A152	RESISTOR, VARIABLE, DUAL: 14031; B3128	EA	1	1	*	*	*	5	2	6-1	3A1RA, R1B				
P	H		5905-491-1812					D	A153	RESISTOR, VARIABLE, DUAL: 14031; 53127	EA	1	1	*	*	*	5	2	6-1	3A1R3A, R3B				
X2	H							D	A154	RETAINER, SCREW: 06540; 6252DSS0832	EA	1	2						6-1	3AMP2				
X2	H		5305-987-0119					*	A155	SCREW, EXTERNALLY RELIEVED BODY: 06540; 6105SS0832	EA	1	2						6-1	3A1H1				
X2	H							D	A156	RETAINER, SCREW: SAME AS A154	EA	1	REF						6-1	3A1MP3				
X2	H		5305-987-0119					*	A157	SCREW, EXTERNALLY RELIEVED BODY: SAME AS A155	EA	1	REF						6-1	3A1H1				

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (A) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (B)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	H		5930-681-6699						D	A158	SWITCH, ROTARY: 71590; PA1007	EA	1	1				*	*	*	5	2	6-1	3A1S2
P	H		5930-655-1507						D	A159	SWITCH, TOGGLE: 31356; BT22K	EA	1	1				*	*	*	5	2	6-1	3A1S7
P	H		5930-526-0587						D	A160	SWITCH, TOGGLE 31356; ST16C	EA	1	1				*	*	*	5	2	6-1	3A1S4
P	H		5930-133-8614						D	A161	SWITCH, TOGGLE: 31356; ST12A	EA	1	1				*	*	*	5	2	6-1	3A1S5
P	H		5930-430-7053						D	A162	SWITCH ASSEMBLY: 14031; B3130	EA	1	1				*	*	*	5	2	6-1	3A181
P	H		5930-431-3269						D	A163	SWITCH ASSEMBLY: 14031; B3129	EA	1	1				*	*	*	5	2	6-1	3A1S2
P	H		5930-430-7055						D	A164	SWITCH ASSEMBLY: 14031; B3131	EA	1	1				*	*	*	5	2	6-1	3A1S3
X2	H								C	A165	CHASSIS ASSEMBLY, SCOPE: 14031; SMD632993	EA	1	1									6-1	3A2
X2	H								D	A166	BEZEL: 99813; CP13595-2	EA	1	1									6-1	3A2MP1
X2	H								*	A167	SCREW, MACHINE: 70318; 6-32X1-2FLHD CRES	EA	1	4									6-1	3A2H4
X2	H								D	A168	BRACKET, MOUNTING: 14031; 6M33017-1	EA	1	1									6-1	3A2MP2
X2	H								*	A169	SCREW. MACHINE: 70318; SMC632825-3	EA	1	4									6-1	3A2H4

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS			
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)						
				1	2	3	4				5	6	IND CD	1-20	21-50	51-100					1-20	21-50
X2	H							*	A183	WASHER, FLAT SAME AS A105	EA	1	2								6-1	3A2H2
x2	H							*	A181	WASHER, LOCK SAME AS A106	EA	1	2								6-1	3A2H2
X2	H							*	A185	NUT, PLAIN, HEXAGON SAME AS A107	EA	1	2								6-1	3A2H2
X2	H							E	A186	BRACKET, ELECTRON TUBE: SAME AS A179	EA	1	2								6-1	3A2A3MP1
X2	H		5310-819-9188					E	A187	NUT, SELF-LOCKING, CLINCH SAME AS A180	EA	1	2								6-1	3A2A32
P	H		5340-915-4839					D	A188	BUMPER, RUBBER: 83330; SMC632829	EA	1	1		*	2	2	16	8		6-1	3A2
X2	H							*	A189	SCREW, MACHINE 70318; 6-32x1-2PANHD CRES	EA	1	1								6-1	3A2H1
P	H		5340-915-4839					D	A190	BUMPER, RUBBER: SAME AS A188	EA	1	1								6-1	3A2MP5
X2	H							*	A191	SCREW, MACHINE: SAME AS A189	EA	1	1								6-1	3A2H1
P	H		5340-915-4839					D	A192	BUMPER, RUBBER: SAME AS A188	EA	1	1								6-1	3A2MP6
X2	M							*	A193	SCREW, MACHINE SAME AS A189	EA	1	1								6-1	3A2H1
P	H		5340-915-4839					D	A194	PIPE, RUBBER: SAME AS A188	EA	1	1								6-1	3A2MPF7

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(4)		(5)		(6)		(7)						(8)		(9)		(10)	
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.			30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (A)	PL. CNTG (B)	DEPOT MAINT. ALW. PER 100 EQUIP. (C)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER					
				MODEL											DS			GS												
				1	2	3	4	5	6						(A)	(B)	(C)	(A)	(B)	(C)										
X2	H								*	A195	SCREW, MACHINE: SAME AS A189	EA	1	1											6-1	3A2H1				
P	H		5940-204-5241						D	A196	CAP, ANODE: 71785; 3A1	EA	1	1				*	*	*	4	1			6-1	3A2MP8				
P	H		5935-193-7810						D	A197	CONNECTOR, PLUG, ELECTRICAL: 71785; 3M14	EA	1	1				*	*	*	8	3			6-1	3A2/3W1P4				
X2	H								D	A198	CUSHION, ELECTRON, TUBE: 14031; SMB32992	EA	1	1											6-1	3A2MP9				
X2	H								D	A199	DECK ASSEMBLY, BOTTOM: 14031; SMD632995	EA	1	1											6-1	3A2A1				
X1	H								E	A200	DECK, BOTTOM: 14031; SMD632994	EA	1	1											6-1	3A2A1MP1				
X2	H		5310-819-9188						E	A201	NUT, SELF-LOCKING, CLINCH: SAME AS A180	EA	1	21											6-1	3A2A1H21				
X2	H		5310-866-4638						E	A202	NUT, SELF-LOCKING, CLINCH: 46384; LKS832-2	EA	1	1											6-1	3A2A1H1				
X2	H								D	A203	GRATICULE: 14031; C3134	EA	1	1											6-1	3A2MP10				
X2	H								D	A204	HANDLE, BOW: 71279; 1254-1-02	EA	1	2											6-1	3A2MP11				
X2	H								*	A205	SCREW, MACHINE: 70318; 8-32X3 8FL HD CRES	EA	1	4											6-1	3A2H2				
X2	H								D	A206	HANDLE, BOW: SAME AS A204	EA	1	REF											6-1	3A2P12				

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(10)													
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. PL. CNTGTY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL										DS			GS									
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)			(C)				
X2	H								*	A207	SCREW, MACHINE: SAME AS A205	EA	1	REF											6-1	3A2H2
X2	H								D	A208	HINGE, BUTT: 14031; SC633002	EA	1	1											6-1	3A2MP13
X2	H								*	A209	SCREW, MACHINE: 70318; 6-32N-4PAN ND CRES	EA	1	3											6-1	3A2H3
X2	H								*	A210	WASHER, LOCK : SAME AS A106	EA	1	3											6-1	3A2H3
P	O		6240-877-2811						D	A211	LAMP, INCANDESCENT: 08804; 1843	EA	1	4			3	4	5	242	200				6-1	3A2DS1
P	O		6240-877-2811						D	A212	LAMP, INCANDESCENT: SAME AS A211	EA	1	REF											6-1	3A2D52
P	O		6240-877-2811						D	A213	LAMP, INCANDESCENT: SAME AS A211	EA	1	REF											6-1	3A2DS3
P	O		6240-877-2811						D	A214	LAMP, INCANDESCENT: SAME AS A211	EA	1	REF											6-1	3A2DS4
X2	H								D	A215	LATCH, DOOR: 14031; SMB632819-2	EA	1	1											6-1	3A2MP14
X2	H								*	A216	SCREW, MACHINE: SAME AS A121	EA	1	1											6-1	3A2H1
X2	H								*	A217	SCREW, MACHINE: SAME AS A175	EA	1	1											6-1	3A2H1
X2	H								*	A218	WASHER, FLAT: SAME AS A105	EA	1	1											6-1	3A2H1

SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(4)		(5)	(6)	(7)						(8)		(9)		(10)	
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				1	2	3	4	5	6						(A)	(B)	(C)	(A)	(B)	(C)								
				1-20	21-50	51-100	1-20	21-50	51-100																			
X2	H		5310-050-0458						*	A219	WASHER, LOCK: SAME AS A106	EA	1	1										6-1	3A2H1			
X2	H								*	A220	NUT, SLEEVE: SAME AS A120	EA	1	1										6-1	3A2H1			
X2	H								D	A221	PANEL ASSEMBLY, LEFT SIDE: 14031; SMD632999	EA	1	1										6-1	3A2A5			
X2	H								*	A222	SCREW, MACHINE: SAME AS A189	EA	1	10										6-1	3A2H10			
X2	H								*	A223	WASHER, FLAT: SAME AS A105	EA	1	10										6-1	3A2H10			
X2	H			5310-866-4638						E	A224	NUT, SELF-LOCKING, CLINCH: SAME AS A202	EA	1	4										6-1	3A4A5H4		
X1	H									E	A225	PANEL, LEFT SIDE: 14031; SMD632999-1	EA	1	1									6-1	3A2A5MP1			
X2	H								D	A226	PANEL ASSEMBLY, RIGHT SIDE: 14031; SMD63000	EA	1	1										6-1	3A2A6			
X2	H								*	A227	SCREW, MACHINE: SAME AS A189	EA	1	10										6-1	3A2H10			
X2	H								*	A228	WASHER, FLAT: SAME AS A105	EA	1	10										6-1	3A2H10			
X2	H		5310-866-4638						E	A229	NUT, SELF-LOCKING, CLINCH: SAME AS A202	EA	1	4									6-1	3A2A6H4				
X2	H		5310-980-6155						E	A230	NUT, PLAIN, CLINCH: 46384; SOS632-6	EA	1	3									6-1	3A2A6H3				

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(4)		(5)	(6)	(7)						(8)		(9)		(10)	
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				1	2	3	4	5	6						(A)	(B)	(C)	(A)	(B)	(C)								
X2	H		5960-431-3260						*	A243	NUT, PLAIN, HEXAGON: SAME AS A107	EA	1	2											6-1	3A2H2		
P	H								D	A244	ELECTRON TUBE: 00530; 5ADP7A	EA	1	1					2	2	2	40	25			6-1	3A2V1	
X2	H								*	A245	SCREW, MACHINE: SAME AS A123	EA	1	4													6-1	3A2H4
X2	H								C	A246	CAGE ASSEMBLY: 14031; SMD633004	EA	1	1													6-1	3A3
X2	H								*	A247	SCREW, MACHINE: 70318; 8-32X1-4FLHDCRES	EA	1	4													6-1	3H4
X2	H								*	A248	WASHER, LOCK: SAME AS A106	EA	1	4													6-1	3H4
X2	H								*	A249	NUT, PLAIN, HEXAGON: SAME AS A107	EA	1	4													6-1	3H4
X2	H								D	A250	BRACKET, ANGLE: 14031; SMC633088	EA	1	1													6-1	3A3MP1
X2	H								*	A251	SCREW, MACHINE: SAME AS A123	EA	1	6													6-1	3A3H6
X2	H								*	A252	WASHER, FLAT: SAME AS A105	EA	1	6													6-1	3A3H6
X2	H								D	A253	BRACKET, CARD, CAGE: SAME AS A250	EA	1	1													6-1	3A3MP2
X2	H								*	A254	SCREW, MACHINE: SAME AS A123	EA	1	6													6-1	3A3H6

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)							
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				MODEL									DS			GS										
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)					
X2	H		5935-817-7856						*	A255	WASHER, FLAT: SAME AS A105	EA	1	6										6-1	3A3H6	
P	H								D	A256	CONNECTOR, RECEPTACLE, ELEC 02660; 225-22223-101	EA	1	1					2	2	2	33	21	6-1	3A3XA1	
X2	H								*	A257	SCREW, MACHINE: 70318; 4-40X3-8PANHDCRES	EA	1	2											6-1	3A3H2
X2	H								*	A258	WASHER, LOCK: SAME AS A115	EA	1	2											6-1	3A3H2
X2	H								*	A259	WASHER, FLAT: 70318; 4 CRESFL	EA	1	2											6-1	3A3H2
X2	H		5935-481-7856						D	A260	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1											6-1	3A3XA2
X2	H								*	A261	SCREW, MACHINE: SAME AS A257	EA	1	2											6-1	3A3H2
X2	H								*	A262	WASHER, LOCK: SAME AS A115	EA	1	2											6-1	3A3H2
X2	H								*	A263	WASHER, FLAT: SAME AS A259	EA	1	2											6-1	3A3H2
P	H								D	A264	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1											6-1	3A3XA3
X2	H		5935-481-7856						*	A265	SCREW, MACHINE: SAME AS A257	EA	1	2											6-1	3A3H2
X2	H								*	A266	WASHER, LOCK: SAME AS A115	EA	1	2											6-1	3A3H2

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE										(10)													
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. PL. CNTGCTY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL										DS			GS									
				1	2	3	4	5	6					IND CD	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50			(C) 51-100				
X2	H		5935-481-7856						*	A267	WASHER, FLAT: SAME AS A259	EA	1	2										6-1	3A3H2	
P	H									D	A268	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1										6-1	3A3XA4
X2	H									*	A269	SCREW, MACHINE: SAME AS A257	EA	1	2										6-1	3A3H2
X2	H									*	A270	WASHER, LOCK: SAME AS A115	EA	1	2										6-1	3A3H2
X2	H									*	A271	WASHER, FLAT: SAME AS A259	EA	1	2										6-1	3A3H2
P	H		5935-481-7856							D	A272	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1										6-1	3A3XA5
X2	H									*	A273	SCREW, MACHINE: SAME AS A257	EA	1	1										6-1	3A3H2
X2	H									*	A274	WASHER, LOCK: SAME AS A115	EA	1	2										6-1	3A3H2
X2	H									*	A275	WASHER, FLAT: SAME AS A259	EA	1	2										6-1	3A3H2
P	H									D	A276	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1										6-1	3A3XA6
X2	H		5935-481-7856							*	A277	SCREW, MACHINE: SAME AS A257	EA	1	2										6-1	3A3H2
X2	H									*	A278	WASHER, LOCK: SAME AS A115	EA	1	2										6-1	3A3H2

SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (A)	DEPOT MAINT. ALW. PER 100 EQUIP. (B)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL									DS			GS									
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)				
X2	H							*	A279	WASHER, FLAT: SAME AS A259	EA	1	2											6-1	3A3H2
P	H		5935-481-7856					D	A280	CONNECTOR, RECEPTACLE, ELECTRICAL: SAME AS A256	EA	1	1											6-1	3A3XA7
X2	H							*	A281	SCREW, MACHINE SAME AS A257	EA	1	2											6-1	3A3H2
X2	H							*	A282	WASHER, LOCK SAME AS A115	EA	1	2											6-1	3A3H2
X2	H							*	A283	WASHER, FLAT: SAME AS A259	EA	1	2											6-1	3A3H2
P	O		5920-199-9498					D	A284	FUSE, CARTRIDGE: 75915; 313-500	EA	1	2				9	13	17	795	750			6-1	3A3F
P	O		5920-199-9498					D	A285	FUSE, CARTRIDGE: SAME AS A284	EA	1	REF											6-1	3A3F2
P	O		5920-280-8344					D	A286	FUSE, CARTRIDGE: 75915; 312-500	EA	1	1				5	7	8	406	350			6-1	3A3F3
P	O		5920-518-1790					D	A287	FUSE, CARTRIDGE: 75915; 312-375	EA	1	1				6	9	12	567	500			6-1	3A3F4
P	H		5920-881-6584					D	A288	FUSEHOLDER: 81349; FHL17G2	EA	1	2				*	2	2	13	6			6-1	3A3XF1
P	H		5920-881-6584					D	A289	FUSEHOLDER: SAME AS A288	EA	1	REF											6-1	3A3XF2
P	H		5920-013-9863					D	A290	FUSEHOLDER: 81349; FHL18G2-1	EA	1	2				*	2	2	13	6			6-1	3A3F3

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)							
				1	2	3	4				5	6	IND CD	1-20	21-50	51-100					1-20	21-50	51-100
P	H		5920-013-9863						D	A291	FUSEHOLDER: SAME AS A290	EA	1	REF							6-1	3A3XF4	
X2	H								D	A292	GUIDE ASSEMBLY, BOTTOM 14031; SMD633007	EA	1	1							6-1	3A3A9	
X1	H								E	A293	GUIDE, BOTTOM: 14031; SMD633007-1	EA	1	1							6-1	3A3A2MP1	
X2	H		5310-819-9188						E	A294	NUT, SELF-LOCKING, CLINCH	EA	1	8							6-1	3A3A2H8	
X2	H								D	A295	GUIDE ASSEMBLY, TOP: 14031; SMD633005	EA	1	1							6-1	3A3A1	
X1	H								E	A296	GUIDE, TOP: 14031; SMD633005-1	EA	1	1							6-1	3A3A1MP1	
X2	H		5310-819-9188						E	A297	NUT, SELF-LOCKING, CLINCH: SAME AS A180	EA	1	6							6-1	3A3A1H6	
X2	H								D	A298	HOLD-DOWN, CARD: 14031; SMC633005	EA	1	1							6-1	3A3MP3	
X2	H								*	A299	SCREW, MACHINE: SAME AS A123	EA	1	2							6-1	3A3H2	
X2	H								*	A300	WASHER, FLAT: SAME AS A105	EA	1	2							6-1	3A2	
	T		6625-411-9302						D	A301	COMPONENT BOARD: 14031; SMD633070	EA	1	1			2	2	2	46	3	6-2	3A3A1
P	D		5910-925-6508						E	A302	CAPACITOR, FIXED, ELECTROLYTIC: 74861; 1B1307RMV	EA	1	2							6	6-2	3A3A1C1

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS				
SOURCE CD (A)	MAINT. C D (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)							
P	D		5910-925-6508						E	A303	CAPACITOR, FIXED, ELECTROLYTIC: SAME AS A302	EA	1	REF								6-2	3A3A1C2
P	D		5910-433-6405						E	A304	CAPACITOR, FIXED, ELECTROLYTIC: 74861; 10B1057RMV	EA	1	2					6		6-2	3A3A	
P	D		5910-433-6405						E	A305	CAPACITOR, FIXED, ELECTROLYTIC; SAME AS A304	EA	1	REF							6-2	3A3A1C4	
P	D		5910-827-1218						E	A306	CAPACITOR, FIXED, ELECTROLYTIC: 56289; TE1204	EA	1	2					6		6-2	3A3A1C5	
P	D		5910-806-6418						E	A307	CAPACITOR, FIXED, ELECTROLYTIC: 09022; PM4S1	EA	1	1					3		6-2	3A3A1C8	
P	D		5910-965-9441						E	A308	CAPACITOR, FIXED, MICA DIELECTRIC: 8139; CM06D102J03	EA	1	1					42		6-2	3A3A1C2	
P	D		5910-054-5495						E	A309	CAPACITOR, FIXED, PAPER, DIELECTRIC: 90201; PVC11	EA	1	2					6		6-2	3A3A1C6	
P	D		5910-054-5495						E	A310	CAPACITOR, FIXED, PAPER, DIELECTRIC SAME AS A309	EA	1	REF							6-2	3A3A1C9	
P	D		5910-901-9870						E	A311	CAPACITOR, FIXED, PAPER, DIELECTRIC: 90201; PVC101	EA	1	1					6		6-2	3A3A1C7	
P	D		5910-914-1707						E	A312	CAPACITOR, FIXED, PAPER, DIELECTRIC: 90201; PVC1022	EA	1	1					3		6-2	3A3A3A1C10	
P	D		5910-814-7957						E	A313	CAPACITOR, FIXED, PAPER, DIELECTRIC: 90201; PVC212	EA	1	1					3		6-2	3A3A3A1C11	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. PL. CNTGCTY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)								
				1	2	3	4	5	6	IND CD														
X1	D								E	A314	PRINTED CIRCUIT BOARD: 14031; SMD633009	EA	1	1									6-2	3A3A1MP1
P	D		5905-279-2616						E	A315	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF153J	EA	1	2					4			6-2	3A3A1R1	
P	D		5905-279-3616						E	A316	RESISTOR, FIXED, COMPOSITION: SAME AS A315	EA	1	REF								6-2	3A3A1R2	
P	D		5905-106-9351						E	A317	RESISTOR, FIXED, COMPOSITION: 81349; RC200F273J	EA	1	2					28			6-2	3A3A1R3	
P	D		5905-106-9351						E	A318	RESISTOR, FIXED, COMPOSITION: SAME AS A317	EA	1	REF								6-2	3A3A1R4	
P	D		5905-116-8567						E	A319	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF75J	EA	1	1					4			6-2	3A3A1R7	
P	D		5905-496-3413						E	A320	RESISTOR, FIXED, COMPOSITION: 81349; RC32GF750J	EA	1	1					2			6-2	3A3A1R8	
P	D		5961-519-6977						E	A321	SEMICONDUCTOR DEVICE, DIODE: 33173; IN538	EA	1	4					8			6-2	3A3A1CR1	
P	D		5961-519-6977						E	A322	SEMICONDUCTOR DEVICE, DIODE: SAME AS A321	EA	1	REF								6-2	3A3A1CR2	
P	D		5961-519-6977						E	A323	SEMICONDUCTOR DEVICE, DIODE: SAME AS A321	EA	1	REF								6-2	3A3A1CR3	
P	D		5961-519-6977						E	A324	SEMICONDUCTOR DEVICE, DIODE: SAME AS A321	EA	1	REF								6-2	3A3A1CR4	
P	D		5961-765-4612						E	A325	SEMICONDUCTOR DEVICE, DIODE: 01295; 1N645	EA	1	8					18			6-2	3A3A1CR5	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)							QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.			DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									(A)	(B)	(C)							(A)	(B)
IND CD						DESCRIPTION	1-20	21-50	51-100	1-20	21-50	51-100				1 YR. ALW. PER 100 EQUIP. (8) CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
P	D		5961-765-4612																	E A326	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1
P	D		5961-765-4612						E A327	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR7		
P	D		5961-765-4612						E A328	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR8		
P	D		5961-765-4612						E A329	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR9		
P	D		5961-765-4612						E A330	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR10		
P	D		5961-765-4612						E A331	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR11		
P	D		5961-765-4612						E A332	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF							6-2	3A3A1CR12		
P	H	T	6625-441-9303						D A333	COMPONENT BOARD: 14031; SMD633071	EA	1	1		2	2	2	82	3	6-3	3A3A2		
P	D		5910-963-8069						E A334	CAPACITOR, FIXED, CERAMIC DIELETRIC: 56289; CK502	EA	1	1						18	6-3	3A3A2C4		
P	D		5910-810-4849						E A335	CAPACITOR, FIXED, ELECTROLYTIC: 56289; TGS10	EA	1	1						6	6-3	3A3A2C1		
P	D		5910-878-5663						E A336	CAPACITOR, FIXED, ELECTROLYTIC: 56289; TE120	EA	1	1						6	6-3	3A3A2C2		
P	D		5910-827-1218						E A337	CAPACITOR, FIXED, ELECTROLYTIC: SAME AS A306	EA	1	1							6-3	3A3A2C5		

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. PL. CNTG CY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS			
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL							(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100						
				1	2	3	4														5	6
P	D		5910-995-0614						E	A338	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D221J03	EA	1	1						6	6-3	3A3A2C3
P	D								E	A339	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	5	5							6-3	3A3A2C6
P	D		5910-965-9441						E	A340	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	REF							6-3	3A3A2C7
P	D		5910-965-9441						E	A341	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	REF							6-3	3A3A2C9
P	D		5910-965-9441						E	A342	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	REF							6-3	3A3A2C10
P	D		5910-965-9441						E	A343	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	REF							6-3	3A3A2C11
P	D		5910-628-4093						E	A344	CAPACITOR, FIXED MICA DIELECTRIC: 81349; CM06D182J03	EA	1	1						6	6-3	3A3A2C13
P	O		5920-356-2185						E	A345	FUSE, CARTRIDGE: 75915; 312-100	EA	1	2						600	6-3	3A3A2F1
P	O		5920-356-2185						E	A346	FUSE, CARTRIDGE: SAME AS A345	EA	1	REF							6-3	3A3A2F2
X2	D		5961-879-4069						E	A347	HEAT SINK: 13103; 2215B	EA	1	1							6-3	3A3A2MP12
X2	D								*	A348	SCREW, MACHINE: 70318; 2-56X1-4 PANHD CRES	EA	1	2							6-3	3A3A2H2
X2	D								*	A349	WASHER, FLAT: 70318; C5949-1	EA	1	2							6-3	3A3A2H2

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SECTION II. REPAIR PARTS FOR GENERAL SUPPORT AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS			
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL							(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100						
				1	2	3	4														5	6
P	D		5961-944-3628						E	A350	PAD, TRANSISTOR: 13103; 7717-5N	EA	1	9					40	6-3	3A3A2MP2	
P	D		5961-944-3628						E	A351	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP3	
P	D		5961-944-3628						E	A352	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP4	
P	D		5961-944-3628						E	A353	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP5	
P	D		5961-944-3628						E	A354	PAD, TRANSISTOR: SAME A6 A350	EA	1	REF						6-3	3A3A2MP6	
P	D		5961-944-3628						E	A355	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP7	
P	D		5961-944-3628						E	A356	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP8	
P	D		5961-944-3628						E	A357	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP9	
P	D		5961-944-3628						E	A358	PAD, TRANSISTOR: SAME AS A350	EA	1	REF						6-3	3A3A2MP11	
P	D		5961-059-1137						E	A359	PAD, TRANSISTOR: 13103; 7717-44	EA	1	1					5	6-3	3A3A2MP10	
X1	D								E	A360	PRINTED CIRCUIT BOARD: 14031; SMD633024	EA	1	1						6-3	3A3A2MP1	
P	D		5905-110-0196						E	A361	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF102J	EA	1	6					46	6-3	3A3A2R1	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5905-110-0196						E	A362	RESISTOR, FIXED, COMPOSITION: SAME AS A361	EA	1	REF									6-3	3A3A2R10
P	D		5905-110-0196						E	A363	RESISTOR, FIXED, COMPOSITION: SAME AS A361	EA	1	REF									6-3	3A3A2R11
P	D		5905-110-0196						E	A364	RESISTOR, FIXED, COMPOSITION: SAME AS A361	EA	1	REF									6-3	3A3A2R25
P	D		5905-110-0196						E	A365	RESISTOR, FIXED, COMPOSITION: SAME AS A361	EA	1	REF									6-3	3A3A2R42
P	D		5905-110-0196						E	A366	RESISTOR, FIXED, COMPOSITION: SAME AS A361	EA	1	REF									6-3	3A3A2R46
P	D		5905-106-9344						E	A367	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF10J	EA	1	3						30			6-3	3A3A2R2
P	D		5905-110-0196						E	A368	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF									6-3	3A3A2R4
P	D		5905-110-0196						E	A369	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF									6-3	3A3A2R5
P	D		5905-111-4858						E	A370	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF471J	EA	1	2						12			6-3	3A3A2R3
P	D		5905-111-4858						E	A371	RESISTOR, FIXED, COMPOSITION: SAME AS A370	EA	1	REF									6-3	3A3A2R38
P	D		5905-116-8569						E	A372	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF821J	EA	1	1						2			6-3	3A3A2R6

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)
P	D		5905-111-8357							E A373	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF681J	EA	1	2								6	6-3	3A3A2R8
P	D		5905-111-8357							E A374	RESISTOR, FIXED, COMPOSITION: SAME AS A373	EA	1	REF									6-3	3A3A2R18
P	D		5905-111-4738							E A375	RESISTOR, FIXED, COMPOSITION: 81349; RC20GP152J	EA	1	1								32	6-3	3A3A2R9
P	D		5905-141-0595							E A376	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF472J	EA	1	2								18	6-3	3A3A2R12
P	D		5905-141-0595							E A377	RESISTOR, FIXED, COMPOSITION: SAME AS A376	EA	1	REF									6-3	3A3A2R21
P	D		5905-141-1116							E A378	RESISTOR, FIXED, COMPOSITION: 81349; RC20G562J	EA	1	2								12	6-3	3A3A2R13
P	D		5905-141-1116							E A379	RESISTOR, FIXED, COMPOSITION: SAME AS A378	EA	1	REF									6-3	3A3A2R19
P	D		5905-141-0591							E A380	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF103J	EA	1	4								56	6-3	3A3A2R15
P	D		5905-141-0591							E A381	RESISIOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-3	3A3A2R22
P	D		5905-141-0591							E A382	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-3	3A3A2R35
P	D		5905-141-0591							E A383	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-3	3A3A2R37

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS			
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)						
				1	2	3	4														5	6
P	D		5905-106-9348						E	A384	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF154J	EA	1	1					16	6-3	3A3A2R16	
P	D		5905-141-0593						E	A385	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF182J	EA	1	1					6	6-3	3A3A2R17	
P	D		5905-458-5816						E	A386	RESISTOR, FIXED, COMPOSITION: 81349; RC32GF271J	EA	1	1					2	6-3	3A3A2R20	
P	D		5905-114-5361						E	A387	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF121J	EA	1	1					2	6-3	3A3A2R23	
P	D		5905-104-8348						E	A388	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF332J	EA	1	2					30	6-3	3A3A2R36	
P	D		5905-104-8348						E	A389	RESISTOR, FIXED, COMPOSITION: SAME AS A388	EA	1	REF						6-3	3A3A2R40	
P	D		5905-116-8566						E	A390	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF680J	EA	1	1					2	6-3	3A3A2R39	
P	D		5905-104-8350						E	A391	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF221J	EA	1	1					8	6-3	3A3A2R43	
P	D		5905-141-0598						E	A392	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF561J	EA	1	1					4	6-3	3A3A2R44	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)							
				1	2	3	4	5	6	IND CD													
P	D		5905-935-8543							E	A393	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF33J	EA	1	1						2	6-3	3A3A2R45
P	D		5905-951-2696							E	A394	RESISTOR, VARIABLE: 80294; 3067P1-501	EA	1	1						2	6-3	3A3A2R7
P	D		5905-993-7406							E	A395	RESISTOR, VARIABLE: 80294; 3067P1-103	EA	1	3						18	6-3	3A3A2R14
P	D		5905-993-7406							E	A396	RESISTOR, VARIABLE: SAME AS A395	EA	1	REF							6-3	3A3A224
P	D		5905-993-7406							E	A397	RESISTOR, VARIABLE: SAME AS A395	EA	1	REF							6-3	3A3A2R41
P	D		5961-370-1651							E	A398	SEMICONDUCTOR DEVICE, DIODE: 04713; 1N965B	EA	1	4						4	6-3	3A3A2CR1
P	D		5961-370-1651							E	A399	SEMICONDUCTOR DEVICE, DIODE: SAME AS A398	EA	1	REF							6-3	3A3A2CR8
P	D		5961-370-1651							E	A400	SEMICONDUCTOR DEVICE, DIODE: SAME AS A398	EA	1	REF							6-3	3A3A2CR9
P	D		5961-370-1651							E	A401	SEMICONDUCTOR DEVICE, DIODE: SAME AS A398	EA	1	REF							6-3	3A3A2CR11
P	D		5961-400-5375							E	A402	SEMICONDUCTOR DEVICE, DIODE: 33173; 1N914	EA	1	3						72	6-3	3A3A2CR2
P	D		5961-400-5375							E	A403	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF							6-3	3A3A2CR6
P	D		5961-400-5375							E	A404	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF							6-3	3A3A2CR7

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)							
P	D		5961-078-0625						E A405	SEMICONDUCTOR DEVICE, DIODE: 01295; 1N754A	EA	1	2							22	6-3	3A3A2CR3	
P	D		5961-078-0625						E A406	SEMICONDUCTOR DEVICE, DIODE: SAME AS A405	EA	1	REF								20	6-3	3A3A2CR5
P	D		5961-556-2091						E A407	SEMICONDUCTOR DEVICE, DIODE: 93332; 1N270	EA	1	1								20	6-3	3A3A2CR4
P	D		5961-765-4612						E A408	SEMICONDUCTOR DEVICE, DIODE: SAME AS A325	EA	1	REF									6-3	3A3A2CR10
P	D		5961-837-7262						E A409	TRANSISTOR: 01295; 2N697	EA	1	3								32	6-3	3A3A22Q1
P	D		5961-837-7262						E A410	TRANSISTOR: SAME AS A409	EA	1	REF									6-3	3A3A2Q5
P	D		5961-837-7262						E A411	TRANSISTOR: SAME AS A409	EA	1	REF									6-3	3A3A2Q12
P	D		5961-487-8132						E A412	TRANSISTOR: 17803; 2N4248	EA	1	1								16	6-3	3A3A2Q2
P	D		5961-985-9134						E A413	TRANSISTOR: 33173; 2N404	EA	1	2								124	6-3	3A3A2Q3
P	D		5961-985-9134						E A414	TRANSISTOR: SAME AS A413	EA	1	REF									6-3	3A3A2Q4
P	D		5961-055-7897						E A415	TRANSISTOR: 79089; 2N3439	EA	1	2								24	6-3	3A3A2Q6
P	D		5961-985-9134						E A416	TRANSISTOR: SAME AS A415	EA	1	REF									6-3	3A3A2Q11

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5910-965-9441						E	A429	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	REF									6-4	3A3A3C5
P	D		5910-717-0167						E	A430	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D471J03	EA	1	1						12			6-4	3A3A3C6
P	D		5910-806-3412						E	A431	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM06D202J03	EA	1	1						3			6-4	3A3A3C10
P	D		5910-954-5500						E	A432	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D151J03	EA	1	1						66			6-4	3A3A3C12
P	D		5962-410-6300						E	A433	INTERGRATED CIRCUIT: 25677; U6E7710393	EA	1	1						1			6-4	3A3A3Z1
P	D		5962-105-4624						E	A434	INTERGRATED CIRCUIT: 25677; U6A909359X	EA	1	1						1			6-4	3A3A3Z2
P	D		5962-344-4379						E	A435	INTERGRATED CIRCUIT: 25677; U6A993659X	EA	1	1									6-4	3A3A3Z3
P	D		5962-410-0751						E	A436	INTERGRATED CIRCUIT: 25677; U6A909959X	EA	1	2						2			6-4	3A3A3Z4
P	D		5962-410-0751						E	A437	INTERGRATED CIRCUIT: SAME AS A436	EA	1	REF									6-4	3A3A3Z5
P	D		5962-410-0751						E	A438	INTERGRATED CIRCUIT: 00530; U6A995879X	EA	1	1						1			6-4	3A3AZ6
P	D		5961-059-1137						E	A439	PAD, TRANSISTOR: SAME AS A359	EA	1	6									6-4	3A3A3MP2

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)							
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	MODEL						(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)		
P	D		5961-059-1137							E	A440	PAD, TRANSISTOR: SAME AS A359	EA	1	REF										6-4	3A3A3MP3
P	D		5961-059-1137							E	A441	PAD, TRANSISTOR: SAME AS A359	EA	1	REF										6-4	3A3A3MP4
P	D		5961-059-1137							E	A442	PAD, TRANSISTOR: SAME AS A359	EA	1	REF										6-4	3A3A3MP5
P	D		5961-059-1137							E	A443	PAD, TRANSISTOR: SAME AS A359	EA	1	REF										6-4	3A3A3MP6
P	D		5961-059-1137							E	A444	PAD, TRANSISTOR: SAME AS A359	EA	1	REF										6-4	3A3A3MP7
P	D		5961-059-1137							E	A445	PAD, TRANSISTOR: SAME AS A350	EA	1	3										6-4	3A3A3MP8
P	D		5961-059-1137							E	A446	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-4	3A3A3MP9
P	D		5961-059-1137							E	A447	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-4	3A3A3MP10
X1	D									E	A448	PRINTED CIRCUIT BOARD: 14031; SMD633029	EA	1	1										6-4	3A3A3MP1
P	D		5905-141-0591							E	A449	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	6										6-4	3A3A3R1
P	D		5905-141-0591							E	A450	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF										6-4	3A3A3R4
P	D		5905-141-0591							E	A451	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF										6-4	3A3A3R19
P	D		5905-141-0591							E	A452	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF										6-4	3A3A3R20

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)							
				1	2	3	4				5	6	IND CD	1-20	21-50	51-100					1-20	21-50	51-100
P	D		5905-141-0591						E	A453	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF								6-4	3A3A3R24
P	D		5905-141-0591						E	A454	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF								6-4	3A3A3R33
P	D		5905-104-8336						E	A455	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF104J	EA	1	5					20			6-4	3A3A3R2
P	D		5905-104-8336						E	A456	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	REF								6-4	3A3A3R3
P	D		5905-104-8336						E	A457	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	REF								6-4	3A3A3R5
P	D		5905-104-8336						E	A458	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	REF								6-4	3A3A3R6
P	D		5905-104-8336						E	A459	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	REF								6-4	3A3A3R23
P	D		5905-141-1116						E	A460	RESISTOR, FIXED, COMPOSITION: SAME AS A378	EA	1	2								6-4	3A3A3R8
P	D		5905-141-1116						E	A461	RESISTOR, FIXED, COMPOSITION: SAME AS A378	EA	1	REF								6-4	3A3A3R9
P	D		5905-141-0595						E	A462	RESISTOR, FIXED, COMPOSITION: SAME AS A376	EA	1	3								6-4	3A3A3R10
P	D		5905-141-0595						E	A463	RESISTOR, FIXED, COMPOSITION: SAME AS A376	EA	1	REF								6-4	3A3A3R15
P	D		5905-140-0595						E	A464	RESISTOR, FIXED, COMPOSITION: SAME AS A376	EA	1	REF								6-4	3A3A3R18

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)
P	D		5905-141-1168						E	A476	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-4	3A3A3R36
P	D		5905-141-1168						E	A477	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-4	3A3A3R38
P	D		5905-141-1168						E	A478	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-4	3A3A3R44
P	D		5905-141-0593						E	A479	RESISTOR, FIXED, COMPOSITION: SAME AS A385	EA	1	2									6-4	3A3A3R22
P	D		5905-141-0593						E	A480	RESISTOR, FIXED, COMPOSITION: SAME AS A385	EA	1	REF									6-4	3A3A3R35
P	D		5905-104-8350						E	A481	RESISTOR, FIXED, COMPOSITION: SAME AS A391	EA	1	1									6-4	3A3A3R25
P	D		5905-104-8334						E	A482	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF331J	EA	1	1					2				6-4	3A3A3R30
P	D		5905-279-2616						E	A483	RESISTOR, FIXED, COMPOSITION: SAME AS A315	EA	1	1									6-4	3A3A3R32
P	D		5905-104-8330						E	A484	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF333	EA	1	2					18				6-4	3A3A3R37
P	D		5905-104-8330						E	A485	RESISTOR, FIXED, COMPOSITION: SAME AS A484	EA	1	REF									6-4	3A3A3R42
P	D		5905-110-0993						E	A486	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF123J	EA	1	1					8				6-4	3A3A3R39

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)							
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				MODEL									IND CD	DESCRIPTION	DS			GS								
				1	2	3	4	5	6						(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20			(B) 21-50	(C) 51-100				
P	D		5905-993-7406						E	A487	RESISTOR, VARAIABLE: SAME AS A395	EA	1	1										6-4	3A3A3R40	
P	D		5905-141-1071						E	A488	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF474J	EA	1	1						2				6-4	3A33R41	
P	D		5905-111-4738						E	A490	RESISTOR, FIXED, COMPOSITION: SAME AS A375	EA	1	4										6-4	3A3A3R46	
P	D		5905-111-4738						E	A491	RESISTOR, FIXED, COMPOSITION: SAME AS A375	EA	1	REF										6-4	3A3A3R47	
P	D		5905-111-4738						E	A492	RESISTOR, FIXED, COMPOSITION: SAME AS A375	EA	1	REF										6-4	3A3A3R48	
P	D		5905-111-4738						E	A493	RESISTOR, FIXED, COMPOSITION: SAME AS A375	EA	1	REF										6-4	3A3A3R49	
P	D		5905- 912-9332						E	A494	RESISTOR, VARIABLE: 80294; 3068P1-503	EA 6-4	1	1						4					6-4	3A3A3R7
P	D		5961-556-2091						E	A495	SEMICONDUCTOR DEVICE, DIODE: SAME AS A407	EA	1	5										6-4	3A3A3CR1	
P	D		5961-556-2091						E	A496	SEMICODUCTOR DEVICE, DIODE: SAME AS A407	EA	1	REF										6-4	3A3A3CR2	
P	D		5961-556-2091						E	A497	SEMICONDUCTOR DEVICE, DIODE: SAME AS A407	EA	1	REF										6-4	3A3A3CR7	
P	D		5961-556-2091						E	A498	SECONDUCTOR DEVICE, DIODE: SAME AS A407	EA	1	REF										6-4	3A3A3CR8	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL									IND CD	DESCRIPTION	DS			GS							
				1	2	3	4	5	6						(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20			(B) 21-50	(C) 51-100			
P	D		5961-842-6937						E	A512	TRANSISTOR: SAME AS A509	EA	1	1										6-4	3A3A3Q7
P	D		5961-882-8677						E	A513	TRANSISTOR: SAME AS A417	EA	1	2										6-4	3A3A3Q8
P	D		5961-882-8677						E	A514	TRANSISTOR: SAME AS A417	EA	1	REF									6-4	3A3A3Q9	
P	H	T	6625-441-9305						D	A515	COMPONENT BOARD ASSEMBLY: 14031; SMD633073	EA	1	1				2	2	2	185	3	6-5	3A3A4	
P	D		5910-878-5663						E	A516	CAPACITOR, FIXED, ELECTROLYTIC: SAME AS A336	EA	1	1										6-5	3A3A4C1
P	D		5910-864-8343						E	A517	CAPACITOR, FIXED, ELECTROLYTIC: SAME AS A426	EA	1	1										6-5	3A3A4C2
P	D		5910-954-5500						E	A518	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	8										6-5	3A3A4C5
P	D		5910-954-5500						E	A519	CAPACITOR, FIXED, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C6
P	D		5910-954-5500						E	A520	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C7
P	D		5910-954-5500						E	A521	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C8
P	D		5910-954-5500						E	A522	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C9
P	D		5910-954-5500						E	A523	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C10

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)							
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	MODEL						(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTGCV PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)		
P	D		5910-954-5500							E	A524	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C11
P	D		5910-954-5500							E	A525	CAPACITOR, FIXED, MICA, DIELECTRIC: SAME AS A432	EA	1	REF										6-5	3A3A4C12
P	D		5961-944-3628							E	A526	PAD, TRANSISTOR: SAME AS A350	EA	1	27										6-5	3A3A4MP2
P	D		5961-944-3628							E	A527	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP3
P	D		5961-944-3628							E	A528	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP4
P	D		5961-944-3628							E	A529	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP5
P	D		5961-944-3628							E	A530	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP6
P	D		5961-944-3628							E	A531	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP7
P	D		5961-944-3628							E	A532	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP8
P	D		5961-944-3628							E	A533	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP9
P	D		5961-944-3628							E	A534	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP10
P	D		5961-944-3628							E	A535	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP11

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5961-944-3628						E	A536	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP12
P	D		5961-944-3628						E	A537	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP13
P	D		5961-944-3628						E	A538	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP25
P	D		5961-944-3628						E	A539	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP26
P	D		5961-944-3628						E	A540	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP27
P	D		5961-944-3628						E	A541	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP28
P	D		5961-944-3628						E	A542	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP14
P	D		5961-944-3628						E	A543	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP15
P	D		5961-944-3628						E	A544	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP16
P	D		5961-944-3628						E	A545	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP17
P	D		5961-944-3628						E	A546	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP18
P	D		5961-944-3628						E	A547	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-5	3A3A4MP19

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)	
P	D		5961-944-2638						E	A548	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP20
P	D		5961-944-3628						E	A549	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP21
P	D		5961-944-3628						E	A550	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP22
P	D		5961-944-3628						E	A551	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP23
P	D		5961-944-3628						E	A552	PAD, TRANSISTOR: SAME AS A350	EA	1	REF										6-5	3A3A4MP24
X1	D								E	A553	PRINTED CIRCUIT BOARD: 124031; SMD633033	EA	1	1										6-5	3A3A4MP1
P	D		5905-110-0993						E	A554	RESISTOR, FIXED, COMPOSITION: SAME AS A486	EA	1	1										6-5	3A3A4R16
P	D		5905-114-5441						E	A555	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF563J	EA	1	9					18					6-5	3A3A4R17
P	D		5905-114-5441						E	A556	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF										6-5	3A3A4R22
P	D		5905-111-5441						E	A557	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF										6-5	3A3A4R27
P	D		5905-111-5441						E	A558	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF										6-5	3A3A4R32
P	D		5905-111-5441						E	A559	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF										6-5	3A3A4R37

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL										DS							GS		
				1	2	3	4	5	6					IND CD	(A) 1-20	(B) 21-50					(C) 51-100	(A) 1-20	(B) 21-50
P	D		5905-111-5441						E	A560	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF								6-5	3A3A4R42
P	D		5905-111-5441						E	A561	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF								6-5	3A3A4R47
P	D		5905-111-5441						E	A562	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF								6-5	3A3A4R52
P	D		5905-111-5441						E	A563	RESISTOR, FIXED, COMPOSITION: SAME AS A555	EA	1	REF								6-5	3A3A4R57
P	D		5905-141-1168						E	A564	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	18								6-5	3A3A4R18
P	D		5905-141-1168						E	A565	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R19
P	D		5905-141-1168						E	A566	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R23
P	D		5905-141-1168						E	A567	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R24
P	D		5905-141-1168						E	A568	RESISTOR, FIXED, COMPOSTION: SAME AS A475	EA	1	REF								6-5	3A3A4R28
P	D		5905-141-1168						E	A569	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R29
P	D		5905-141-1168						E	A570	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R33
P	D		5905-141-1168						E	A571	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF								6-5	3A3A4R34

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5905-141-1168						E	A572	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R38
P	D		5905-141-1168						E	A573	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R39
P	D		5905-141-1168						E	A574	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R43
P	D		5905-141-1168						E	A575	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R44
P	D		5905-141-1168						E	A576	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R48
P	D		5905-141-1168						E	A577	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R49
P	D		5905-141-1168						E	A578	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R53
P	D		5905-141-1168						E	A579	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R54
P	D		5905-141-1168						E	A580	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R58
P	D		5905-141-1168						E	A581	RESISTOR, FIXED, COMPOSITION: SAME AS A475	EA	1	REF									6-5	3A3A4R59
P	D		5905-106-9344						E	A582	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	9									6-5	3A3A4R20
P	D		5905-106-9344						E	A583	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF									6-5	3A3A4R25

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL									DS			GS									
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)			
P	D		5905-106-9344						E	A584	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R30
P	D		5905-106-9344						E	A585	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R35
P	D		5905-106-9344						E	A586	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R40
P	D		5905-106-9344						E	A587	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R45
P	D		5905-106-9344						E	A588	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R50
P	D		5905-106-9344						E	A589	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R55
P	D		5905-106-9344						E	A590	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	REF										6-5	3A3A4R60
P	D		5905-141-1165						E	A591	RESISTOR, FIXED, COMPOSITION: 81349; RC0GF682J	EA	1	8						24				6-5	3A3A4R21
P	D		5905-141-1165						E	A592	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF										6-5	3A3A4R26
P	D		5905-141-1165						E	A593	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF										6-5	3A3A4R31
P	D		5905-141-1165						E	A594	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF										6-5	3A3A4R36
P	D		5905-141-1165						E	A595	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF										6-5	3A3A4R41

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5905-141-1165						E	A596	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF									6-5	3A3A4R46
P	D		5905-141-1165						E	A597	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF									6-5	3A3A4R51
P	D		5905-141-1165						E	A598	RESISTOR, FIXED, COMPOSITION: SAME AS A591	EA	1	REF									6-5	3A3A4R56
P	D		5905-141-0591						E	A599	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	1									6-5	3A3A4R74
P	D		5961-078-0625						E	A600	SEMICONDUCTOR DEVICE, DIODE: SAME AS A405	EA	1	1									6-5	3A3A4CR11
P	D		5961-556-2091						E	A601	SEMICONDUCTOR DEVICE, DIODE: SAME AS A407	EA	1	1									6-5	3A3A4CR12
P	D		5961-400-5375						E	A602	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	9									6-5	3A3A4CR13
P	D		5961-400-5375						E	A603	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF									6-5	3A3A4CR14
P	D		5961-400-5375						E	A604	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF									6-5	3A3A4CR15
P	D		5961-400-5375						E	A605	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF									6-5	3A3A4CR16
P	D		5961-400-5375						E	A606	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF									6-5	3A3A4CR17
P	D		5961-400-5375						E	A607	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF									6-5	3A3A4CR18

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)	
P	D		5961-400-5375							E A608	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF										6-5	3A3A4CR19
P	D		5961-400-5375							E A609	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF										6-5	3A3A4CR20
P	D		5961-400-5375							E A610	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF										6-5	3A3A4CR21
P	D		5961-892-3405							E A611	TRANSISTOR: 02195; 2N1306	EA	1	18					120	92				6-5	3A3A4Q10
P	D		5961-892-3405							E A612	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q11
P	D		5961-892-3405							E A613	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q13
P	D		5961-892-3405							E A615	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q14
P	D		5961-892-3405							E A616	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q16
P	D		5961-892-3405							E A616	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q17
P	D		5961-892-3405							E A617	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q19
P	D		5961-892-3405							E A618	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A4Q20
P	D		5961-892-3405							E A619	TRANSISTOR: SAME AS A611	EA	1	REF										6-5	3A3A6Q22

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)			
P	D		5961-985-9134						E	A633	TRANSISTOR: SAME AS A413	EA	1	REF									6-5	3A3A4Q24
P	D		5961-985-9134						E	A634	TRANSISTOR: SAME AS A413	EA	1	REF									6-5	3A3A4Q27
P	D		5961-985-9134						E	A636	TRANSISTOR: SAME AS A413	EA	1	REF									6-5	3A3A4Q30
P	D		5961-985-9134						E	A636	TRANSISTOR: SAME AS A413	EA	1	REF									6-5	3A3A4Q32
P	D		5961-985-9134						E	A637	TRANSISTOR: SAME AS A413	EA	1	REF									6-5	3A3A4Q36
P	H	T	6625-441-9311						D	A638	COMPONENT BOARD ASSEMBLY: 14031; SMD633074	EA	1	1				2	2	2	135	3	6-6	3A3A5
P	D		5910-954-5504						E	A639	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D121J03	EA	1	1								3	6-6	3A3A5C2
P	D		5910-702-8057						E	A640	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D331J03	EA	1	3								12	6-6	3A3A5C3
P	D		5910-702-8057						E	A641	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A640	EA	1	REF									6-6	3A3A5C15
P	D		5910-702-8057						E	A642	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A640	EA	1	REF									6-6	3A3A5C16
P	D		5910-902-0335						E	A643	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D100J03	EA	1	2								18	6-6	3A3A5C4

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION							DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER					
				MODEL							(A)	(B)	(C)	(A)	(B)	(C)									
				1	2	3	4	5	6	IND CD			1-20	21-50	51-100	1-20	21-50	51-100							
P	D		5910-902-0335							E	A644	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A643	EA	1	REF									6-6	3A3A5C18
P	D		5910-044-4355							E	A645	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D470J03	EA	1	4					12				6-6	3A3A5C5
P	D		5910-044-4355							E	A646	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A645	EA	1	REF									6-6	3A3A5C6
P	D		5910-044-4355							E	A647	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A645	EA	1	REF									6-6	3A3A5C9
P	D		5910-044-4355							E	A648	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A645	EA	1	REF									6-6	3A3A5C10
P	D		5910-954-5500							E	A649	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A432	EA	1	2									6-6	3A3A5C13
P	D		5910-954-5500							E	A650	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A432	EA	1	REF									6-6	3A3A5C14
P	D		5910-957-2054							E	A651	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; 0M05D330J03	EA	1	1					3				6-6	3A3A5C17
P	D		5910-728-4093							E	A652	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A344	EA	1	1									6-6	3A3A5C19
P	D		5910-051-4612							E	A653	CAPACITOR, FIXED, MICA DIELECTRIC: 81349; CM05D220J03	EA	1	2					6				6-6	3A3A5C20
P	D		5910-051-4612							E	A654	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A653	EA	1	REF									6-6	3A3A5C21

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				MODEL									DS			GS							
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)	
P	D		5905-141-1130						E	A728	RESISTOR, FIXED, COMPOSITIONS: 81349; RC20CF272J	EA	1	1							2	6-6	3A3A5R80
P	D		5905-978-9027						E	A729	RESISTOR, FIXED, FILM: 14674; RN20X1582F	EA	1	1							4	6-6	3A3A5R1
P	D		5905-993-2272						E	A730	RESISTOR, FIXED, FILM: 14674; RN20X3162F	EA	1	1							2	6-6	3A3A5R2
P	D		5905-814-1614						E	A731	RESISTOR, FIXED FILM: 14674; RN20X6342F	EA	1	1							2	6-6	3A3A5R3
P	D		5905-071-2604						E	A732	RESISTOR, FIXED FILM: 14674; RN20X1273F	EA	1	1							2	6-6	3A3A5R4
P	D		5905-978-9027						E	A733	RESISTOR, FIXED, FILM: SAME AS A729	EA	1	1							2	6-6	3A3A5R5
P	D		5905-951-2817						E	A734	RESISTOR, FIXED, FILM: 14674; RN20X3163F	EA	1	1							2	6-6	3A3A5R6
P	D		5905-951-4935						E	A735	RESISTOR, FIXED FILM: 14674; RN20X6343P	EA	1	1							2	6-6	3A3A5R7
P	D		5905-951-4921						E	A736	RESISTOR, FIXED, FILM: 14674, RN20X1272F	EA	1	1							2	6-6	3A3A5R8
P	D		5905-989-4935						E	A737	RESISTOR, FIXED, FILM: 14674; RN20X1583F	EA	1	1							2	6-6	3A3A5R9
P	D								E	A738	RESISTOR, FIXED, FILM: 14674; RN20X3164F	EA	1	1							2	6-6	3A3A5R10
P	D		5905-060-2402						E	A739	RESISTOR, FIXED FILM: 14674; RN20X3922F	EA	1	1							2	6-6	3A3A5R14

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5905-110-0196						E	A936	RESISTOR, FDIED, COMPOSITION: SAME AS A361	EA	1	REF									6-8	3A7R25
P	D		5905-110-0196						E	A937	RESISTOR, FXED, COMPOSITION: SAME AS A361	EA	1	REF									6-8	3A3A7R37
P	D		5905-111-4734						E	A938	RESISTOR, FIXED, COMPOSITION: SAME AS A851	EA	1	2									6-8	3A3A7R4
P	D		5905-111-4734						E	A939	RESISTOR, FIXED, COMPOSITION: SAME AS A851	EA	1	REF									6-8	3A3A7R10
P	D		5905-141-0591						E	A940	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	6									6-8	3A3A7R13
P	D		5905-141-0591						E	A941	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-8	3A3A7R27
P	D		5905-141-0591						E	A942	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-8	3A3A7R34
P	D		5905-141-0591						E	A943	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-8	3A3A7R35
P	D		5905-141-0591						E	A944	RESISTOR, FIXED, COMPOSITION: SAME AS A380	EA	1	REF									6-8	3A3A7R39
P	D		5905-141-0591						E	A945	RESISTOR, FIXED, COMEOSITION: SAME AS A380	EA	1	REF									6-8	3A3A7R43
P	D		5905-106-9344						E	A946	RESISTOR, FIXED, COMPOSITION: SAME AS A367	EA	1	1									6-8	3A3A7R14
P	D		5905-104-8348						E	A947	RESISTOR, FDXED, COMPOSITION: SAME AS A388	EA	1	2									6-8	3A3A7R15
P	D		5905-104-8348						E	A948	RESISTOR, FIXED, COMPOSITION: SAME AS A388	EA	1	REF									6-8	3A3A7R16
												OS-206/GGM-15(V)												

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50			(C) 51-100			
P	D		5905-104-8333						E	A949	RESISTOR, FIED, COMPOSITION: SAME AS A715	EA	1	1									6-8	3A3A7R24
P	D		5905-111-4738						E	A950	RESISTOR, FIXED, COMPOSITION: SAME AS A375	EA	1	2									6-8	3A3A7R26
P	D		5905-111-4738						E	A951	RESISTOR, FDXED, COIPOSITION: SAME AS A375	EA	1	REF									6-8	3A3A7R42
P	D		5905-141-1168						E	A952	RESISTOR, FDCED, COMPOSITION: SAME AS A475	EA	1	1									6-8	3A3A7R38
P	D		5905-935-8540						E	A953	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF300J	EA	1	1						2			6-8	3A3A7R47
P	D		5905-104-8330						E	A954	RESISTOR, FIXED, COMPOSITION: SAME AS A484	EA	1	1									6-8	3A3A7R48
P	D		5905-064-0555						E	A955	RESISTOR, FIXED, FIIM: 14674; RIOX1002r	EA	1	2						2			6-8	3A3A7R22
P	D		5905-941-4673						E	A956	RESISTOR, FIXED 14674;0RzOX3RfOF	FIIM: EA	1	1						2			6-8	3A3A7R28
P	D		5905-071-2320						E	A957	RESISTOR, FIXED, FIIM: 14674; RN20XS2R3F	EA	1	1						2			6-8	3A3A7R29
P	D		5905-984-5296						E	A958	RESISTOR, FIXED, FILIM: 14674; RN20X1370F	EA	1	1						2			6-8	3A3A7R30
P	D		5905-724-7461						E	A959	RESISTOR, FIXED, FIIM: 14674; RN20X2870F	EA	1	1	2								6-8	3A3A7R31
P	D		5905-724-7461						E	A960	RESISTOR, FIXED, FIM: 14674; RN20X6490F	EA	1	1	2								6-8	3A3A7R32

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				DESCRIPTION									DS			GS							
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)		
P	D		5905-993-1359						E	A961	RESISTOR, FIXED, FILM: 14674; RN20X2611F	EA	1	1							2	6-8	3A3A7R33
P	D		5905-071-2613						E	A962	RESISTOR, FIXED, FILM: 14674; RN20X6812F	EA	1	1							2	6-8	3A3A7R40
P	D		5905-952-9639						E	A963	RESISTOR, FIXED, FILM: 14674; RN20X3571F	EA	1	1							2	6-8	3A3A7R41
P	D		5905-883-9198						E	A964	RESISTOR, FIXED, FLM: 14674; RN20X1001F	EA	1	REF							2	6-8	3A3A7R44
P	D		5905-990-4916						E	A965	RESISTOR, FIXED, FILM: 14674; RN20X2210F	EA	1	1							2	6-8	3A3A7R45
P	D		5905-892-7378						E	A966	RESISTOR, FIXED, FILM: 14674; RN20X3011F	EA	1	1							2	6-8	3A3A7R46
P	D		5905-993-7406						E	A967	RESISTOR, VARIABLE: SAME AS A395	EA	1	2								6-8	3A3A7R5
P	D		5905-993-7406						E	A968	RESISTOR, VARIABLE: SAME AS A395	EA	1	REF								6-8	3A3A7RII
P	D		5961-078-0625						E	A969	SEMICONDUCTOR DEVICE, DIODE: SAME AS A405	EA	1	2								6-8	3A3A7CR1
P	D		5961-078-0625						E	A970	SEMICOMDUCTOR DEVICE, DIODE: SAME AS A405	EA	1	REF								6-8	3A3A7CR2
P	D		5961-400-5375						E	A971	SEMICOIJDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	6								6-8	3A3A7CR3
P	D		5961-400-5375						E	A972	SEIICOIINDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF								6-8	3A3A7CR4

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)				
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				MODEL									DS			GS							
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)		
P	D		5961-400-5375						E	A973	SEMICONDUCTOR DEVICE, DIODE SAME AS A402	EA	1	REF								6-8	3A3A7CR7
P	D		5961-400-5375						E	A974	SEMICONDUCTOR DEVICE, DIODE SAME AS A402	EA	1	REF								6-8	3A3A7CR8
P	D		5961-400-5375						E	A975	SEMICONDUCTOR DEVICE, DIODE SAME AS A402	EA	1	REF								6-8	3A3A7CR9
P	D		5961-400-5375						E	A976	SEMICONDUCTOR DEVICE, DIODE SAME AS A402	EA	1	REF								6-8	3A3A7CR10
P	D		5961-892-3405						E	A977	TRANSISTOR: SAME AS A611	EA	1	4								6-8	3A3A7Q1
P	D		5961-892-3405						E	A978	TRANSISTOR: SAME AS A611	EA	1	REF								6-8	3A3A7Q2
P	D		5961-892-3405						E	A979	TRANSISTOR SAME AS A611	EA	1	REF								6-8	3A3A7Q5
P	D		5961-892-3405						E	A980	TRANSISIOR: SAME AS A611	EA	1	REF								6-8	3AA7Q9
P	D		5961-985-9134						E	A981	TRANSISTOR: SAME AS A413	EA	1	4								6-8 6-8	3A3A7Q3
P	D		5961-985-9134						E	A982	TRANSISTOR: SAME AS A413	EA	1	REF								6-8	3A3A7Q4
P	D		5961-985-9134						E	A983	TRANSISTOR: SAME AS A413	EA	1	REF								6-8	3A3A7Q6
P	D		5961-985-9134						E	A984	TRANSISTOR: SAME AS A413	EA	1	REF								6-8	3A3A7Q8

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	(A)	(B)	(C)	(A)	(B)			(C)			
P	D		5961-837-7262						E	A985	TRANSISTOR: SAME AS A409	EA	1	3								6-8	3A3A7Q10	
P	D		5961-837-7262						E	A986	TRANSISTOR: SAME AS A409	EA	1	REF								6-8	3A3A7Q11	
P	D		5961-837-7262						E	A987	TRANSISTOR: SAME AS A409	EA	1	REF								6-8	3A3A7Q12	
P	D		5961-487-8132						E	A988	TRANSISTOR: SAME AS A412	EA	1	1								6-8	3A3A7Q13	
P	D		5999-441-9211						D	A989	ADAPTER CARD ASSEMBLY: 14031; SMD633077	EA	1	1					2			6-1	3A3A8	
X1	D		5340-979-6930						E	A990	CLIP, SPRING TENSION:: 91506; 6084-1A	EA	1	1										3A3A8bP4
X2	D								E	A991	CONNECTOR, PLUG, ELECTRICAL: 97954; UPCRWD22DM30T1	EA	1	1								6-1	3A3A8MP2	
X2	D								E	A992	EXTRACTOR ASSEMBLY, PRINTED CIRCUIT BOARD: 14031; SMC632887	EA	1	1								6-1	3A3A8A1	
X2	D								F	A993	EXTRACTOR, TOOL: 14031; SMC632887-1	EA	1	1								6-1	3A 3A8A1MP2	
X2	D		5315-271-3045						F	A994	PRINTED, ROLL: 22599; 79-022-094-0562	EA	1	2								6-1	3A3A8A1MP1	
X1	D								E	A995	PRINTED CIRCUIT BOARD: 14031; SMC633042	EA	1	1								6-1	3A3A8MP1	
X1	H								C	A996	PANEL ASSEMBLY, REAR: 14031; SMD633044	EA	1	1								6-1	3A4	
												OS-206/GGM-15(V)												

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER	
				MODEL										DS			GS							
				1	2	3	4	5	6					IND CD	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50			(C) 51-100		
X2	H							*	A997	SCREW, MACHINE: SAME AS A189	EA	1	10										6-1	3H10
X2	H							*	A998	WASHER, FLAT: SAME AS A105	EA	1	10										6-1	3H10
X1	H							D	A999	BRACKET ASSEMBLY, BOARD: 14031; SMC633084	EA	1	1										6-1	3A4A6
X2	H							*	B001	SCREW, MACHINE: SAME AS A123	EA	1	2										6-1	3A4H2
X2	H							*	B002	WASHER, FLAT: SAME AS A105	EA	1	REF										6-1	3A4H2
X1	H							*	B003	BRACKET, BOARD: 14031; SMC633084-1	EA	1	1										6-1	3A4A6MP1
X2	H							*	B004	NUT, SELF-LOCKING, CLINCH: SAME AS A180	EA	1	4										6-1	3A4A6H4
X1	H							D	B005	BRACKET ASSEMBLY, HIGH VOLTAGE: 14031; SMC633050	EA	1	1										6-1	3A4A5
X1	H							E	BO06	BRACKET, HIGH VOLTAGE: 14031; SMC633050-1	EA	1	1										6-1	3A4A5MP1
X2	H							*	B007	NUT, SELF-LOCKING, HEXAGON: SAME AS AS180	EA	1	6										6-1	3A4A5H6
X1	H							D	B008	BRACKET ASSEMBLY, TRANSISTOR: 14031; SMC632897	EA	1	1										6-1	3A4A3
X2	H							*	B009	SCREW, MACHINE: 70318; 8-32X1-2PANHDCRES	EA	2											6-1	3A4H2
X2	H								B010	WASHER, FLAT: SAME AS A170	EA	1	2										6-1	3A4H2
													OS-206/GGM-15(V)											

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) MODEL						DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)	
X1	H								E	B011	BRACKET, TRANSISTOR: 14031; SMC632897-1	EA	1	1										6-1	3A4A3MP1
X2	H		5310-866-4638						E	B012	NUT, SELF-LOCKING, CLINCH: SAME AS A202	EA	1	2										6-1	3A4A3H2
P	H		6625-497-9791						D	B013	CABLE ASSEMBLY, POWER, ELECTRICAL: 14031; CX12105/V	EA	1	1				*	*	*	8	3		6-1	3A4A4
P	H		5935-081-3251						E	B014	CONNECTOR, RECEPTACLE, ELECTRICAL: 74545; 7484	EA	1	1				*	*	*	8	3		6-1	3A4A4J1
P	H		5910-488-4759						E	B015	CABLE, POWER, ELECTRICAL: 70903; 17408B18	EA	1	1				*	*	*	20	10		6-1	3A4A4MP1
P	H		5910-488-4759						D	B016	CAPACITOR, FIXED, PAPER: 00656; B16110-10F3000	EA	1	2				*	2	2	13	6		6-1	3A4C1
P	H		5910-488-1759						D	B017	CAPACITOR, FDHED, PAPER: SAME AS B016	EA	1	RFE										6-1	3A4C2
P	H		5950-466-3336						D	B018	COIL, RADIO FREQUENCY: 13619; RF3033-3	EA	1	2				*	2	2	13	6		6-1	3A4L1
P	H		5950-466-3336						D	B019	COIL, RADIO FRIUENCY: SAME AS B018	EA	1	REF										6-1	3A4L2
P	H		5935-811-1382						D	B020	CONNECTOR, PLUG, ELECTRICAL: 71468; DAM13W3P	EA	1	1				*	*	*	8	3		6-1	3A4/3W1P1/
X2	H		5935-047-2690						D	B021	CONNECTOR, PLUG, ELECTRICAL: 71468; DAM 15P	EA	1	1										6-1	3A4/3W1P2/
X2	H								D	B022	CONNECTOR, PLUG, ELECTRICAL: 71468; DAM 25P	EA	1	1										6-1	3A4/3WIP3/

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)							
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER				
				MODEL									DS			GS										
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)				
P	H		5935-615-2420						D	B023	CONNECTOR, RECEPRACLE, ELECTRICAL: 74545; 786G	EA	1	1				*	*	*	8	3	6-1	3A4J1		
X2	H								*	B024	SCREW, MACHINE: SAME AS A123	EA	1	2											6-1	3A4H2
X2	H								*	B025	WASHER, LOCK: SAME AS A106	EA	1	2											6-1	3A4H2
X2	H								*	B026	NUT, PLAIN, HEXAGON: SAME AS A107	EA	1	2											6-1	3A4H2
P	H		5935-716-6572						D	B027	CONNEDOR, RECEPTACLE, ELECTRICAL: 71468; DBM25S	EA	1	2				*	2	2	13	6	6-1	3A4J2		
P	H		5935-716-6572						D	B028	CONIIMCOR, RECEPTACLEI, ELECTRICAL: SAME AS B027	EA	1	REF											6-1	3A4/3W2J3/
P	H		5935-081-6771						D	B029	CONNECTOR, RECEPTACLE, ELECTRICAL: 71468; DM13W3S	EA	1	1				*	*	*	8	3	6-1	3A4/3W2J1/		
P	H		5935-936-7425						D	B030	CONNECTOR, RECEPTACLE, ELECTRICAL: 71468; DAM15S	EA	1	1				*	*	*	8	3	6-1	3A4/3W2J2/		
P	H		5935-975-6966						D	B031	CONTACT, ELECTRICAL: 71468; DM51157	EA	1	3				*	2	2	18	9	6-1	3A5MP19		
P	H		5935-975-6966						D	B032	CONTACT, ELECTRICAL: SAME AS B031	EA	1	REF											6-1	3A4MP20
P	H		5935-975-6966						D	B033	CONTACT, ELERCAL: SAME AS B031	EA	1	RE											6-1	3A4MP21
P	H		5935-910-5054						D	B034	CONTACT, ELECTRICAL: 71468; D51155	EA	1	3				*	2	2	18	9	6-1	3A4MP22		

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGCTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50			(C) 51-100			
P	H		5935-910-5054						D	B035	CONTACT, ELECTRICAL. SAME AS B034	EA	1	REF									6-1	3A4MP23
P	H		5935-910-5054						D	B036	CONTACT, ELECTRICAL: SAME AS B034	EA	1	REF									6-1	3A4MP24
X2	H								D	B037	COVER, PROTECTIVE: 14031; SMD633124	EA	1	1									6-1	3A4MP25
X2	H								*	B038	SCREW, MACHINE: SAME AS A123	EA	1	4									6-1	3A4H4
X2	H								*	B039	WASHER, FLAT: SAME AS A105	EA	1	4									6-1	3A4H4
X2	H								D	B040	INSULATOR, STANDOFF: 83330; 52-1502	EA	1	1									6-1	3A4MP28
X2	H								*	B041	SCREW, MACHINE: SAME AS A123	EA	1	1									6-1	3A4H1
X2	H								*	B042	WASHER, LOCK: SAME AS A0o6	EA	1	1									6-1	3A4H1
X2	H								*	B043	WASHER, FLAT: SAME AS A105	EA	1	1									6-1	3A4H1
X2	H								D	B044	INSULATOR, STANDOFF: SAME AS B040	EA	1	1									6-1	3A4MP29
X2	H								*	B045	SCREW, MACHINE: SAME AS A123	EA	1	1									6-1	3A4H1
X2	H								*	B046	WASHER, LOCK: SAME AS A106	EA	1	1									6-1	3A4H1

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL									DS			GS									
				1	2	3	4	5	6				IND CD	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50			(C) 51-100				
X2	H		5805-806-1856						*	B047	WASHER, FLAT: SAME AS A105	EA	1	1										6-1	3A4H1
P	H								D	B048	MOUNTING KIIT, TRANSISTOR: 04713; M5	EA	1	1				*	*	*	4	2		6-1	3A4MP5
X2	H								*	B049	SCREW, MACHINE: SAME AS A189	EA	1	2										6-1	3A4H2
X2	H								*	B050	WASHER, FLAT: SAME AS A105	EA	1	2										6-1	3A4H2
X2	H								*	B051	WASHER, LOCK: SAME AS A106	EA	1	2										6-1	3A4H2
X2	H								*	B052	NUT, PLAN, HEXAGON: SAME AS A107	EA	1	2										6-1	3A4H2
P	H		5805-806-1856						D	B053	MUNTING, KIT, TRANSISTOR: SAME AS :048	EA	1	1										6-1	3A4MP6
X2	H								*	B054	SCREW, MACHINE: SAME AS A189	EA	1	2									6-1	3A4H2	
X2	H								*	B055	WASHER, FLAT: SAME AS A105	EA	1	2									6-1	3A4H2	
X2	H								*	B356	WASHER, LOCK: SAME AS A106	EA	1	2									6-1	3A4H2	
X2	H								*	B057	NUT, PLAIN, HEXAGON: SAME AS A107	EA	1	2									6-1	3A4H2	
X2	H	D								B058	NUT, SLEEVE: 06540; 824 3SS050632-7	EA	1	1										6-1	3A4MP1

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. C D (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	1-20 (A)	21-50 (B)	51-100 (C)	1-20 (A)	21-50 (B)					51-100 (C)	
X2	H							*	B059	SCREW, MACHINE: SAME AS A123	EA	1	2										6-1	3A4H2
X2	H							*	B060	WASHER, LOCK: SAME AS A106	EA	1	2										6-1	3A4H2
X2	H							*	B061	WASHER, FLAT: SAME AS A105	EA	1	2										6-1	3A4H2
X2	H							D	B062	NUT, SLEEVE: SAME AS B058	EA	1	1										6-1	3A4MP2
X2	H							*	B063	SCREW, MACHINE: SAME AS A123	EA	1	2										6-1	3A4H2
X2	H							*	B064	WASHER, LOCK: SAME AS A106	EA	1	2										6-1	3A4H2
X2	H							*	B065	WASHER, FLAT: SAME AS A105	EA	1	2										6-1	3A4H2
X2	H							D	B066	PANEL SUBASSEMBLY, REAR: 14031; SMD633045	EA	1	1										6-1	3A4A2
X2	H							*	B067	NUT, PLAIN, CLINCH: SAME AS A230	EA	1	2										6-1	3A4A2H2
X2	H							E	B068	PANEL, REAR: 14031; SM633045-1	EA	1	1										6-1	3A4A2MP
X2	H		5935-898-0494					D	B069	SCREW, LOCK ASSEMBLY: 71468; D20418-2	EA	1	8										6-1	3A4MP3
X2	H		5935-898-0494					D	B070	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	1	REF										6-1	3A4MP4

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTGTY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				MODEL									IND CD	DESCRIPTION	DS			GS							
				1	2	3	4	5	6						(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20			(B) 21-50	(C) 51-100			
X2	H		5935-898-0494						D	B071	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	1	REF										6-1	3A4MP7
X2	H		5935-898-0494						D	B072	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	11	REF										6-1	3A4MP8
X2	H		5935-898-049;4						D	B073	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	1	REF										6-1	3A4MP9
X2	H		5935-898-0494						D	B074	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	1	REF										6-1	3A4MP10
X2	H		5935-898-0494						D	B075	SCREW, LOCK ASSEMBLY: SAME AS B069	EA	1	REF										6-1	3A4MP11
X2	H		5935-898-0494						D	B076	SCREW, LOCK ASSEMBLY: SAME AS 5069	EA	1	REF										6-1	3A4MP12
X2	H		5935-724-7159						D	B077	SCREW, LOCK ASSEMBLY: 71468; D20419-16	EA	1	6										6-1	3A4MP13
X2	H		5935-724-7159						D	B078	SCREW, LOCK ASSEMBLY: SAME AS B077	EA	1	REF										6-1	3A4MP14
X2	H		5935-724-7159						D	B079	SCREW, LOCK ASSEMBLY SAM4E AS B077	EA	1	REF										6-1	3A4MP15
X2	H		5935-724-7159						D	B080	SCREW, LOCK ASSEMBLY: SAME AS B077	EA	1	REF										6-1	3A4MP16
X2	H		5935-724-7159						D	B081	SCREW, LOCK ASSEMBLY: SAME AS B077	EA	1	REF										6-1	3A4MP17
X2	H		5935-724-7159						D	B082	SCREW, LOCK ASSEMBLY: SAME AS B077	EA	1	REF										6-1	3A4MP18
X2	H		5935-724-7159						D	B083	SHIELD, RADIO FREQUENCY: 14031; SMC632903	EA	1	1										6-1	3A4MP27

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)								
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER					
				MODEL									DS			GS											
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)					
X2	H		6625-103-2031						*	B084	SCREW, MACHINE: 70318 4-40X1-4PANHD	EA	1	8										6-1	3A4H8		
X2	H								*	B385	WASHER, LOCK: SAME AS A115	EA	1	8											6-1	3A4H8	
X2	H								*	B086	NUT, PLAIN, HEXAGON: 70318; 4-40-CRES	EA	1	8											6-1	3A4H8	
P	H								D	B087	TRANSFORMER, POWER: 14031; C2449	EA	1	1		*	*	*	8	3					6-1	3A4T1	
X2	H								*	B088	SCREW, MACHINE: SAME AS B009	EA	1	4												6-1	3A4H4
X2	H								*	B089	WASHER, FLAT: SAME AS A170	EA	1	8												6-1	3A4H8
X2	H								*	B090	WASHER, LOCK: SAME AS A237	EA	1	4												6-1	3A4H4
X2	H								*	B091	NUT, PLAIN, HEXAGON: SAME AS A238	EA	1	4												6-1	3A4H4
P	H			5961-821-8976					D	B092	TRANSISTOR: 04713; 2N297A	EA	1	2		*	2	2	16	8						6-1	3A4Q1
P	H		5961-821-8976					D	B093	TRANSISTOR: SAME AS B092	EA	1	REF												6-1	3A4EV	
P	H	T	6625-441-9301					D	B094	COMPONENT BOARD ASSEMBLY: 14031; SMD633078	EA	1	1		*	2	2	19	11						6-9	3A4A1	
P	D		5910-823-1068					E	B095	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 71590; CK62AW472M	EA	1	3												6-9	3A4A1C8	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTGCV PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5910-823-1068						E	B096	CAPACITOR, FIXED, CERAMIC DIELECTRIC: SAME AS B095	EA	1	REF									6-9	3A4A1C9
P	D		5910-83-1068						E	B097	CAPACITOR, FIXED, CERAMIC DIELECTRIC: SAME AS B095	EA	1	REF									6-9	3A4A1C11
P	D		5910-954-SS00						E	B98	CAPACITOR, FIXED, CERAMIC DIELECTRIC: SAME AS A432	EA	1	1									6-9	3A4AC6
P	D		5910-965-9441						E	B099	CAPACITOR, FIXED, MICA DIELECTRIC: SAME AS A308	EA	1	1									6-9	3A4A1C1
P	D		5910-488-4759						E	B100	CAPACITOR, FIXED, PAPER DIELECTRIC: 00656; B161Y5	EA	1	5					15				6-9	3A4A1C1
P	D		5910-488-4759						E	B101	CAPACITOR, FIXED, PAPER DIELECTRIC: SAME AS B100	EA	1	REF									6-9	3A4A1C4
P	D		5910-488-4759						E	B102	CAPACITOR, FIXED, PAPER DIELECTRIC: SAME AS B100	EA	1	REF									6-9	3A4A1C2
P	D		5910-488-4759						E	B103	CAPACITOR, FIXED, PAPER DIELECTRIC: SAME AS B100	EA	1	REF									6-9	3A4A1C3
P	D		5910-488-4759						E	B104	CAPACITOR, FIED, PAPER DIELECTRIC: SAME AS B100	EA	1	REF									6-9	3A4A1C7
P	D		5910-901-9870						E	B105	CAPACITOR, FIXED, PAPER DIELECTRIC: SAME AS A311	EA	1	1									6-9	3A4A1C12
P	D		5910-903-7443						E	B106	CAPACITOR, FIXED, PAPER DIELECTRIC: 00656; P3232N	EA	1	1					3				6-9	3A4A1C5
P	D		5910-902-9699						E	B107	CAPACITOR, FIXED, PAPER DIELECTRIC: 56289; 156P10504	EA	1	1					3				6-9	3A4A1C13

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)						
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	MODEL						(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				1	2	3	4	5	6					IND CD	(A)	(B)	(C)	(A)	(B)					(C)	
P	D		5961-944-3628						E	B108	PAD, TRANSISTOR: SAME AS A350	EA	1	3										6-9	3A4A1MP2
P	D		5961-944-3628						E	B109	PAD, TRANSISTOR. SAME AS A350	EA	1	REF										6-9	3A4A1MP3
P	D		5961-944-3628						E	B110	PAD, TRANSISTOR. SAME AS A350 SMD633090	EA	1	REF									6-9	3A4A1MP4	
X1	D								E	B111	PAD, TRANSISTOR: SAME AS A350	EA	1	REF									6-9	3A4A1MP1	
P	D		5905-104-5756						E	B112	RESISTOR, FIXED, COMPOSITION: SAME AS A853	EA	1	3									6-9	3A4A1R1	
P	D		5905-104-5756						E	B113	RESISTOR, FIXED, COMPOSITION: SAME AS 4853	EA	1	REF									6-9	3A4A1R4	
P	D		5905-104-5756						E	B114	RESISTOR, FIXD, COMPOSITION: SAME AS A853	EA	1	REF									6-9	3A41R11	
P	D		5905-299-1993						E	B115	RESISTOR, FIXED, COMPOSITION: 81349; RC32GF474J	EA	1	1						2			6-9	3A4A1R2	
P	D		5905-121-9859						E	B116	RESISTOR, FIXED, COMPOSITION: 81349; RC20GF106J	EA	1	3						6			6-9	3A4A1R3	
P	D		5905-121-9859						E	B117	RESISTOR, FIXED, COMPOSITION: SAME AS B116	EA	1	REF									6-9	3A4A1R10	
P	D		5905-121-9859						E	B118	RESISTOR, FIXED, COMPOSITION: SAME AS B116	EA	1	REF									6-9	3A4A1R4	
P	D		5905-106-9348						E	B119	RESISTOR, FIXED, COMPOSITION: SAME AS A384	EA	1	5									6-9	3A4A1R5	

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)					
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.						1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER		
				MODEL									DS			GS								
				1	2	3	4	5	6				IND CD	DESCRIPTION	(A)	(B)	(C)	(A)			(B)	(C)		
P	D		5905-106-9348						E	B120	RESISTOR, FIXED, COMPOSITION: SAME AS A384	EA	1	REF									6-9	3A4AR6
P	D		5905-106-9348						E	B121	RESISTOR, FIXED, COMPOSITION: SAME AS A384	EA	1	REF									6-9	3A4AIR9
P	D		5905-106-9348						E	B122	RESISTOR, D, COMPOSITION: SAME AS A384	EA	1	REF									6-9	3A4A1R13
P	D		5905-106-9348						E	B123	RESISTOR, FIXED, COMPOSITION: SAME AS A384	EA	1	REF									6-9	3A4A8
P	D		5905-104-8330						E	B124	RESISTOR, FIXED, COMSITMON: SAME AS A484	EA	1	3									6-9	3A4A1R7
P	D		5905-104-8330						E	B125	RESISTOR, FIXED, COMPOSITION: SAME AS A484	EA	1	REF									6-9	3A4A1R12
P	D		5905-104-8330						F	B126	RESISTOR, FIXED, COMPOSITION: SAME AS A484	EA	1	REF									6-9	3A4A1R17
P	D		5905-104-8336						E	B127	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	2									6-9	3A4A1R8
P	D		5905-104-8336						E	B128	RESISTOR, FIXED, COMPOSITION: SAME AS A455	EA	1	REF									6-9	3A4A1R16
P	D		5905-104-8346						E	B129	RESISTOR, FIXED, COMPOSITION: SAME AS A706	EA	1	3									6-9	3A4A1R15
P	D		5905-104-8346						E	B130	RESISTOR, FIXED, COMPOSITION: SAME AS A706	EA	1	REF									6-9	3A4A1R22
P	D		5905-104-8346						E	B131	RESISTOR, FIXED, COMPOSITION: SAME AS A706	EA	1	REF									6-9	3A4A1R23
P	D		5905-104-5756						E	B13LA	RESISTOR, FIXED, COMPOSITION SAME AS A853	EA	1	REF										3A4A1R24

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(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE					(4)	(5)	(6)	(7)						(8)	(9)	(10)			
SOURCE CD (A)	MAINT. CD (B)	REC. CODE (C)	(2) FEDERAL STOCK NUMBER	(3)						UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	30 DAY MAINT. ALW.			1 YR. ALW. PER 100 EQUIP. (8) CNTG CY PL.	DEPOT MAINT. ALW. PER 100 EQUIP. (9)	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER			
				DESCRIPTION									DS							GS		
				MODEL									(A)	(B)	(C)					(A)	(B)	(C)
1	2	3	4	5	6	IND CD	1-20	21-50	51-100	1-20	21-50	51-100										
P	D		5905-299-2001						E	B132	RESISTOR, FIXED, COMPOSITION: 81349; RC32GF124J	EA	1	1						2	6-9	3A4A1R19
P	D		5905-299-1992						E	B133	RESISTOR, FIXED, COMPOSITION: 81349; RC32GF684J	EA	1	1						2	6-9	3A4A1R20
P	D		5905-114-5393						E	B134	RESISTOR, FIXED, COMPOSITION: SAME AS A466	EA	1	1							6-9	3A4A1R21
P	D		6130-252-5746						E	B135	SEMICONDUCTOR DEVICE, DIODE: 83701; C060RP	EA	1	2						4	6-9	3A4A1CR1
P	D		6130-252-5746						E	B136	SEMICONDUCTOR DEVICE, DIODE: SAME AS B135	EA	1	REF							6-9	3A4A1CR2
P	D		5961-400-5375						E	B137	SEMICONDUCTOR DEVICE, DIODE: SAM4E AS A402	EA	1	4							6-9	3A4A1CR3
P	D		5961-400-5375						E	B138	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF							6-9	3A4A1CR4
P	D		5961-400-5375						E	B139	SEMICONDUCTOR DEVICE, DIODE: SAME AS A402	EA	1	REF							6-9	3A4A1CR>
P	D		5961-400-5375						E	B140	SEMICONDUCTOR DEVICE, DIODE: SAI4E AS A402	EA	1	REF							6-9	3A4A1CR6
P	D		5961-882-8677						E	B141	TRANSISTOR: SAME ASS 417	EA	1	3							6-9	3A4A1Q1
P	D		5961-882-8677						E	B142	TRAIISISTOR: SAME AS A417	EA	1	REF							6-9	3A4A1Q2
P	D		5961-882-8677						E	B143	TRAIISISTOR: SAME AS A417	EA	1	REF							6-9	3A4A1Q3

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SECTION III. FEDERAL STOCK NUMBER CROSS-REFERENCE INDEX

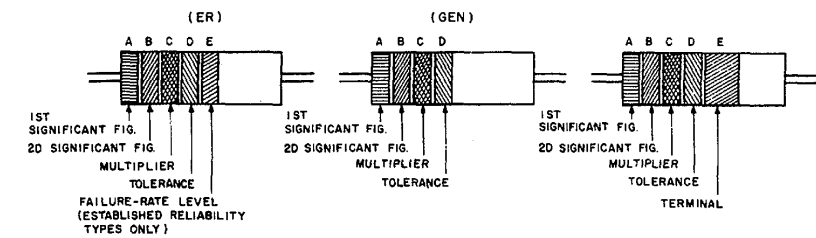
Federal stock number	Figure No.	Symbol No.	Federal stock number	Figure No.	Symbol No.
5305-987-0119	6-1	3A1H1	5905-104-8330	6-4	3A3A3R37
5310-050-0458	6-1	3H1	5905-104-8333	6-6	3A3A5R53
5310-819-9188	6-1	3A2A2H2	5905-104-8336	6-4	3A3A3R2
5310-866-4638	6-1	3A2AIH1	5905-104-8346	6-6	3A3A5R30
5310-980-6155	6-1	3A2A6H3	5905-104-8348	6-3	3A3A2R36
5315-271-3045	6-1	3A3A8A1MP1	5905-104-8350	6-3	3A3A2R43
5340-915-4839	6-1	3A2MP4	5905-106-1282	6-4	3A3A3R13
5340-964-2555	6-1	3MP6	5905-106-9344	6-3	3A3A2R2
5340-979-6930	6-1	3A3A8MP4	5905-106-9345	6-7	3A3A6R67
5355-739-7668	6-1	3A1MP9	5905-106-9348	6-3	3A3A2R16
5355-753-5164	6-1	3A1MP4	5905-106-9351	6-2	3A3A1R3
5355-765-4582	6-1	3A1MP14	5905-110-0196	6-3	3A3A2R1
5355-929-9315	6-1	3A1MP16	5905-110-0310	6-6	3A3A5R74
5805-806-1856	6-1	3A4MP5	5905-110-0993	6-4	3A3A3R39
5905-060-2482	6-6	3A3A5R14	5905-111-4734	6-7	3A3A6R31
5905-064-0555	6-8	3A3A7R22	5905-111-4738	6-3	3A3A2R9
5905-071-2320	6-8	3A3A7R29	5905-111-4858	6-3	3A3A2R3
5905-071-2604	6-6	3A3ASR4	5905-111-8357	6-3	3A3A2R8
5905-071-2613	6-8	3A3A7R40	5905-114-5316	6-3	3A3A2R23
5905-104-5755	6-4	3A3A3R45	5905-114-5393	6-4	3A3A3R12
5905-104-5756	6-7	3A3A6R32	5905-114-5441	6-5	3A3A4R17

Federal stock number	Figure No.	Symbol No.	Federal stock number	Figure No.	Symbol No.
5905-116-8566	6-3	3A3A2R39	5905-299-1993	6-9	3A4A1R2
5905-116-8567	6-2	3A3A1R7	5905-299-2001	6-9	3A4AIR19
5905-116-8569	6-3	3A3A2R6	5905-458-5816	6-3	3A3A2R20
5905-121-9859	6-9	3A4A1R3	5905-491-1812	6-1	3A1R3A,R3B
5905-141-0591	6-3	3A3A2R15	5905-496-3413	6-2	3A3A1R8
5905-141-0593	6-3	3A3A2R17	5905-724-7461	6-8	3A3A7R32
5905-141-0595	6-3	3A3A2R12	5905-814-1614	6-6	3A3ASR3
5905-141-0596	6-7	3A3A6RII	5905-883-9198	6-8	3A3A7R44
5905-141-0598	6-3	3A3A2R44	5905-892-7278	6-8	3A3A7R46
5905-141-0599	6-7	3A3A6R19	5905-912-9332	6-4	3A3A3R7
5905-141-1071	6-4	3A3A3R41	5905-935-8540	6-8	3A3A7R47
5905-141-1116	6-3	3A3A2R13	5905-935-8544	6-6	3A3A5R79
5905-141-1130	6-6	3A3A5R80	5905-935-8545	6-6	3A3A5R27
5905-141-1165	6-5	3A3A4R21	5905-941-4673	6-8	3A3A7R28
5905-141-1168	6-4	3A3A3R17	5905-951-2696	6-3	3A3A2R7
5905-190-8887	6-5	3A3A4R18	5905-951-2817	6-6	3A3A5RS
5905-192-3971	6-4	3A3A3R30	5905-951-4921	6-6	3A3ASR7
5905-196-6804	6-1	3A1R4	5905-951-4935	6-6	3A3ASR6
5905-196-6805	6-1	3A1R1A,R1B	5905-952-9639	6-8	3A3A7R41
5905-197-4051	6-1	3A1R2	5905-978-8542	6-7	3A3A6R30
5905-279-2616	6-2	3A3A1R1	5905-978-9027	6-6	3A3A5R1
5905-299-1992	6-9	3A4AIR20	5905-984-5296	6-8	3A3A7R31

Federal stock number	Figure No.	Symbol No.	Federal stock number	Figure No.	Symbol No.
5905-989-4935	6-6	3A3A5R9	5910-827-1218	6-2	3A3A1C5
5905-990-4916	6-8	3A3A7R45	5910-851-9047	6-1	3A4C1
5905-993-1359	6-8	3A3A7R33	5910-864-8343	6-4	3A3A3C13
5905-993-2272	6-6	3A3A5R2	5910-878-5663	6-3	3A3A2C2
5905-993-7406	6-3	3A3A2R14	5910-901-9870	6-2	3A3A1C7
5910-044-4355	6-6	3A3A5C5	5910-902-0335	6-6	3A3A5C4
5910-051-4612	6-6	3A3A5C20	5910-902-9699	6-9	3A4A1C13
5910-054-5495	6-2	3A3AIC6	5910-903-7443	6-9	3A4A1C5
5910-108-7290	6-8	3A3A7C11	5910-914-1707	6-2	3A3A1C10
5910-247-2075	6-7	3A3A6C4	5910-925-6508	6-2	3A3A1C1
5910-433-6405	6-2	3A3A1C3	5910-928-7803	6-4	3A3A3C14
5910-488-4759	6-9	3A4AIC1	5910-954-5500	6-4	3A3A3C12
5910-702-8057	6-6	3A3A5C3	5910-954-5504	6-6	3A3A5C2
5910-717-0167	6-4	3A3A3C6	5910-963-8069	6-3	3A3A2C4
5910-728-4093	6-3	3A3A2C13	5910-965-9441	6-2	3A3A1C12
5910-806-3412	6-4	3A3A3C10	5910-959-2054	6-6	3A3A5C17
5910-806-6418	6-2	3A3A1C8	5910-995-0614	6-3	3A3A2C3
5910-809-8090	6-4	3A3A3C7	5920-013-9863	6-1	3A3XF3
5910-810-4849	6-3	3A3A2C1	5920-199-9498	6-1	3A3F1
5910-814-7957	6-2	3A3A1C11	5920-280-8344	6-1	3A3F3
5910-823-1068	6-9	3A4A1C8	5920-356-2185	6-3	3A3A2F1
5910-827-1209	6-4	3A3A3C1	5920-518-1790	6-1	3A3F4

Federal stock number	Figure No.	Symbol No.	Federal stock number	Figure No.	Symbol No.
5920-881-658 4	6-1	3A3XF1	5950-463-2579	6-1	3A2T1
5930-133-8614	6-1	3AIS5	5950-466-3336	6-1	3A4L1
5930-430-7053	6-1	3AIS1	5960-431-3260	6-1	3A2V1
5930-430-7055	6-1	3A1S3	5960-865-2787	6-1	3A2MP16
5930-431-3269	6-1	3A1S2	5961-055-7897	6-3	3A3A2Q6
5930-526-0587	6-1	3A1S4	5961-059-1137	6-3	3A3A2MP10
5930-655-1507	6-1	3A1S7	5961-078-0625	6-3	3A3A2CR3
5930-681-6699	6-1	3A1S2	-961-370-1651	6-3	3A3A2CR1
5935-057-2690	6-1	3A4/3W1P2	5961-400-53/5	6-3	3A3A2CR2
5935-081-3251	6-1	3A4A4J1	5961-487-8132	6-3	3A3A2Q2
5935-081-6771	6-1	3A4/3W2J1/	5961-519-6977	6-2	3A3AICR1
5935-193-7810	6-1	3A2/3W1P4/	5961-556-2091	6-3	3A3A2CR4
5935-481-7856	6-1	3A3XA1	5961-765-4612	6-2	3A3A1CR5
5935-615-2420	6-1	3A4J1	5961-821-8976	6-1	3A4Q1
5935-716-6572	6-1	3A4J2	5961-837-7262	6-3	3A3A2Q1
5935-724-7159	6-1	3A4MP13	5961-842-6937	6-4	3A3A3Q3
5935-811-1352	6-1	3A4/3W1P1/	5961-847-5246	6-6	3A3A5CR9
5935-898-0494	6-1	3A4MP3	5961-879-4069	6-3	3A3A2MP12
5935-910-5054	6-1	3A4MP22	5961-882-8677	6-9	3A4A1Q1
5935-936-7425	6-1	3A4/3W2J2/	5961-882-8677	6-3	3A3A2Q9
5935-975-6966	6-1	3A4MP19	5961-892-3405	6-5	3A3A4Q10
5940-204-5241	6-1	3A2MP8	5961-930-5325	6-4	3A3A3Q1

Federal stock number	Figure No.	Symbol No.	Federal stock number	Figure No.	Symbol No.
5961-944-3628	6-3	3A3A2MP2	6625-441-9316	6-7	3A3A6
5961-975-9134	6-3	3A3A2Q3	6625-442-6135	6-1	3
5962-105-4624	6-4	3A3A3Z2	6625-497-9791	6-1	3A4A4
5962-344-4319	6-4	3A3A3Z3			
5962-410-0751	6-4	3A3A3Z4			
5962-410-6300	6-4	3A3A3Z1			
5962-460-5746	6-6	3A3A5Z1			
5999-441-9211	6-1	3A3A8			
6115-065-8530	6-1	3MP2			
6130-252-5746	6-9	3A4A1CR1			
6240-877-2811	6-1	3A2DS1			
6240-892-4420	6-1	3A1DS5			
6250-061-8117	6-1	3A2A7			
6625-103-2031	6-1	3A4T1			
6625-179-2525	6-1	3A4H8			
6625-441-9301	6-9	3A4A1			
6625-441-9302	6-2	3A3A1			
6625-441-9303	6-3	3A3A2			
6625-441-9304	6-4	3A3A3			
6625-441-9305	6-5	3A3A4			
6625-441-9311	6-6	3A3A5			
6625-441-9313	6-8	3A3A7			



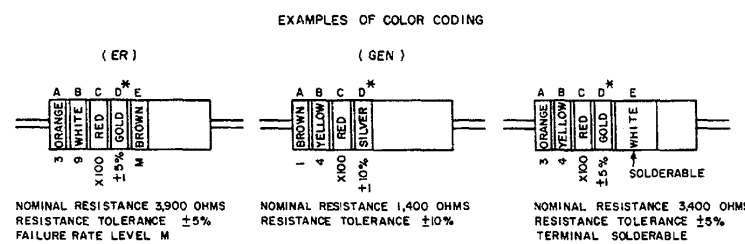
COLOR CODE MARKING FOR COMPOSITION TYPE RESISTORS. COLOR-CODE MARKING FOR FILM-TYPE RESISTORS.

TABLE 1
COLOR CODE FOR COMPOSITION TYPE AND FILM TYPE RESISTORS.

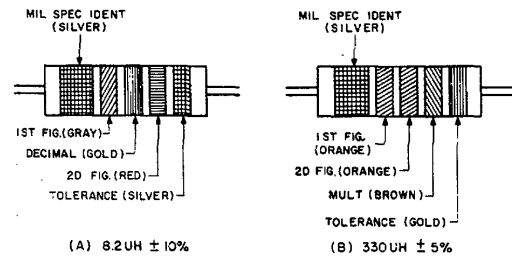
BAND A		BAND B		BAND C		BAND D		BAND E	
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)	COLOR	FAILURE RATE LEVEL
BLACK	0	BLACK	0	BLACK	1	BROWN	M=1.0	BROWN	M=1.0
BROWN	1	BROWN	1	BROWN	10	RED	P=0.1	RED	P=0.1
RED	2	RED	2	RED	100	ORANGE	R=0.01	ORANGE	R=0.01
ORANGE	3	ORANGE	3	ORANGE	1,000	YELLOW	S=0.001	YELLOW	S=0.001
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	±10 (COMP. TYPE ONLY)	WHITE	SOLD-ERABLE
GREEN	5	GREEN	5	GREEN	100,000	GOLD	±5		
BLUE	6	BLUE	6	BLUE	1,000,000	RED	±2 (NOT APPLICABLE TO ESTABLISHED RELIABILITY)		
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7						
GRAY	8	GRAY	8	SILVER	0.01				
WHITE	9	WHITE	9	GOLD	0.1				

BAND A — THE FIRST SIGNIFICANT FIGURE OF THE RESISTANCE VALUE (BANDS A THRU D SHALL BE OF EQUAL WIDTH.)
 BAND B — THE SECOND SIGNIFICANT FIGURE OF THE RESISTANCE VALUE.
 BAND C — THE MULTIPLIER (THE MULTIPLIER IS THE FACTOR BY WHICH THE TWO SIGNIFICANT FIGURES ARE MULTIPLIED TO YIELD THE NOMINAL RESISTANCE VALUE.)
 BAND D — THE RESISTANCE TOLERANCE.
 BAND E — WHEN USED ON COMPOSITION RESISTORS, BAND E INDICATES ESTABLISHED RELIABILITY FAILURE-RATE LEVEL (PERCENT FAILURE PER 1,000 HOURS). ON FILM RESISTORS, THIS BAND SHALL BE APPROXIMATELY 1-1/2 TIMES THE WIDTH OF OTHER BANDS, AND INDICATES TYPE OF TERMINAL.
 RESISTANCES IDENTIFIED BY NUMBERS AND LETTERS (THESE ARE NOT COLOR CODED)
 SOME RESISTORS ARE IDENTIFIED BY THREE OR FOUR DIGIT ALPHA NUMERIC DESIGNATORS. THE LETTER R IS USED IN PLACE OF A DECIMAL POINT WHEN FRACTIONAL VALUES OF AN OHM ARE EXPRESSED. FOR EXAMPLE:
 2R7 = 2.7 OHMS 10R0 = 10.0 OHMS

FOR WIRE-WOUND-TYPE RESISTORS COLOR CODING IS NOT USED, IDENTIFICATION MARKING IS SPECIFIED IN EACH OF THE APPLICABLE SPECIFICATIONS.



COMPOSITION-TYPE RESISTORS FILM-TYPE RESISTORS
 * IF BAND D IS OMITTED, THE RESISTOR TOLERANCE IS ±20% AND THE RESISTOR IS NOT MIL-STD.
 A. COLOR CODE MARKING FOR MILITARY STANDARD RESISTORS.



COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES. AT A, AN EXAMPLE OF OF THE CODING FOR AN 8.2UH CHOKE IS GIVEN. AT B, THE COLOR BANDS FOR A 330UH INDUCTOR ARE ILLUSTRATED.

TABLE 2
COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES.

COLOR	SIGNIFICANT FIGURE	MULTIPLIER	INDUCTANCE TOLERANCE (PERCENT)
BLACK	0	1	
BROWN	1	10	1
RED	2	100	2
ORANGE	3	1,000	3
YELLOW	4		
GREEN	5		
BLUE	6		
VIOLET	7		
GRAY	8		
WHITE	9		
NONE		20	
SILVER		10	
GOLD	DECIMAL POINT	5	

MULTIPLIER IS THE FACTOR BY WHICH THE TWO COLOR FIGURES ARE MULTIPLIED TO OBTAIN THE INDUCTANCE VALUE OF THE CHOKE COIL.

B. COLOR CODE MARKING FOR MILITARY STANDARD INDUCTORS.

CAPACITORS, FIXED, VARIOUS-DIELECTRICS, STYLES CM, CN, CY, AND CB.

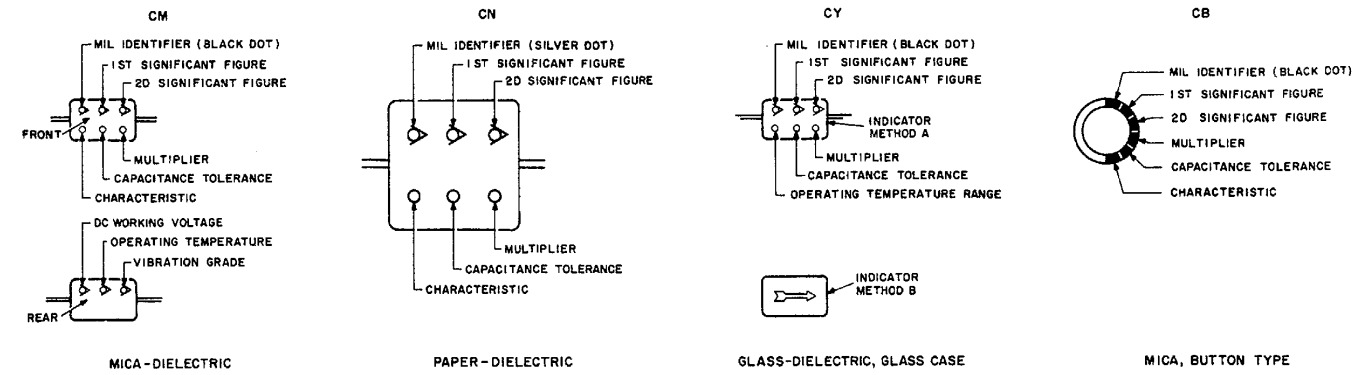


TABLE 3 — FOR USE WITH STYLES CM, CN, CY AND CB.

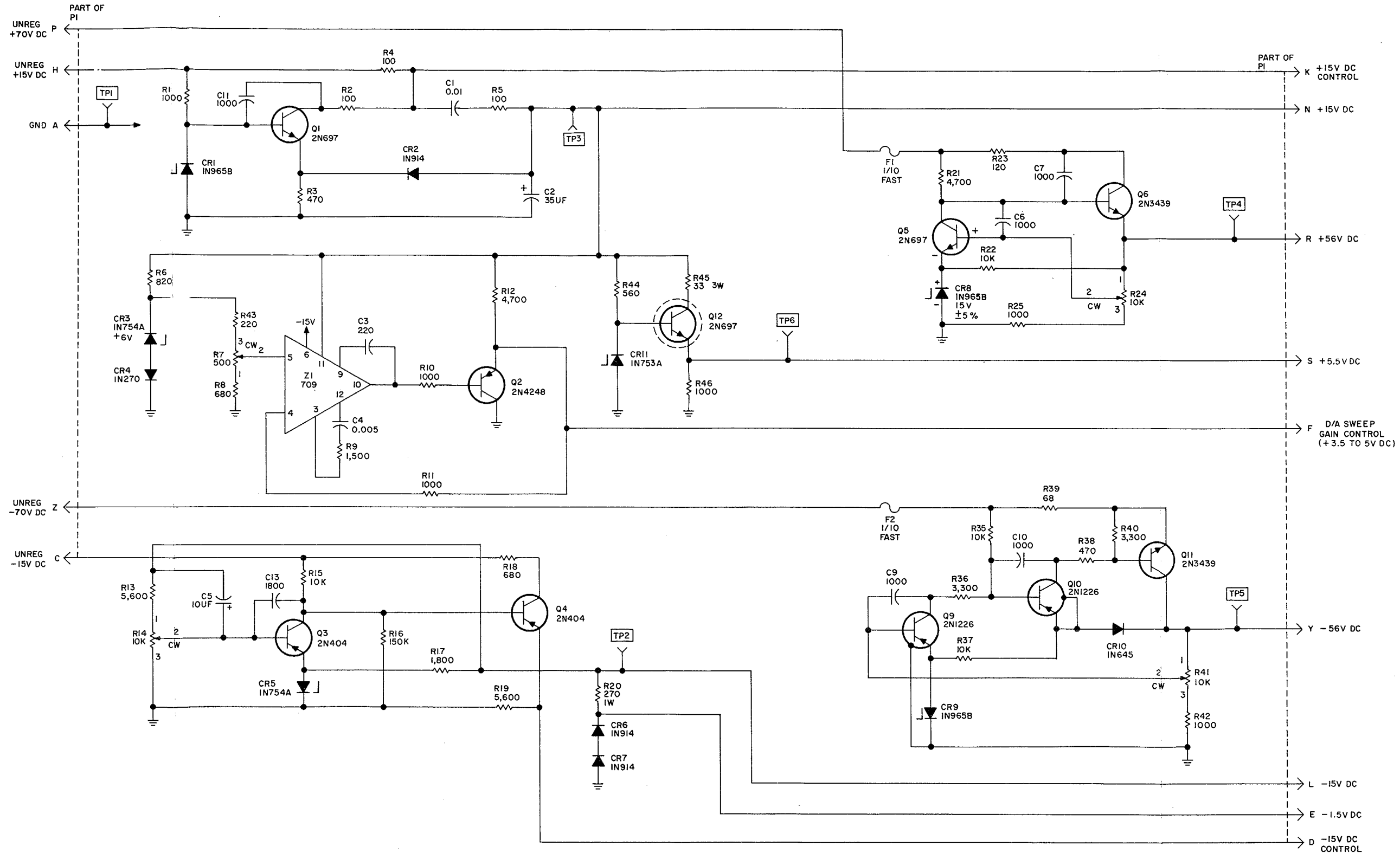
COLOR	MIL ID	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER	CAPACITANCE TOLERANCE				CHARACTERISTIC	DC WORKING VOLTAGE	OPERATING TEMP RANGE	VIBRATION GRADE
					CM	CN	CY	CB				
BLACK	CM, CN, CB	0	0	1			±20%	±20%	A		-55° TO +70°C	10-55 Hz
BROWN		1	1	10					B	E		
RED		2	2	100	±2%		±2%	±2%	C		-55° TO +85°C	
ORANGE		3	3	1,000		±30%			D	D	300	
YELLOW		4	4	10,000					E		-55° TO +125°C	10-2,000 Hz
GREEN		5	5				±5%		F		500	
BLUE		6	6								-55° TO +150°C	
PURPLE (VIOLET)		7	7									
GRAY		8	8									
WHITE		9	9									
GOLD				0.1			±5%	±5%				
SILVER	CN			0.01	±10%	±10%	±10%	±10%				

TABLE 4 — TEMPERATURE COMPENSATING, STYLE CC.

COLOR	TEMPERATURE COEFFICIENT	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER	CAPACITANCE TOLERANCE		MIL ID
					CAPACITANCES OVER 10 UUF	CAPACITANCES 10 UUF OR LESS	
BLACK	0	0	0	1		±2.0 UUF	CC
BROWN	-30	1	1	10		±1%	
RED	-80	2	2	100		±0.25 UUF	
ORANGE	-150	3	3	1,000			
YELLOW	-220	4	4				
GREEN	-330	5	5			±5%	±0.5 UUF
BLUE	-470	6	6				
PURPLE (VIOLET)	-750	7	7				
GRAY		8	8	0.01*			
WHITE		9	9	0.1*		±10%	
GOLD	+100			0.1			±1.0 UUF
SILVER				0.01			

1. THE MULTIPLIER IS THE NUMBER BY WHICH THE TWO SIGNIFICANT (SIG) FIGURES ARE MULTIPLIED TO OBTAIN THE CAPACITANCE IN UUF.
 2. LETTERS INDICATE THE CHARACTERISTICS DESIGNATED IN APPLICABLE SPECIFICATIONS: MIL-C-5, MIL-C-250, MIL-C-11272B, AND MIL-C-10950C RESPECTIVELY.
 3. LETTERS INDICATE THE TEMPERATURE RANGE AND VOLTAGE-TEMPERATURE LIMITS DESIGNATED IN MIL-C-11015D.
 4. TEMPERATURE COEFFICIENT IN PARTS PER MILLION PER DEGREE CENTIGRADE.
 * OPTIONAL CODING WHERE METALLIC PIGMENTS ARE UNDESIRABLE.

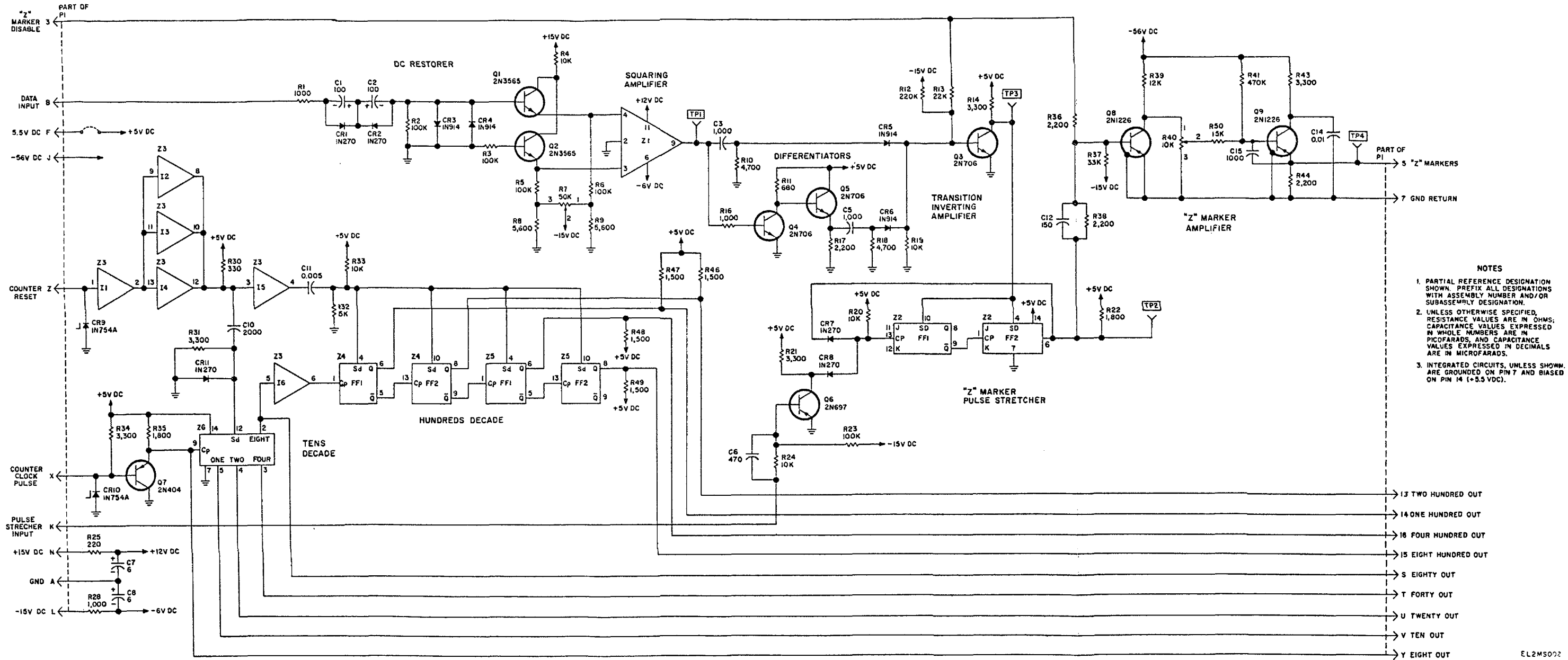
Figure 6-12. Military standard color code markings.



- NOTES**
1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.
 3. INTEGRATED CIRCUITS, UNLESS SHOWN, ARE GROUNDED ON PIN 7 AND BIASED ON PIN 14 (+5.5 VDC).

EL2MS006

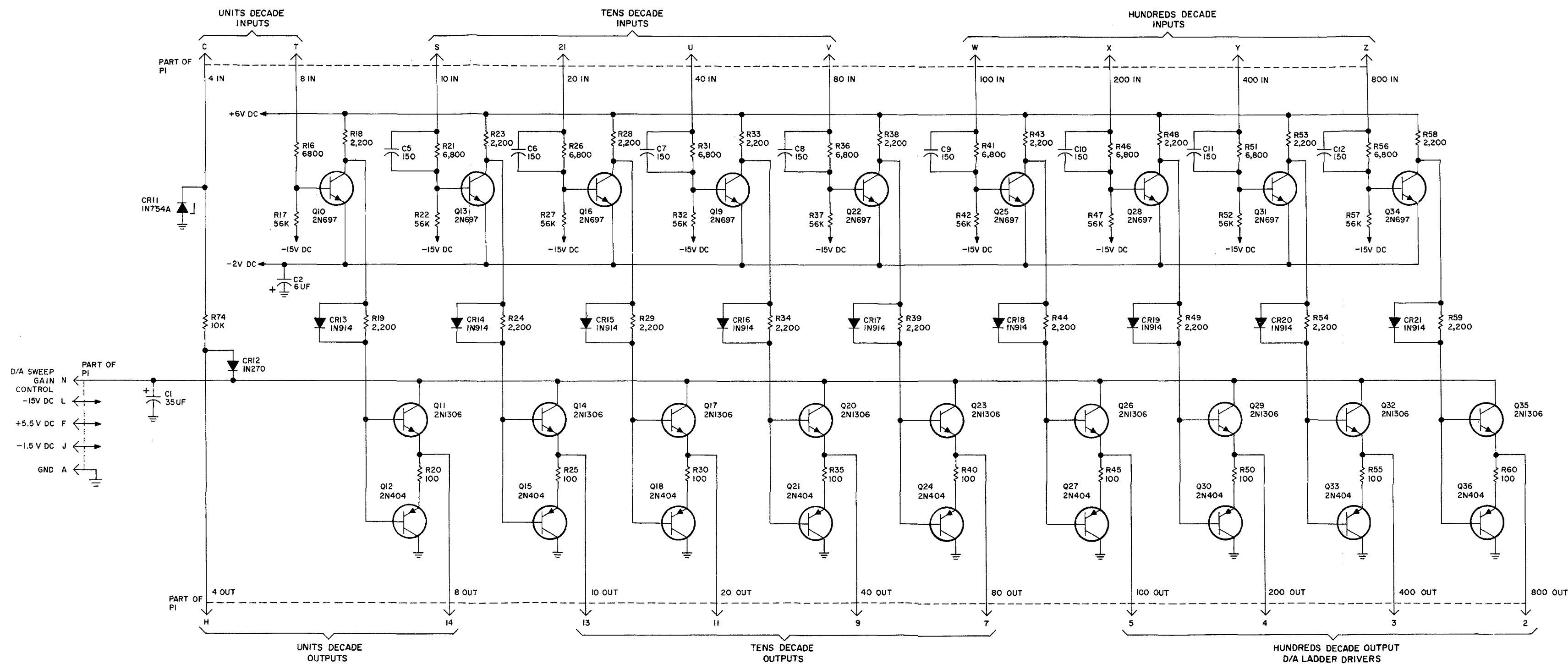
Figure 6-13. Low voltage regulator 3A3A2, schematic diagram.



- NOTES
1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.
 3. INTEGRATED CIRCUITS, UNLESS SHOWN, ARE GROUNDED ON PIN 7 AND BIASED ON PIN 14 (+5.5 VDC).

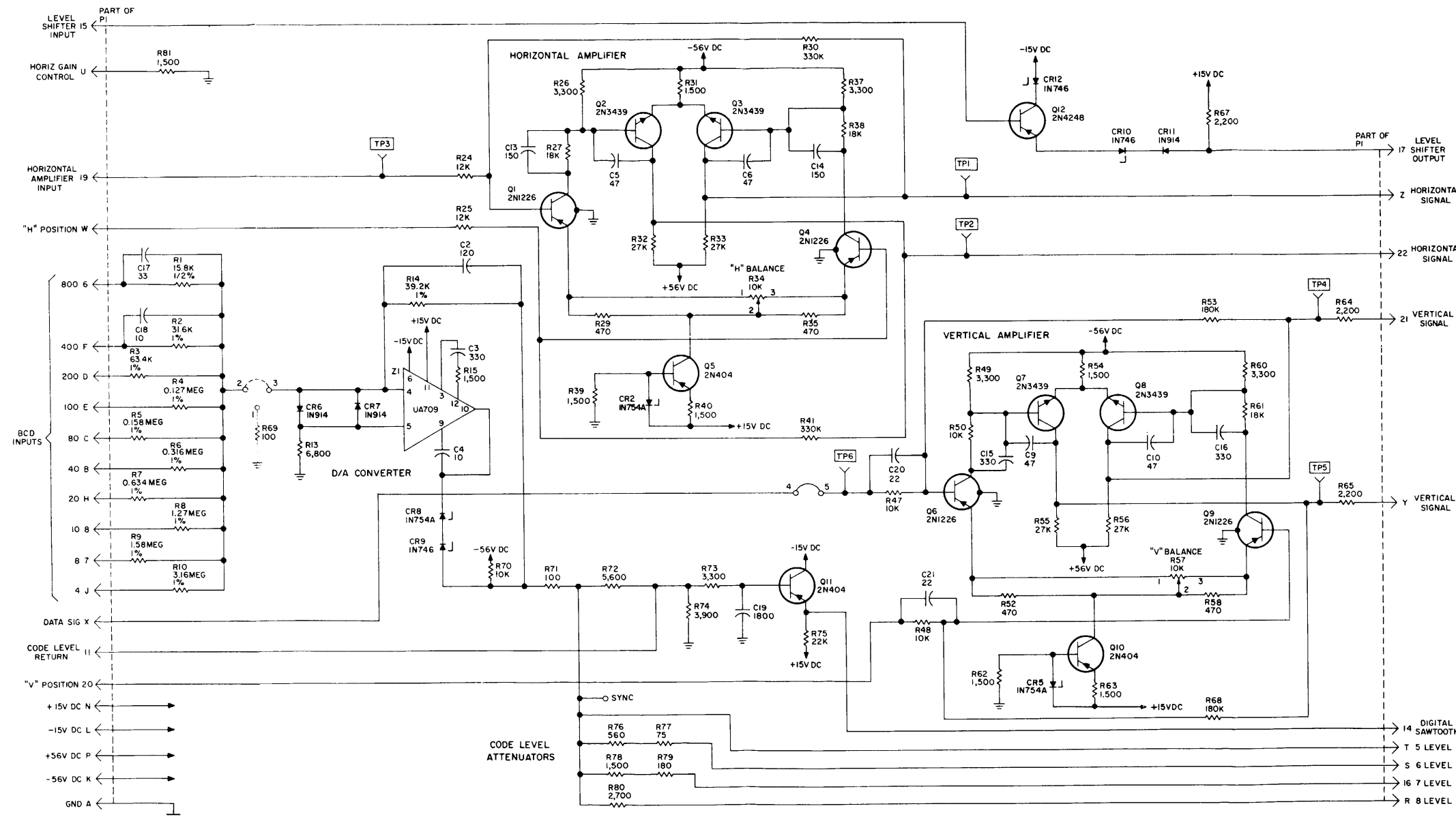
Figure 6-14. Z markers and D/A converter 3A3A3, schematic diagram.

Change 3



- NOTES**
1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.

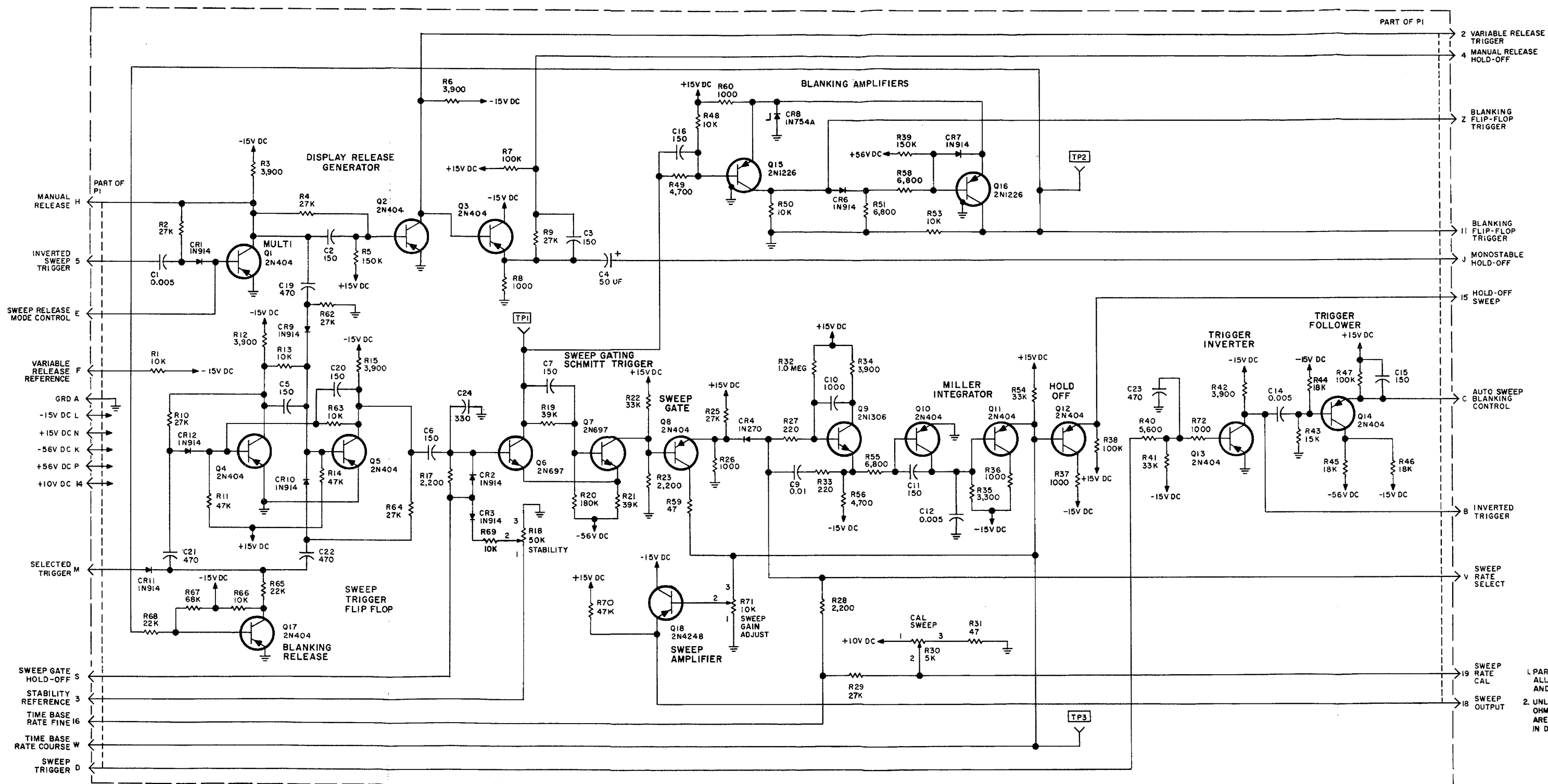
Figure 6-15. D/A ladder driver 3A3A4, schematic diagram.



- NOTES
- PARTIAL REFERENCE DESIGNATION SHOWN - PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 - UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.
 - INTEGRATED CIRCUITS, UNLESS SHOWN, ARE GROUNDED ON PIN 7 AND BIASED ON PIN 14 (+5.5 VDC).

EL 2M5003

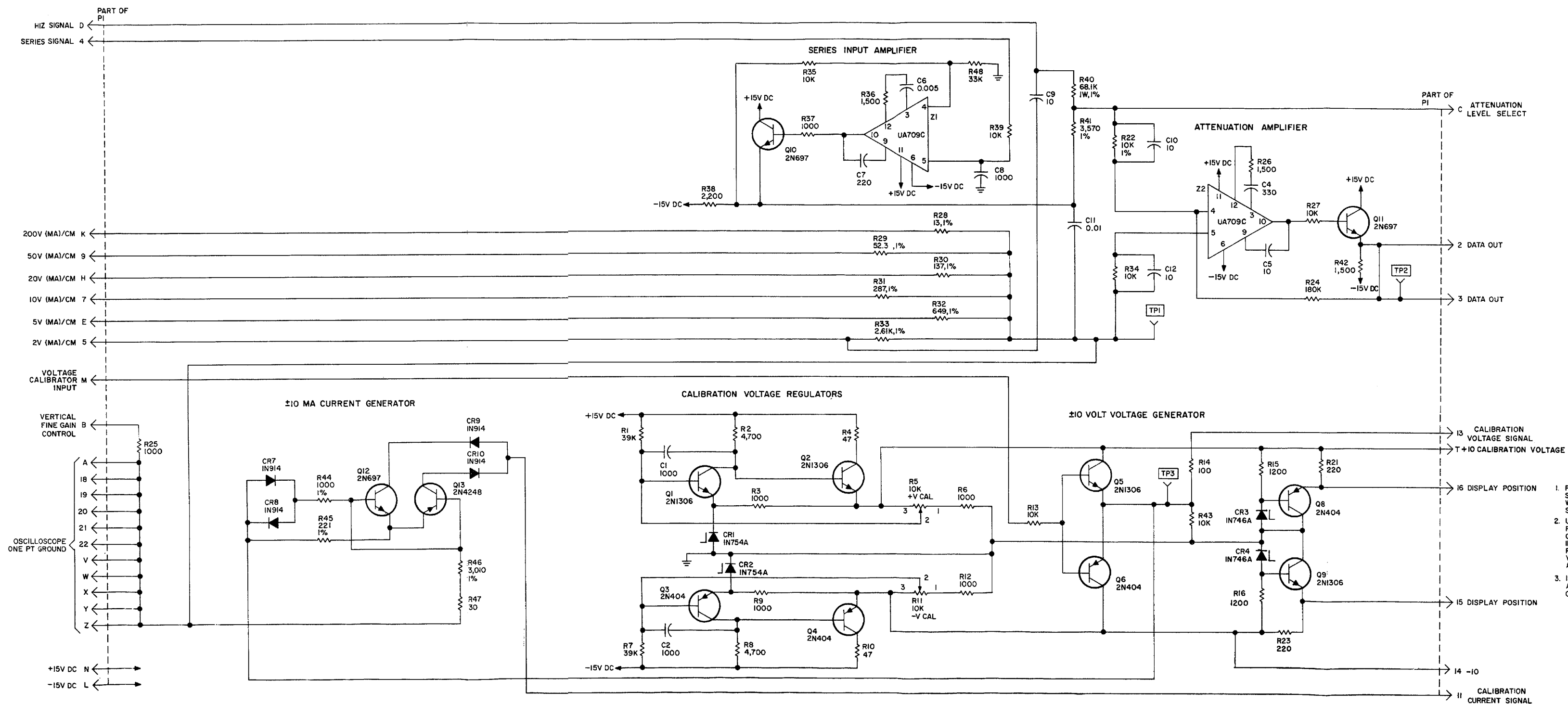
Figure 6-16. Horizontal and vertical amplifiers 3A3A5, schematic diagram.



NOTES:
 1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.

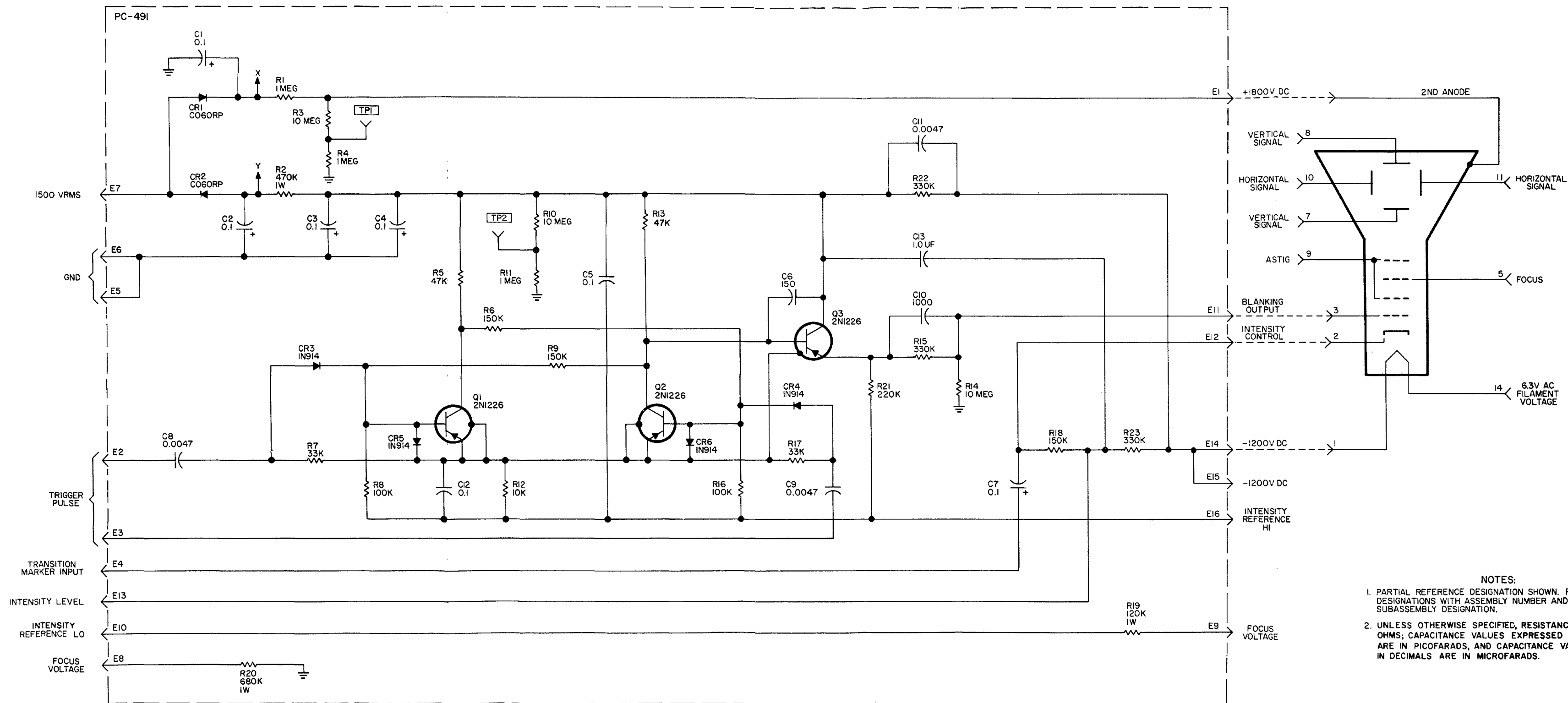
EL2MS004

Figure 6-17. Triggering and sweep generator circuits 3A3A6, schematic diagram.



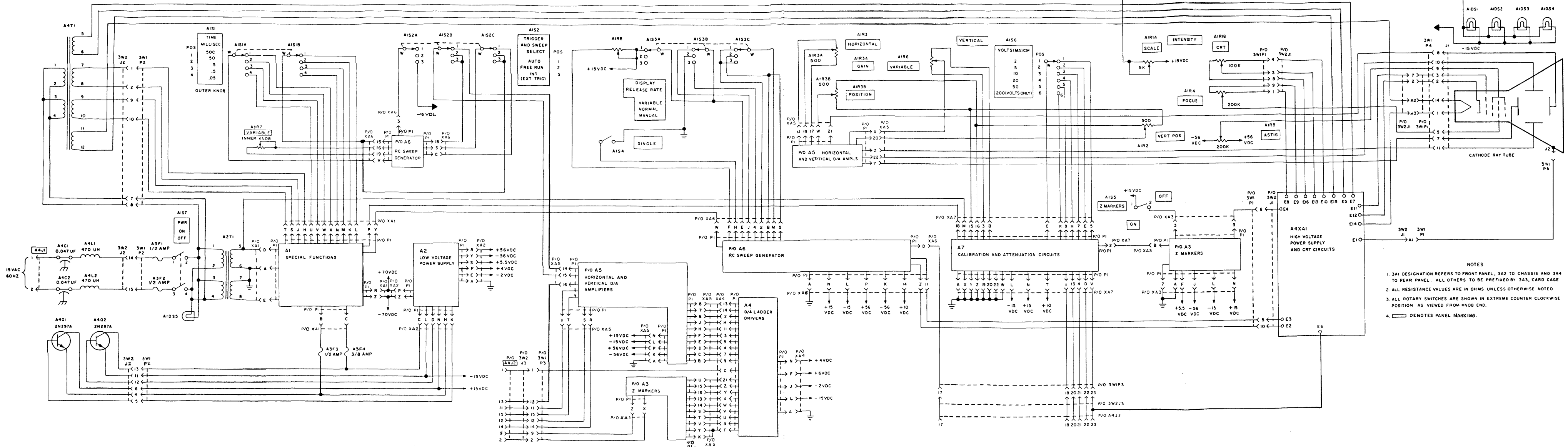
- NOTES
1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.
 3. INTEGRATED CIRCUITS, UNLESS SHOWN ARE GROUND ON PIN 7 AND BIASED ON PIN 14 (+5.5 VDC).

Figure 6-18. Calibration and input circuits 3A3A7, schematic diagram.



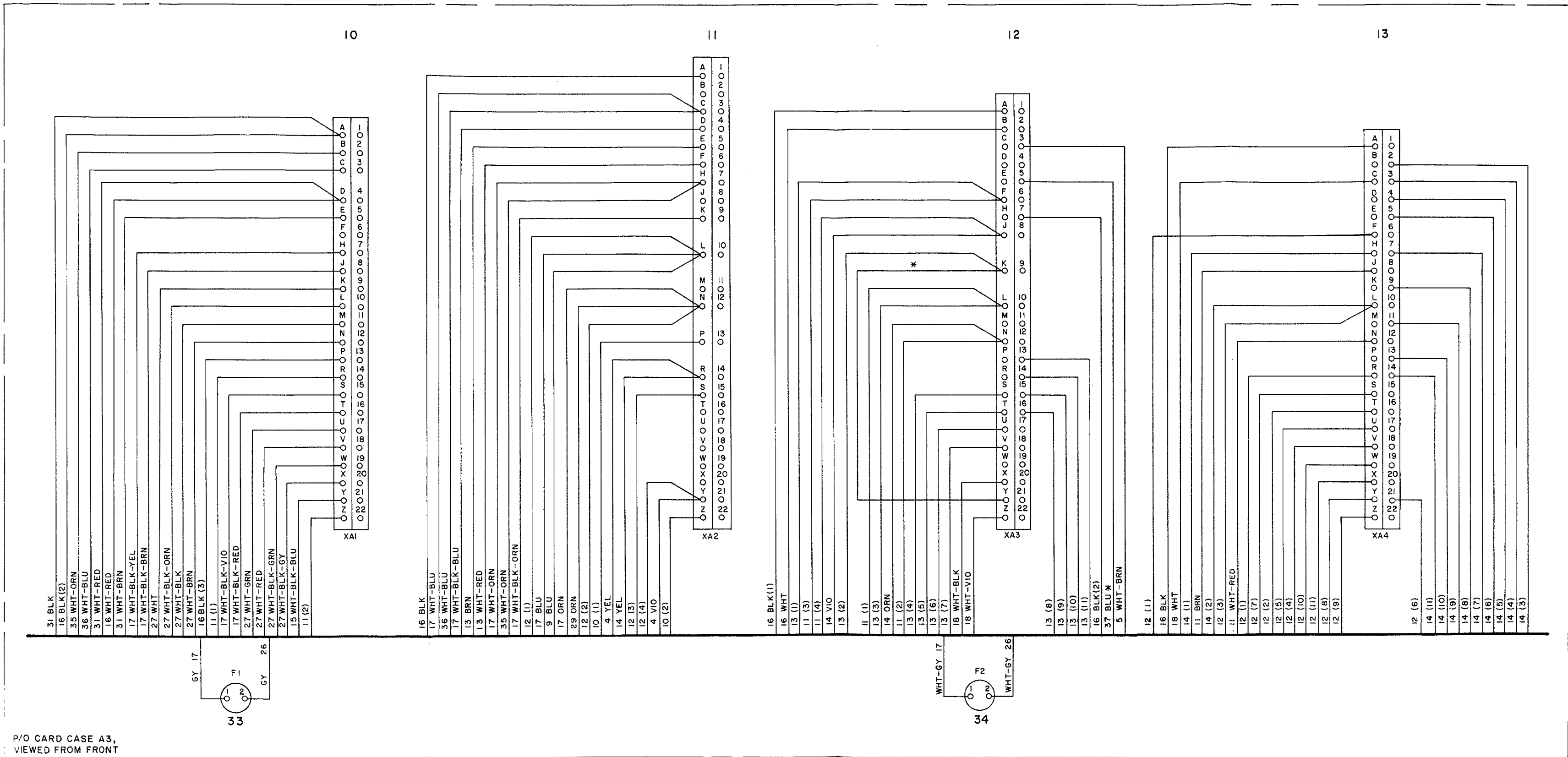
- NOTES:
1. PARTIAL REFERENCE DESIGNATION SHOWN. PREFIX ALL DESIGNATIONS WITH ASSEMBLY NUMBER AND/OR SUBASSEMBLY DESIGNATION.
 2. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS; CAPACITANCE VALUES EXPRESSED IN WHOLE NUMBERS ARE IN PICOFARADS, AND CAPACITANCE VALUES EXPRESSED IN DECIMALS ARE IN MICROFARADS.

Figure 6-19. High-voltage power supply and crt circuits 3A4A1, schematic diagram.



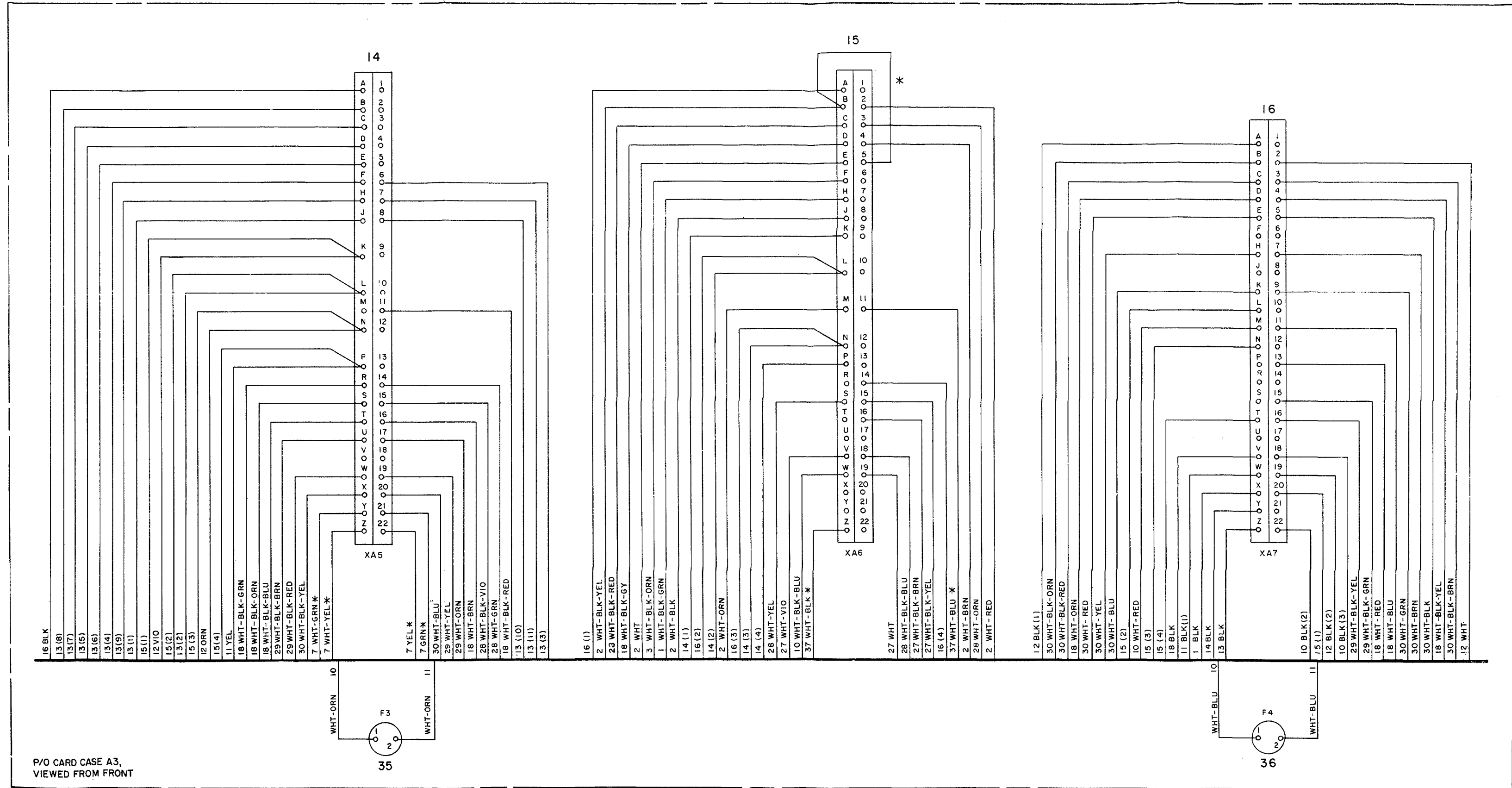
- NOTES
- 3A1 DESIGNATION REFERS TO FRONT PANEL, 3A2 TO CHASSIS AND 3A4 TO REAR PANEL. ALL OTHERS TO BE PREFIXED BY 3A3, CARD CAGE
 - ALL RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE NOTED
 - ALL ROTARY SWITCHES ARE SHOWN IN EXTREME COUNTER CLOCKWISE POSITION AS VIEWED FROM KNOB END.
 - DENOTES PANEL MARKING.

Figure 6-20. Overall schematic diagram.



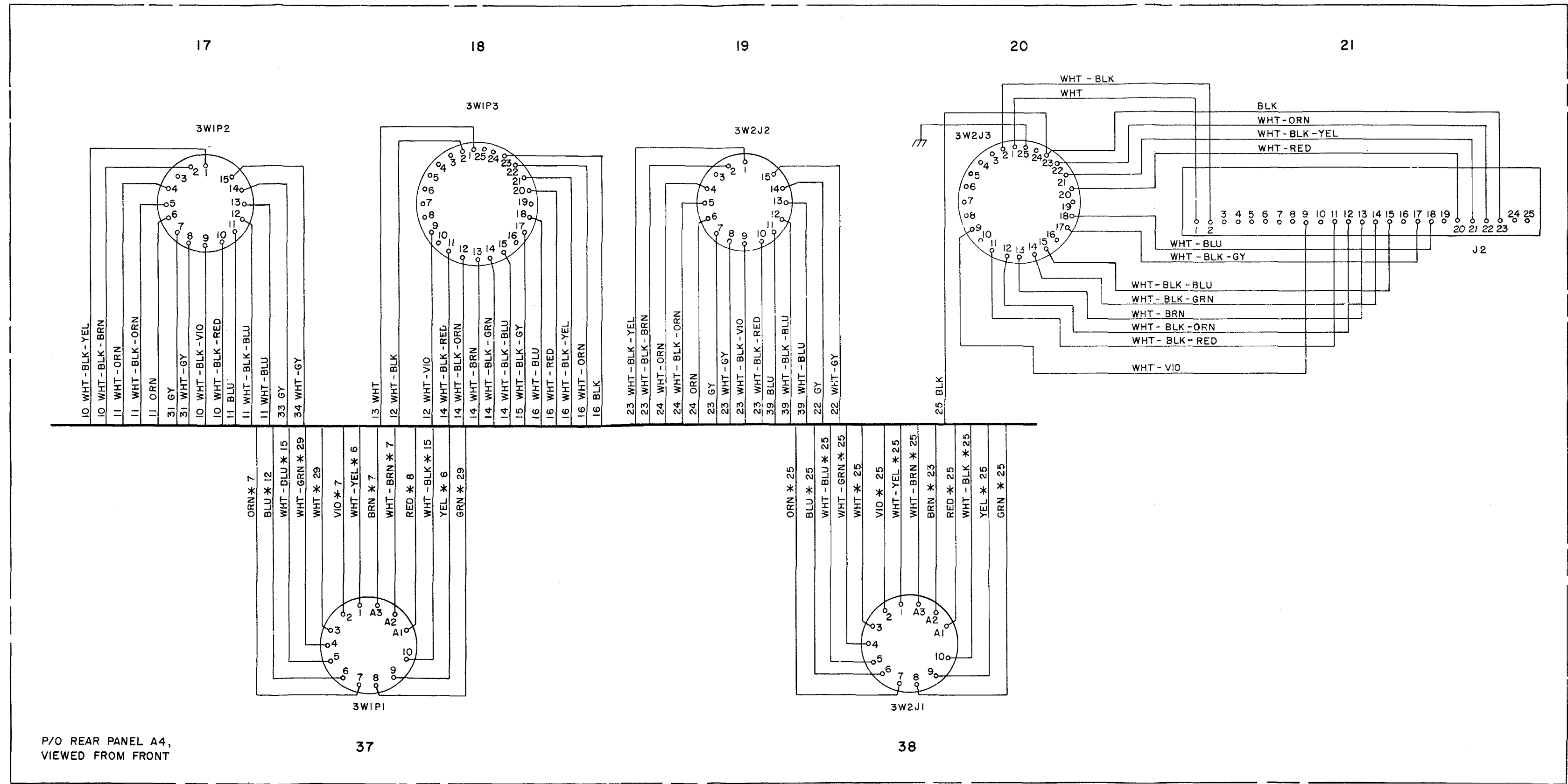
P/O CARD CASE A3, VIEWED FROM FRONT

Figure 6-21 (2). Overall wiring diagram (sheet 2 of 5).



P/O CARD CASE A3,
VIEWED FROM FRONT

Figure 6-21 (3). Overall wiring diagram (sheet 3 of 5).



P/O REAR PANEL A4,
VIEWED FROM FRONT

Figure 6-21 (4). Overall wiring diagram (sheet 4 of 5).

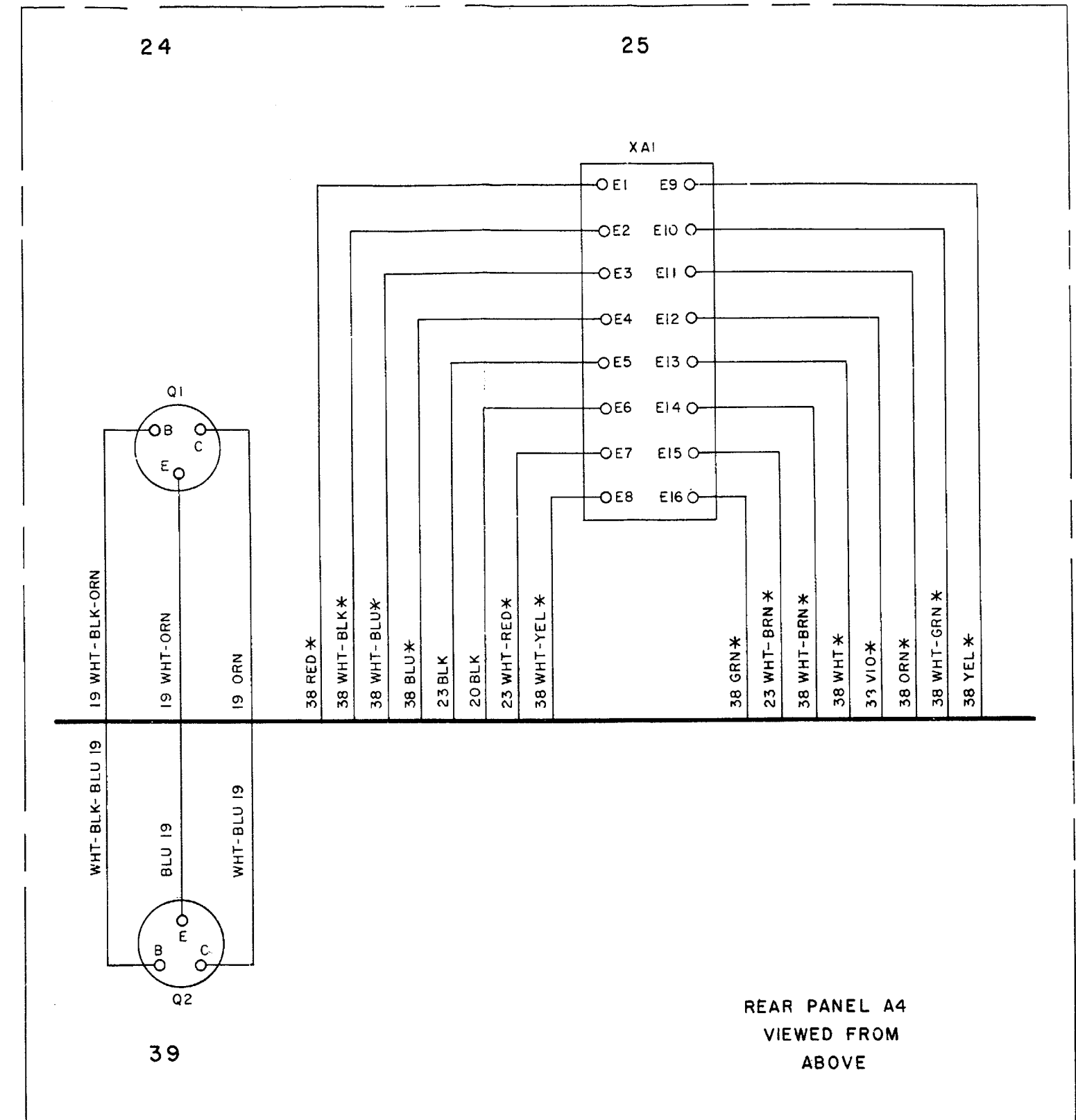
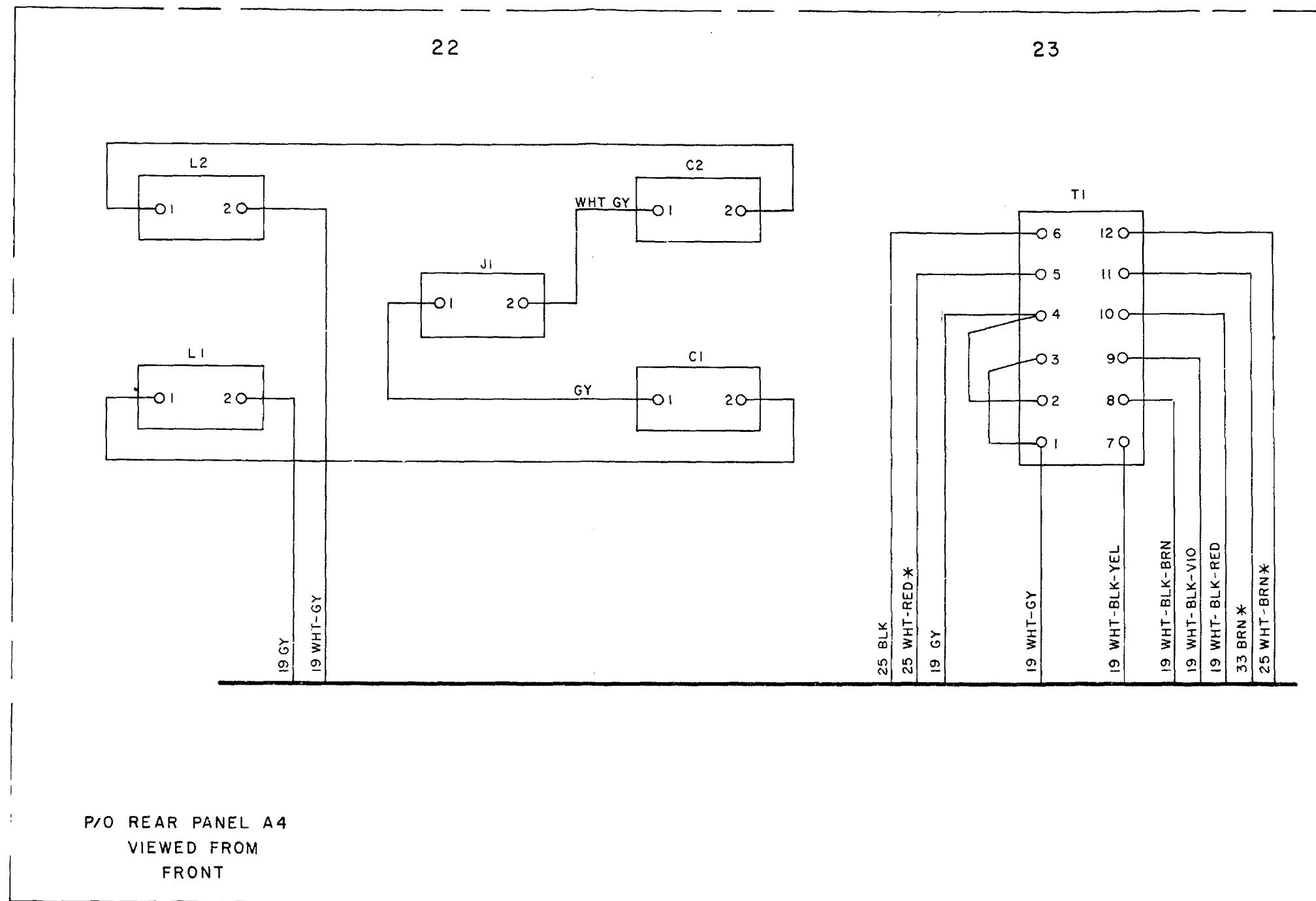


Figure 6-21 (5). Overall wiring diagram (sheet 5 of 5).

Distribution:

Active Army:

USASA (2)
 COE (1)
 TSG (1)
 USAARENBD (1)
 DARCOM (1)
 TRADOC (2)
 OS Maj Comd (4)
 TECOM (2)
 MDW (1)
 Armies (2)
 Corps (2)
 HISA(Ft Monmouth) (33)
 USACOMZEUR (5)
 USACC (4)
 USACC-CONUS (5)
 USACC-EUR (5)
 USACC-SO (5)
 USACC-A (3)
 USACC-PAC (5)
 Svc Colleges (1)
 USASIGS (5)
 USAADS (2)
 USAFAS (2)
 USAARMS (2)
 USAIS (2)
 USAES (2)
 USAICS (3)
 MAAG (1)
 USARMIS (1)
 USAERDAA (1)
 USAERDAW (1)
 Sig FLDMS (1)

Instl (2) except
 Fort Gillem (10)
 Fort Gordon (10)
 Fort Huachuca (10)
 Fort Carson (5)
 Fort Richardson (ECOM) (2)
 LBAD (14)
 SAAD (30)
 TOAD (14)
 SHAD (3)

Units org under fol TOE:
 (1 cy to each unit)

11-15
 11-16
 11-18
 11-75
 11-85
 11-95
 11-97
 11-117
 11-137
 11-302
 11-327
 11-347
 11500(AA-AC)
 29-119
 29-126
 29-134
 29-136

NG: None

USAR: None

For explanation of abbreviations used, see AR 310-50.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



*THEN...JOT DOWN THE
DOPE ABOUT IT ON THIS FORM.
CAREFULLY TEAR IT OUT, FOLD IT
AND DROP IT IN THE MAIL.*

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

THE METRIC SYSTEM AND EQUIVALENTS

WEIGHT MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621

