TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT

MAINTENANCE MANUAL INCLUDING REPAIR

PARTS AND SPECIAL TOOLS LISTS

METER,

FLUTTER AND WOW

ME-254/U

HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1971

Changes in effect: C1 and C2

CHANGE
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC *28, October 1977*

Direct Support and General Support Maintenance
Manual Including Repair Parts and Special Tools Lists
METER, FLUTTER AND WOW ME-254/U
(NSN 6625-00-987-8527)

TM 11-6625-670-34-1, 29 October 1971, is changed as follows:
The title of the manual is changed as shown above.

Page 4-1, paragraph 4-4c. Make the following changes:

Subparagraph (4). "0.1 Vrms" to read "0.15 VRMS."

Subparagraph (6) is superseded as follows:

(6) Adjust oscillator output level for a 0.15 VRMS indication on the voltmeter.

Subparagraph (10). Change "Level for 0.1 Vrms" to read "level for a 0.15 VRMS."

Paragraph 4-4*d*. Make the following changes:

Subparagraph (3) is superseded as follows:

(3) Adjust oscillator for a 3000 - 1 Hz indication on the counter. Set the oscillator output level for a 0.15 VRMS indication on the voltmeter.

Subparagraph (25) is superseded as follows:

(25) Adjust oscillator for a 3000 ± 1 Hz indication on the counter. Set the oscillator output for a 0.15 VRMS indication on the voltmeter.

Page 4-5. Figure 4-3 is superseded as follows:

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Units org under fol TOE: 1 ea.
11-95
11-96
11-117
11-127
11-500(AA-AC)
29-134
29-136
29-427

ARNG & USAR: None

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

☞U.S. GOVERNMENT PRINTING OFFICE: 1989 - 242-421/05296

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *29 August 1975*

Direct Support and General Support Maintenance
Manual Including Repair Parts and Special Tools Lists
METER, FLUTTER AND WOW ME-254/U

TM 11-6625-670-34-1, 29 October 1971, is changed as follows:

Page 1-1, paragraph 1-1. Make the following changes:

Subparagraph *b*, line 2. Change "TM 11-6625-670-12" to read "TM 11-6625-670-12-1".

Subparagraph *c*, line 6. Change "Commanding General" to read "Commander".

Line 7. Change "AMSEL-MA-SNV' to read "AMSEL-MA-Q".

Note. Change "TM 11-6625-670-12" to read "TM 11-6625-670-12-1".

Page 2-1, paragraph 2-3, chart. Delete chart and substitute:

Test equipment	*National stock No.*	*Technical manual*
Multimeter .AN/URM105	6625-00-581-2036	TM 11-6625-203-12
Audio Oscillator TS-421/U	6625-00-669-0228	TM 11-6625-355-12 and TM 11-6625-355-45
Meter Test Set TS-682/GSM-1	6625-00-669-0747	TM 11-2535B and TB 9-6625-775-50
Tool Kit TK-100/G	5180-00-605-0079	SC 5180-91-CL-S21
Frequency Meter AN/USM-26	6625-00-543-1356	TM 11-6625-212-15

Page 4-1, chapter 4. Delete chapter 4 and substitute:

CHAPTER 4
DEPOT OVERHAUL STANDARDS

4-1. Applicability of Depot Overhaul Standards

This standard covers inspection requirements to be used in determining the quality and acceptability of repaired Flutter and Wow Meter ME-254/U.

4-2. Applicable References

a. Depot Inspection Standards. Applicable procedures of Department of the Army Technical Bulletins TB SIG 3551, TB SIG 355-2, TB SIG 3553, and TB 11-6625666-50 form a part of this standard.

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

Title	*Number*	*Date*
Meter, Flutter and Wow ME-254/U	TM 11-6625-670-12-1	5 Apr 71
Meter, Flutter and Wow ME-254/U	TM 11-6625-670-34-1	29 Oct 71

c. Modification Work Orders. Perform all modification work orders applicable to this equipment before making the tests specified, DA Pam 310-7 lists all available MWO's.

4-3. Test and Additional Equipment Required

The following equipment, or suitable equivalents, will be employed in determining compliance with the requirements of this standard.

a. Test Equipment.

Item	*National stock No.*	*Quantity*
Transformer, Variable, General Radio #W5MT3W.	4931-00-777-1285	1 ea.
Generator, Signal, SG-621/AU (HP-202C).	6625-00-606-9727	1 ea.
Voltmeter, Electronic ME-30(*)/U.	6625-00-643-1670	1 ea.
Counter, Electronic, AN/USM-207A.	6625-00-044-3228	1 ea.
Oscilloscope, AN/USM-281A	6625-00-228-2201	1 ea.
Multimeter, Digital, John Fluke Mdl 8110A.	6625-00-433-4234	1 ea.

b. Additional Equipment

Item	*National stock No.*	*Quantity*
Resistor, Fixed, 200-ohms, 5%-1/2 watt, RCZOGF201J.	5905-00-279-2674	1 ea.

4-4. Requirements

a. General Test Conditions

(1) The input voltage to unit under test (UUT) shall be monitored and maintained at 1 17- 2 Vrms, 60 Hz.

(2) The required warm-up time for each UUT shall be at least 15 minutes.

(3) All tests shall be conducted at ambient temperature and humidity.

(4) UUT bottom chassis plate requires removal during tests.

(5) UUT INPUT SELECTOR switch voltage divider resistors, R1 through R6, shall be checked with multimeter and each resistor shall be within ±5% of required resistance value indicated on figure 4-3.

(6) UUT input load resistor s R61, R62, and R63 shall be adjusted for 8 ohms, ±10%, 30 ohms + 10, and 600 ohms ±10%, respectively, except on models which have none, or models that have fixed resistors. The model that has fixed resistors shall be checked for resistance values of 10 ohms ± 10%, 15 ohms ± 10%, and 600 ohms ±10%, respectively.

b. 3-Khz Oscillator Tests.

(1) Connect equipment as shown in figure 4-8.

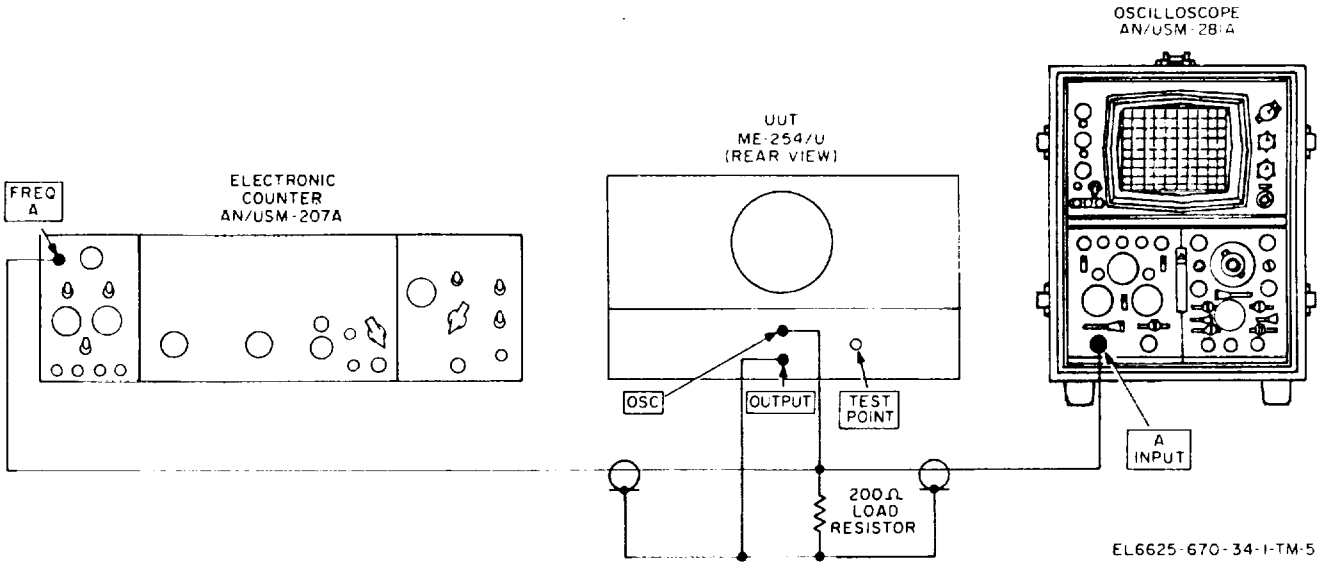

Figure 4-8. Oscillator test connector

(2) Counter shall indicate 3000 +30 Hz.

(3) Observe oscilloscope presentation. Oscilloscope shall have a display of at least 2 volts ac peak-to-peak (P-P) with no noticeable distortion of waveform.

c. Input Level, Limiting, and Discriminator Tests.

(1) Connect equipment as shown in figure 4-9.

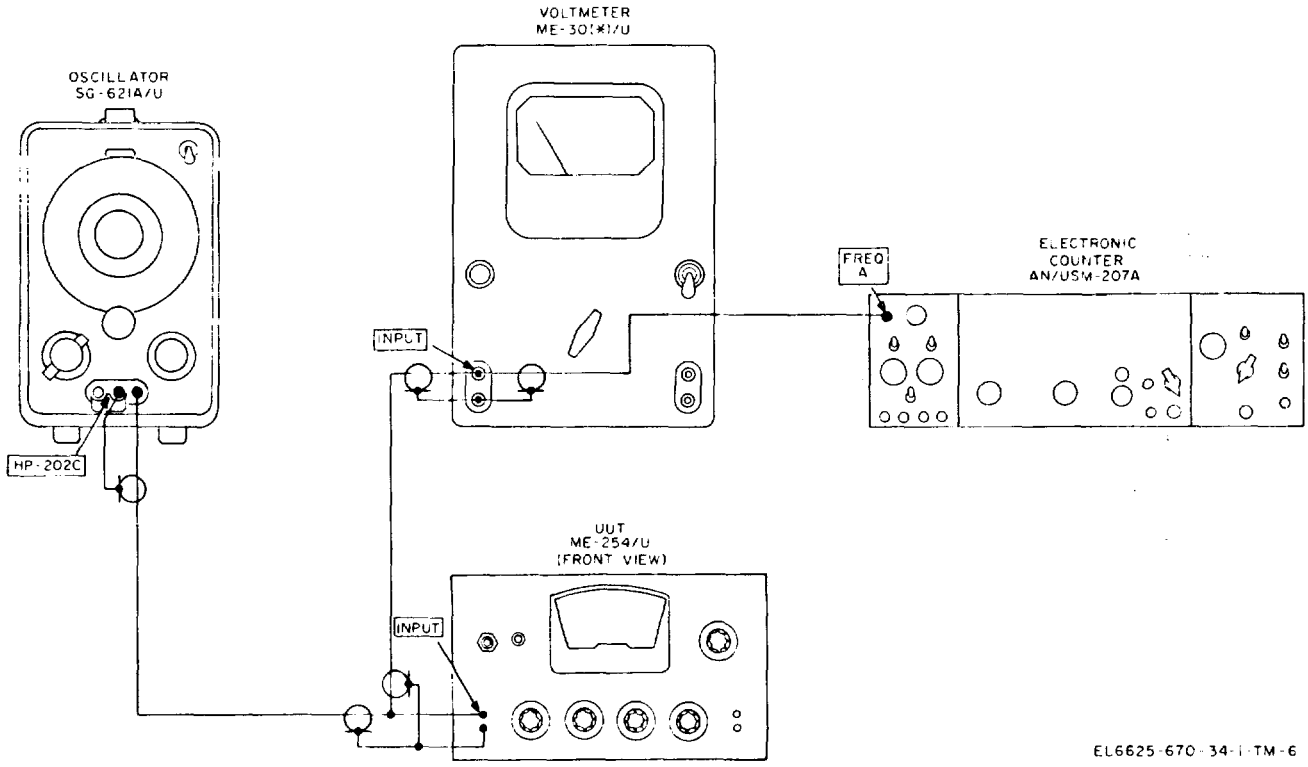

Figure 4-9. Input level limiting and discriminator test connections.

(2) Set UUT CALIBRATE control to maximum clockwise (CW) position (10), SCALE switch to CAL, and INPUT SELECTOR switch to .1 VOLT.

(3) Adjust oscillator for a 3000 ± 1-Hz indication on counter and output Level to deflect the Per Cent Flutter and Wow meter on UUT to CAL.

(4) Observe voltage indication on voltmeter; indicated voltage shall not exceed 0.1 Vrms.

(5) Set UUT CALIBRATE control to maximum counterclockwise (CCW) position (0).

(6) Adjust oscillator output level for a 0.1-Vrms indication on voltmeter.

(7) Adjust UUT CALIBRATE control for a CAL. indication on the Per Cent Flutter and Wow meter.

(8) Set UUT SCALE switch to BAL and adjust BALANCE control for a zero indication on Per Cent Flutter and Wow meter.

(9) Adjust oscillator output for a 0.2 Vrms indication on voltmeter and observe the Per Cent Flutter and Wow meter on UUT for any deflection. The Per Cent Flutter and Wow meter shall still indicate zero as established in step 8 above.

(10) Readjust oscillator output Level for 0.1 Vrms indication on voltmeter.

(11) Adjust oscillator frequency for a 3060 -±- Hz indication on counter and adjust UUT BALANCE control for a zero indication on Per Center Flutter and Wow meter. The BALANCE control shall have sufficient adjustment to zero Per Cent Flutter and Wow meter.

(12) Adjust oscillator frequency for 2940 ±1-Hz indication on counter and adjust UUT BALANCE control for a zero indication on the Per Center Flutter and Wow meter. The BALANCE control shall have sufficient adjustment- to zero Per Cent Flutter and Wow meter.

(13) Adjust oscillator frequency for a 3000 ± 1-Hz indication on counter and adjust UUT BALANCE control for a zero indication on Per Cent Flutter and Wow meter.

d. Flutter and Wow Calibration Tests.

(1) Connect equipment as shown in figure 4-10.

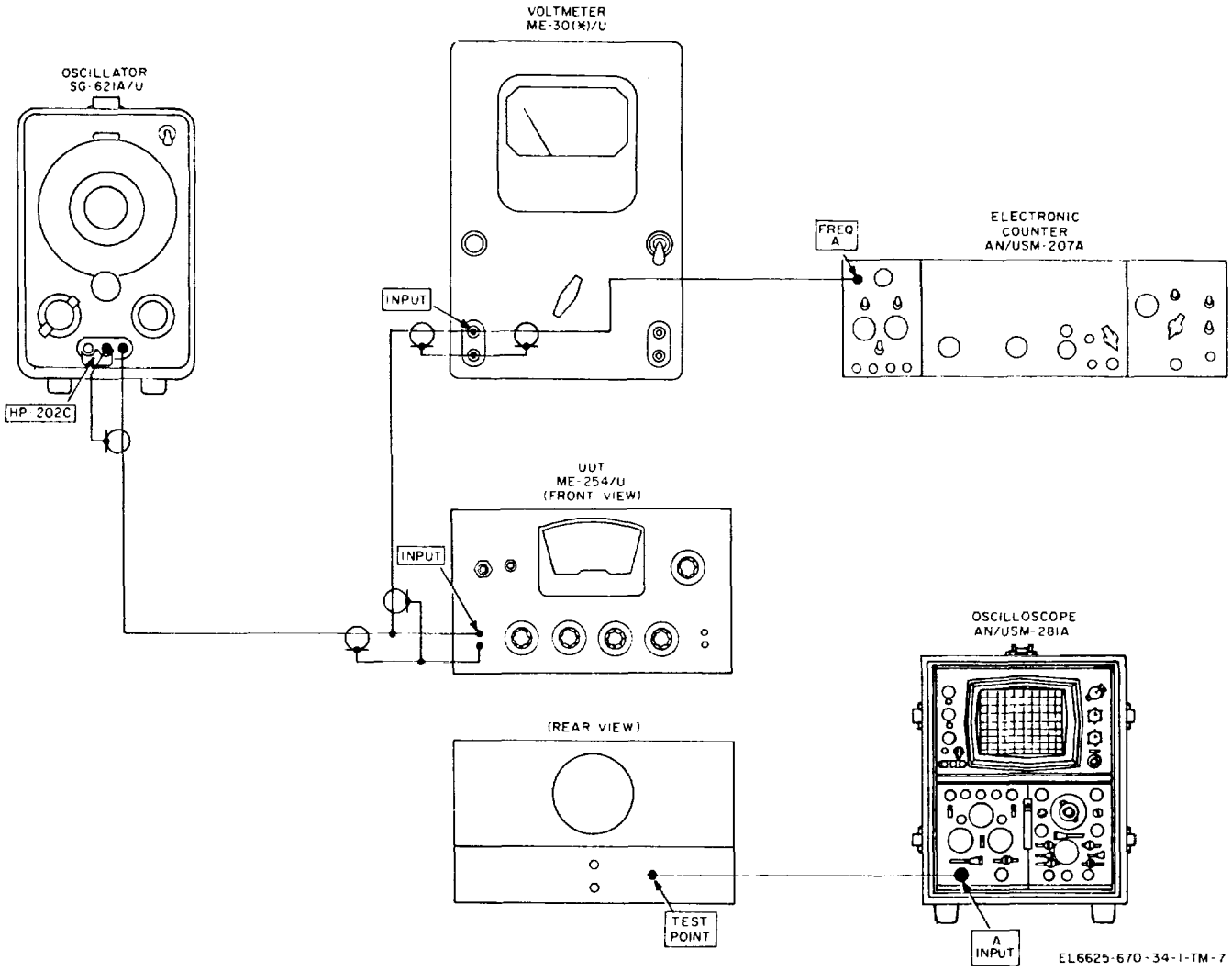

Figure 4-10. Flutter and wow calibration.

(2) Set UUT CALIBRATE control to maximum CCW position (0), SCALE switch to CAL and FILTER switch to 0.5 - 6.

(3) Adjust oscillator for a 3000 ± 1-Hz indication on counter and output level for a 0.1-Vrms indication on voltmeter.

(4) Adjust UUT CALIBRATE control to obtain a CAL indication on Per Center Flutter and Wow meter.

(5) Set UUT SCALE switch to BAL and adjust BALANCE control for a zero indication on Per Cent Flutter and Wow meter.

(6) Set UUT SCALE switch to 3%.

(7) Adjust oscilloscope vertical channel A for dc operation and vertical positioning controls to center trace vertically on cathode ray tube (CRT) graticule.

(8) Adjust oscillator for a 2873 ± 1-Hz indication on counter and adjust oscilloscope vertical amplitude and/or vertical positioning controls to obtain a maximum vertical deflection of CRT beam on oscilloscope graticule.

(9) Adjust oscillator for a 3127 ± 11-Hz indication on counter and adjust oscilloscope vertical amplitude and/or vertical positioning controls to obtain a maximum vertical deflection, in the opposite direction of step 8, of CRT beam on oscilloscope graticule.

(10) Repeat steps 8 and 9 above until no further adjustment of oscilloscope vertical controls is required to obtain the P-P vertical deflection required in steps 8 and 9 above.

NOTE

Do not disturb oscilloscope vertical controls for the remainder of test unless so directed.

(11) Set UUT CALIBRATE control to maximum CCW position (0).

(12) Disconnect ALL test equipment, except the oscilloscope, and connect equipment as shown in figure 4-11.

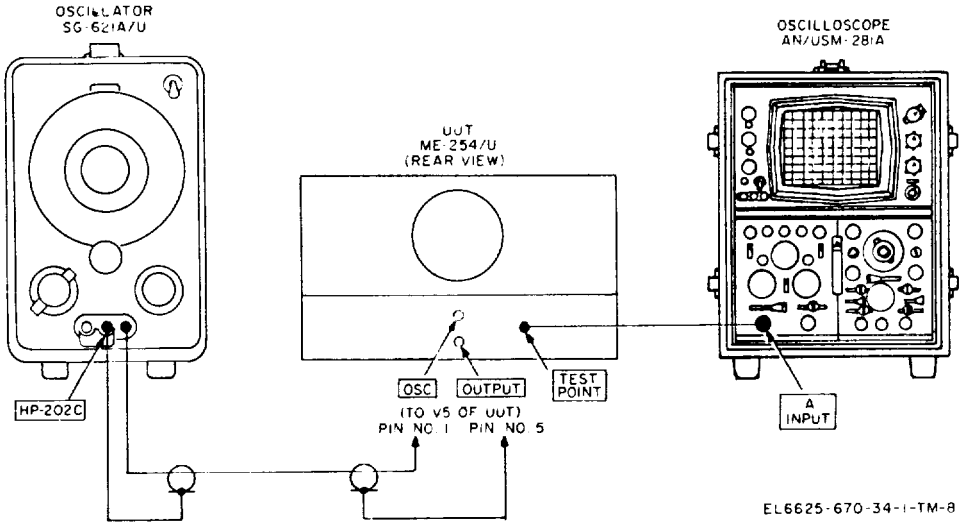

Figure 4-11. Flutter and wow meter indication test.

(13) Adjust oscillator for a frequency of 4 Hz as indicated by oscillator frequency dials, and adjust output level to obtain the equivalent P-P vertical deflection on oscilloscope as established in step 10 above.

NOTE

A slight adjustment of the oscilloscope vertical positioning controls may be necessary to center pattern on CRT graticule, but NO adjustment of vertical amplitude controls is authorized!

(14) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 3.0 -0.3%.

(15) Set UUT FILTER switch to 0.5 - 250 and observe Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 3.0 ±0.3%.

(16) Set UUT FILTER switch to 6-250 and observe Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate not more than (NMT) 2.0%.

(17) Adjust oscillator for a frequency of 10 Hz as indicated by oscillator frequency dials, and adjust output level to obtain the equivalent P-P vertical deflection on oscilloscope as established in step 10 above.

(18) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 3.0 ±0.3%.

(19) Set UUT FILTER switch to 0.5-6 and observe Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate NMT 2.0%.

(20) Set UUT FILTER switch to 6-260.

(21) Adjust oscillator for a frequency of 250 Hz as indicated by oscillator frequency dials, and adjust output level to obtain the equivalent P-P vertical deflection on oscilloscope as established in step 10 above.

(22) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 3.0 ±0.3%.

(23) Set UUT FILTER switch to 0.5-250 and observe Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 3.0 ±0.3%.

(24) Disconnect oscillator and connect equipment as shown in figure 4-10.

(25) Adjust oscillator for a 3000 ± 1-Hz indication on counter and output level for a 0. 1-Vrms indication on voltmeter.

(26) Adjust UUT scale switch to CAL and adjust CALIBRATE control to obtain a CAL indication on Per Cent Flutter and Wow meter.

(27) Set UUT SCALE switch to BAL and adjust BALANCE control for a zero indication on Per Cent Flutter and Wow meter.

(28) Set UUT SCALE switch to 3%.

(29) Adjust oscillator for a 2937 ± 1-Hz indication on counter and adjust oscilloscope vertical amplitude and/or vertical positioning controls to obtain a maximum vertical deflection of CRT beam of oscilloscope graticule.

(30) Adjust oscillator for a 3063 ± 1-Hz indication on counter and adjust oscilloscope vertical amplitude and/or vertical positioning controls to obtain a maximum vertical deflection, in the opposite direction of step 29 above, of CRT beam on oscilloscope graticule.

(31) Repeat steps 29 and 30 above until no further adjustment of oscilloscope vertical controls is required to obtain the P-P vertical deflection required in steps 29 and 30 above.

NOTE

Do not disturb oscilloscope vertical controls for the remainder of test unless so directed.

(32) Set UUT CALIBRATE control to maximum CCW position (0).

(33) Disconnect all test equipment, except the oscilloscope, and reconnect as shown in figure,4-11.

(34) Adjust oscillator for a frequency of 75 Hz as indicated by oscillator frequency dials, and adjust output level to obtain the equivalent P-P vertical (deflection on oscilloscope as established in step 31 above.

(35) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate 1.5 -±0.3%

(36) Repeat steps 24 through 27.

(37) Set UUT SCALE switch to 1%.

(38) Repeat steps 29 through, 34 above, using frequencies of 2958 ± 1 Hz and 3042 -± Hz, respectively, for steps 29 and 30.

(39) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate a full scale deflection of 1.0 ±0.1%.

(40) Repeat steps 2 through 27 above.

(41) Set SCALE switch to 0.3%.

(42) Repeat steps 29 through 34 above, using frequencies of 2987 ± 1 Hz and 3013 ± 1 Hz, respectively, for steps 29 and 30.

(43) Observe UUT Per Cent Flutter and Wow meter indication. Per Cent Flutter and Wow meter shall indicate a full scale deflection of 0.3 ±0.3%.

(44) Disconnect oscilloscope and connect it to OUTPUT terminals on front panel of UUT.

(45) Observe oscilloscope presentation. Oscilloscope shall have a display of at least 1.5 volts ac P-P with no noticeable distortion of waveform.

(46) Remove all power and disconnect test equipment.

By Order of the Secretary of the Army:

FRED C. WEYAND
General, United States Army
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VERNE L. BOWERS
Major General, United States Army
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LBAD (14)
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TOAD (14)

SHAD (3)
USA Dep (2)
Sig Sec USA Dep (2)
Sig Dep (2)
Sig FLDMIS (1)
USAERDAA (1)
USAERDAW (1)
MAAG (1)
USARMIS (1)
Units org under fol TOE (1 cyl ea unit):
11-95
11-96
11-117
11-127
11-500(AA-AC)
29-134
29-136
29-427

NCG: None.

USAR: None.

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

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TECHNICAL MANUAL
No. 11-6625-670-34-1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *29 October 1971*

Direct Support and General Support Maintenance Manual
Including Repair Parts and Special Tools Lists

METER, FLUTTER AND WOW ME-254/U

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains direct and general support and depot maintenance instructions for Meter, Flutter and Wow ME-254/U (fig. 1-1). It includes instructions for troubleshooting, testing, aligning, and repairing the equipment. It also lists tools, materials, and test equipment required for maintenance. Functional analysis of the equipment is covered in this chapter.

b. The complete technical manual for this equipment includes TM 11-6625-670-12.

c. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, US Army Electronics Command, ATTN: AMSELMA-SNV, Fort Monmouth, N.J., 07703.

NOTE

For applicable forms and records, refer to paragraph 1-3, TM 11-6625-670-12.

d. Appendix A contains a list of publications applicable to this manual. Direct and general support maintenance repair parts are listed in appendix B.

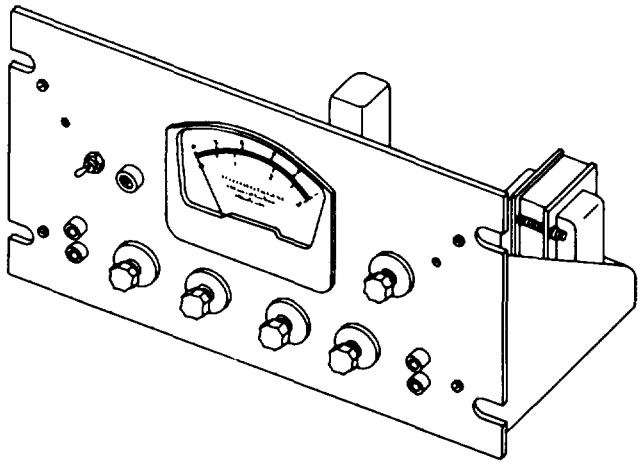


Figure 1-1. Meter, flutter and wow ME-254/U.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to DA Pam 310-4 to determine latest editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

Section II. DESCRIPTION AND DATA

1-3. Description

The Meter, Flutter and Wow ME-254/U is an extremely sensitive, electronic measuring device, designed for measuring flutter and wow, which is defined as the ratio, expressed as a percentage, of the root mean square deviation in frequency of a standard recorded signal (3,000 Hz) to the average frequency. It provides a rapid and accurate direct visual indication of flutter and wow content of all types of tape recorders and playback equipment including 33 1/3, 45, and 78 rpm discs and 8, 16, and 35 mm sound film mechanisms. For research and development work, two output terminals are provided for analyzing the characteristic of the flutter. The output terminals on the front panel are provided for oscilloscope display, and a test point jack mounted on the rear chassis apron provides dc response so that drift as well as wow and flutter may be recorded on a direct recorder with suitable amplifiers.

1-4. Block Diagram

(fig. 1-2)

a. The INPUT terminals are connected to an INPUT SELECTOR switch, S1, which permits acceptance of input signals in the range of 1 millivolt to 300 volts. The output of the INPUT SELECTOR switch is coupled to preamplifier V1. This permits the coupling of a playback head directly to the INPUT terminals and provides sufficient amplification to obtain a calibration reading on the meter without the use of any external amplifier when only the output of a playback head is available. If the device under test contains a power amplifier or preamplifier, the INPUT SELECTOR switch is used to match the output voltage to that of the test unit.

b. The output of the preamplifier is coupled to a single section high-pass RC filter which connects to the CALIBRATE control. The function of the filter is to remove low frequency components from the carrier 3,000 Hz tone. This signal is amplified and fed into symmetrical dual diode limiter V3. This circuit has been designed for symmetrical clipping of the signal to avoid introducing phase modulation of components on the main signal and to eliminate input level changes from affecting the accuracy of the meter readings.

c. The limited signal is amplified and fed into pentode V4A which acts as the amplifier for discriminator L1-T2. The detected flutter signal is taken from detector V5 and passed through, suitable filters to remove the carrier signal. A front panel control labeled, BALANCE, is provided to allow the discriminator to be tuned to the frequency of the incoming signal. The control a will require adjustment when using a prerecorded signal which is being played back at a slightly different speed, resulting in off frequency operation. The bandwidth of the discriminator is such that a flutter modulation signal of 250 Hz is attenuated no more than 3 dB from a reference frequency of 75 Hz. Sufficient response is available to identify frequencies to 350 Hz with an oscilloscope.

d. The demodulated flutter signal is amplified by V6A and fed to the FILTER selector switch which permits the wow, flutter or overall wow plus flutter components to be measured. The cathode of this amplifier tube is also connected through an isolating resistor to the TEST POINT jack on the rear of the chassis for direct recording oscillograph purposes. A small positive quiescent potential appears at this point. It can be blocked off by the appropriate center controls on the direct recorder amplifier or by means of a low potential dc source. This dc output of the test point is valuable for drift measurements.

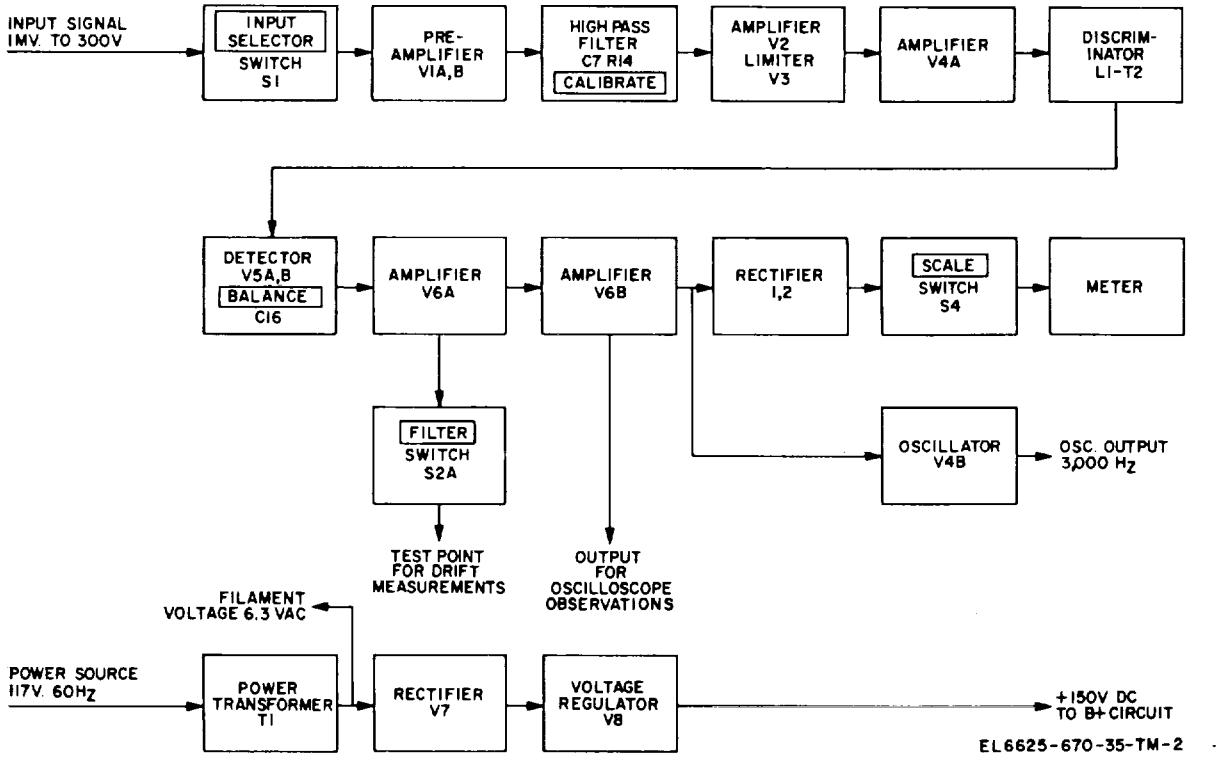


Figure 1-2. Meter, flutter and wow ME-254/U block diagram.

e. The filters separating the wow and flutter components consist of RC filters designed to give the sharpest cutoff characteristics. The crossover frequency is 6 Hz. After the signal has passed through the filters it is again amplified and fed to a diode rectifier circuit. Full scale meter sensitivities of 3%, 1%, and 0.3%o are selected by SCALE selector switch S4. The SCALE selector switch also provides a CAL position for calibrating the input signal in conjunction with INPUT SELECTOR switch S1 for proper level settings, and a BAL position for connecting the meter across the detected output to be used with BALANCE control C15 across the discriminator output to indicate center frequency balance. Oscillator V4B provides the 3000 Hz carrier.

f. The output of the oscillator is terminated on the rear of the chassis and is labeled, OSC OUT-PUT. Approximately 2 volts ac is generated across an impedance of 250 ohms. A screwdriver adjustment labeled OSC, FREQ. is provided on the rear apron for setting the frequency to 3,000 Hz; this, however, would normally not have to be adjusted as the control is set and sealed at the factory for 3,000 Hz.

g. Regulated +150 volts dc is provided by voltage regulator V8 and will provide stable operation over line voltage fluctuations of + 15 percent from 117 volt ac power source. Power transformer T1 operates on a 50 to 400 Hz input power frequency.

1-5. Circuit Analysis

(fig. 4-3)

a. The circuit uses the basic principles involved in the detection of fm signals. This includes the use of a limiter amplifier to prevent the am components from producing an indication in the output circuits. Such am, for example, may be introduced by dropouts in the magnetic coating of recording tape, clicks and pops in records, and light fluctuations in photocell recording. A frequency discriminator demodulates the flutter signals and presents them to an averaging-type meter circuit calibrated to read the root mean square value of sine wave modulation. Suitable filters are provided to examine the wow and flutter spectra separately. A regulated power supply and an internal 3,000 Hz carrier oscilloscope complete the circuit sections.

b. The device to be measured is connected to the INPUT terminals. Signal input from the device is reduced to an appropriate level by series resistors R1 through R5. The reduced signal is then applied through biasing and current-limiting resistor R7 to the grid of VIA. The amplified signal is RC coupled by C3 and R10 to V1B.

c. After second stage amplification, the signal is coupled to the third stage through the high pass RC filter composed of C7 and CALIBRATE control R14. Potentiometer R14 is adjusted by the front panel CALIBRATE control and when SCALE switch S4 is set to CAL a visual display of the amount of amplification is indicated on the meter. If the amplitude of the input signal is too high, INPUT SELECTOR switch S1 and CALIBRATE control R14 are used in conjunction with each other to adjust the incoming signal to the proper operating level. The signal at the wiper arm of potentiometer R14 is amplified in a class A amplifier stage and feeds a symmetrical limiter. This circuitry has been designed for symmetrical clipping of the signal to avoid introducing phase modulation components on the main signal due to changes in the zero-axis crossings associated with nonsymmetrical limiting.

d. The limited signal is amplified and fed to pentode V4A which acts as the amplifier for Foster-Seeley discriminator V5. The detected flutter signal is taken from the V5 detector and passed through appropriate filters to remove the carrier signal. Front panel BALANCE control allows the discriminator secondary tuning to be adjusted to the frequency of the incoming signal. Discriminator voltage induced in transformer T2 secondary is 90 degrees out of phase with primary current. The primary voltage is introduced at the center tap of the secondary through C14 and combines with secondary voltage on each side of center tap. The resultant secondary voltages lead and lag by the same phase angle, and are applied to V5. When rectified, these two voltages are equal but opposite in polarity and cancel when frequency is shifted because of flutter (a high speed variation) or wow (a low speed variation).

e. The output variation from the discriminator is taken from V5B through a low pass filter and amplified by V6A. The cathode of V6A has a TEST POINT jack connected to it. The output is 180° out of phase with the signal input. It is then capacitively coupled to the wiper (common) of FILTER switch S2. The FILTER switch selects one of three sharp cutoff RC filters which in turn selects flutter 6-250 Hz, wow 0.5-6 Hz or the combination 0.5-250 Hz to be applied to the meter circuits. All filters terminate at meter CAL adjustment potentiometer R43 and are applied to the voltage divider network of SCALE switch S4. The common of this switch applies the signal deviation to V6B where it is amplified and applied to the flutter and wow meter.

f. The 3,000 Hz carrier oscillator is a standard Hartley circuit. The output of the oscillator is available on the rear panel labeled OSC OUTPUT. Approximately 2.0 vac is generated across an impedance of 250 ohms. A screwdriver adjustment is provided on the rear apron labeled, OSC FREQ. for setting the frequency to 3,000 Hz; this however, would normally not have to be adjusted as the control has been set and sealed at the factory for 3,000 Hz.

g. Regulated high voltage is provided by voltage regulator V8 providing stable operation over line voltage fluctuations of + 15 percent from a 117 vac power source. Primary transformer T1 operates on a 50 to 400 Hz input power frequency.

CHAPTER 2

DIRECT SUPPORT MAINTENANCE

Section I. GENERAL TROUBLESHOOTING

WARNING

When servicing the flutter and wow meter, be extremely careful of the ac power line voltage terminals. Serious injury or death may result from contact with these terminals.

2-1. Scope of Direct Support Maintenance

Troubleshooting at the direct support level includes all the techniques outlined for organizational maintenance and any special or additional techniques required to isolate a defective part. Paragraphs 2-2 through 2-5 provide troubleshooting procedures to be used to localize and isolate faults at the direct support maintenance level.

2-2. Organization of Troubleshooting Procedures

a. *General*. The first step in servicing a defective flutter and wow meter is to localize the fault. Localization means tracing the fault to a defective stage or circuit responsible for the abnormal condition. The second step is isolation. Isolation means locating the defective part or parts. Some defective parts, such as burned resistors and arcing transformers, can often be located by sight, smell, or sound. Most defective parts, however, must be isolated by checking voltages and resistances.

b. *Localization*. The tests listed below will aid in isolating a trouble. The first step in tracking trouble is to localize the defective stage by one of the following methods:

(1) *Visual inspection*. The purpose of visual inspection is to localize faults without testing or measuring circuit voltages or resistances. Through this inspection, the repairman frequently can discover troubles or determine the circuit in which the trouble exists. This inspection is valuable in avoiding additional damage which might occur through improper servicing methods, and in preventing future failures.

(2) *Voltage and resistance measurements.* When measuring voltages, use tape or sleeving to insulate the entire test probe, except for the extreme tip. Use the voltage and resistance chart to find the normal readings, and compare them with the readings taken.

(3) *Troubleshooting chart*. The indication is listed in the chart of paragraph 2-5d will aid in localizing the trouble to a component part.

(4) *Intermittent troubles*. In all these tests, the possibility of intermittent troubles should not be overlooked. If present, this type of trouble may be made to reappear by tapping or jarring the equipment. Check the internal wiring and connections for looseness.

2-3. Test Equipment Required

The following chart lists the test equipment and accessory equipment required and the associated technical manuals for troubleshooting the flutter and wow meter at the direct support level.

Test equipment	*Federal stock number*	*Technical manual*
Multimeter AN/URM-105	6625-581-2036	TM 11-6625-203-12
Audio Oscillator TS-421/U	6625-669-0228	TM 11-6625-355-12
Meter Test Set TS-682/GSM-1	6625-669-0747	and TM 11-6625-355-45
Tool Kit TK-100/9	5180-605-0079	TM 11-2535B
Frequency Meter AN/USM-26 (or Frequency Counter).	6625-543-1356	N/A

Section II. TROUBLESHOOTING FLUTTER AND WOW METER ME-254/U

2-4. General

(fig. 2-1)

All bench tests on the flutter and wow meter require connections to an ac power source.

2-5. Localizing Troubles

a. *General*. In the troubleshooting chart that follows, the procedures are outlined for localizing troubles to a stage. The parts locations diagram is shown in figure 2-1. Depending on the nature of the operational symptoms, one or more of the localizing procedures will be necessary. When trouble has been localized to a particular stage, use voltage and resistance measurements to isolate the trouble to a particular part.

b. *Use of Chart*. If previous operational checks have resulted in reference to a particular item of the chart in d below, refer directly to the referenced item. If no operational symptoms are known, begin with item 1 of the troubleshooting chart and proceed until a symptom of the trouble is found.

CAUTION

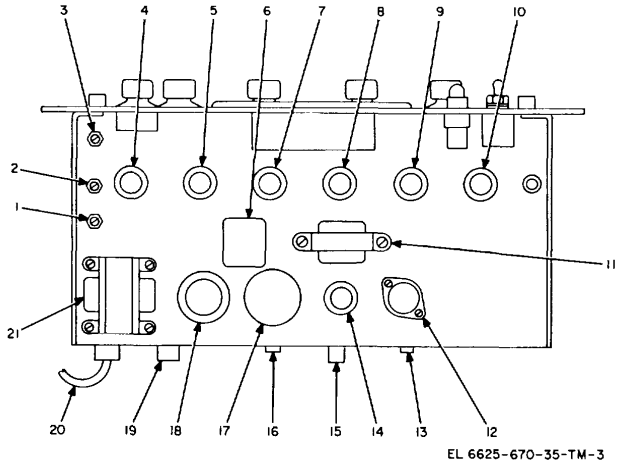
If the operational symptoms are not known, or if they indicate the possibility of internal short circuits, make resistance checks described in paragraph 2-7 before applying power.

c. *Conditions for Tests*. All checks outlined in the chart are to be conducted with the flutter and wow meter connected to the ac power source.

d. *Troubleshooting Chart*.

Item No.	*Indication*		*Probable Trouble*		*Procedure*
1	POWER lamp does not light with POWER ON-OFF switch in ON position.	*a*.	AC line not properly terminated	*a*.	Check that ac line cord is properly connected to 117V ac source.
		b.	AC line cord defective	*b*.	Check ac line cord for continuity and replace if necessary.
		c.	Defective POWER lamp	*c*.	Check and replace if necessary.
		d.	Defective fuse	*d*.	Check fuse and replace if necessary. If fuse continues to blow, check power transformer T1 and replace as necessary.
		e.	Defective ON-OFF switch	*e*.	Check continuity of ON-OFF switch; if defective replace.
2	POWER switch ON, POWER lamp glows, tube filaments glow, unit inoperative, OA2 tube (V8) does not glow.	*a*.	Defective tubes 5V4G (V7) or OA2 (V8).	*a*.	Replace 5V4G (V7), or OA2 (V8).
		b.	Defective capacitor C26A, B	*b*.	Check capacitor C26A, B and replace if necessary.
		c.	Defective resistor R44	*c*.	Check and replace resistor R44 if necessary.
3	POWER switch ON, POWER lamp glows, tube filaments glow, unit inoperative, OA2 tube (V8) glows.	*a*.	Defective resistor R45 or R11	*a*.	Check and replace if necessary.
		b.	Defective capacitor C4	*b*.	Check and replace capacitor C4 if necessary.
4	POWER switch ON, POWER lamp dim, unit inoperative, power transformer T1 overheats.		Defective power transformer T1		Check voltages of power transformer T1 and replace if necessary.
5	Unit inoperative, signal input terminated, no meter reading in CAL position.	*a*.	Defective CALIBRATE control R14	*a*.	Check CALIBRATE control R14 and replace if necessary.
		b.	Defective tube 12AX7 (V1) or 12AT7 (V6)	*b*.	Replace tubes (V1 and V2); if trouble still exists check components V1 and V6 circuits.
		c.	Defective component CR1, CR2, C27, R59, R60, or SCALE switch S4.	*c*.	Check components and replace if necessary.
		d.	Defective meter	*d*.	Check meter and replace if necessary.
6	Unit operative, CAL readings normal, cannot balance with BALANCE control.	*a*.	Defective tube 6AL5 (V5)	*a*.	Replace 6AL5 (V5).
		b.	Defective BALANCE control C15	*b*.	Check BALANCE control C15 and replace if necessary.
7	Unit operative, CAL and BAL readings normal, no flutter and wow indications.		Defective tube 12AT7 (V6)		Replace 12AT7 (V6).

item No.	Indication	Probable Trouble	Procedure
8	Unit operative, CAL and BAL readings normal, no flutter and wow reading on 0.3%, 1%o, or 3% SCALE switch.	*a*. Defective FILTER selector switch.	*a*. Check FILTER selector switch and replace if necessary.
		b. Defective SCALE selector switch	*b*. Check SCALE selector switch and replace if necessary.
9	Unit operative, excessive excursions of meter needle when signal input varies.	No limiting action, defective tube 6AL5 (V3).	Replace tube 6AL5 (V3).
10	Unit operative, no reading in BAL position.	Defective tube 12AT7 (V2) or 6U8 (V4).	Replace tube 12AT7 (V2) or 6U8 (V4).
11	No signal output at TEST POINT jack.	*a*. Defective tube 12AT7 (V6)	*a*. Replace tube 12AT7 (V6).
		b. Defective resistor R37	*b*. Check resistor R37 and replace if necessary.
		c. Open wire to TEST POINT jack.	*c*. Check wiring to jack and repair as required.
		d. Defective TEST POINT jack	*d*. Check TEST POINT jack and replace if necessary.
12	No signal at OUTPUT terminals.	*a*. Defective tube 12AT7 (V6)	*a*. Replace tube 12AT7 (V6).
		b. Defective resistor R55	*b*. Check resistor R55 and replace if necessary.
13	Unit operative, signal fed to INPUT terminals, no reading in any INPUT SELECTOR switch position.	*a*. Defective resistors R1 through R7.	*a*. Check resistors R1 through R7 and replace as necessary.
		b. Defective INPUT SELECTOR switch.	*b*. Check INPUT SELECTOR switch and replace if necessary.
14	Unit operative, no oscillator output.	Defective tube 6U8 (V4)	Replace tube 6U8 (V4).
15	Oscillator output does not supply 3000 Hz, cannot balance with BAL control.	*a*. Oscillator not properly adjusted	*a*. Adjust oscillator using OSC FREQ. control C30 (para 3-4b).
		b. Defective capacitor C29	*b*. Check capacitor C29 and replace if necessary.



1 Range CAL adjust, R42
2 Meter CAL adjust, R43
3 Range CAL adjust, R38
4 Tube, 12AT7, V6A, B
5 Tube, 6AL5, V5A, B
6 Discriminator and oscillator coils, L1, T2 and T3
7 Tube, 6U8, V4A, B
8 Tube, 6AL5, V3A, B
9 Tube, 12AT7, V2A, B
10 Tube, 12AX7, VIA, B
11 Choke filter, L2
12 Capacitors. C4A, B
13 TEST POINT jack
14 Tube, OA2, V8
15 Oscillator output
16 OSC FREQ. adjust, C30
17 Capacitors, C26A, B
18 Tube, 5V4G, V7
19 Fuse, F1
20 AC power line cord
21 Transformer. T1

Figure 2-1. Flutter and wow meter ME-254/U.

2-6. Isolation of Trouble Within Stages

a. When trouble has been localized to a stage, during the operational checks listed in the troubleshooting chart (para 2-5d), isolate the trouble to a component level by voltage measurements at the tube terminals and other significant points.

b. Use the schematic diagram (fig. 4-3) to trace the circuits and isolate the faulty components.

2-7. Voltage and Resistance Chart

CAUTION

Disconnect the flutter and wow meter from the power source before making resistance measurements.

a. The following voltage and resistance measurements are taken at the tube socket terminals.

b. All resistance measurements are taken with input power turned off, tubes cold or removed from sockets and all controls at zero.

c. All voltages measurements are taken with a line voltage of 117 volts 60 Hz, signal input zero and input power of 30 watts.

d. All voltage and resistance readings are measured from ground.

NOTE

Voltage readings are based on indicated power line voltages. Higher or lower voltages result in corresponding variations in voltage readings. Approximately ± 10% tolerance of all readings are permissible.

e. *Voltage and Resistance Chart*.

Tube socket terminals	Volts/ ohms	Tube number							
		V1	V2	V3	V4	V5	V6	V7	V8
1	volts	65 vdc	72 vdc	0.22 vdc	116 vdc	--------	83 vdc	--------	--------
	ohms	300 k	140 k	1.0 meg	52 k	25 k	110 k	--------	--------
2	volts	--------	--------	0.22 vdc	--------	--------	--------	290 vdc	0
	ohms	1.1 meg	0	1.0 meg	470 meg	120 k	120 k	47 k	0
3	volts	0.22 vdc	1.14 vdc	3.1 vac	69 vdc	3.1 vac	1.38 vdc	--------	--------
	ohms	1.0 k	2.2 k	--------	75 k	--------	2.2 k	--------	--------
4	volts	3.1 vac	3.1 vac	3.1 vac	3.1 vac	3.1 vac	3.1 vac	238 vac	--------
	ohms	--------	--------	--------	--------	--------	--------	165	--------
5	volts	3.1 vac	3.1 vac	1.8 vdc	3.1 vac	0	3.1 vac	--------	147 vdc
	ohms	--------	--------	1.0 k	--------	0	--------	--------	40 k
6	volts	85 vdc	73 vdc	0	130 vdc	--------	88 vdc	240 vac	--------
	ohms	150 k	145 k	0	40 k	--------	78 k	165	--------
7	volts	--------	--------	0	0	--------	--------	--------	--------
	ohms	450 k	1.0 meg	0	0	120 k	260 k	--------	--------
8	volts	0.41 vdc	1.21 vdc	--------	0.04 vdc	--------	1.7 vdc	290 vdc	--------
	ohms	1.0 k	2.5 k	--------	13.0	--------	1.5 k	47 k	--------
9	volts	3.1 vac	3.1 vac	--------	--------	--------	3.1 vac	--------	--------
	ohms	--------	--------	--------	43 k	--------	--------	--------	--------

Section III. REPAIRS

2-8. General Parts Replacement Techniques

All the parts of the flutter and wow meter can be replaced without special procedures.

CHAPTER 3

GENERAL SUPPORT MAINTENANCE

Section I. REPAIRS

3-1. Overhaul Operations

Complete overhaul of the flutter and wow meter may be accomplished by general support maintenance personnel when authorized. Overhaul action will include all repairs and replacement operations necessary to make the equipment suitable for return to stock for reissue to using organizations, as equipment equivalent to new. Detailed procedures for accomplishing the repairs and adjustments established in the preceding portions of this manual, and for such additional repair and overhaul as deemed necessary, will be established by the facility performing the work. Depot maintenance establishes the requirements that must be met by overhauled or repaired equipment before it is returned to DA supply system stocks.

3-2. General Parts Replacement Techniques

Before removing a part from the flutter and wow meter, note the position of the part and tag its leads. Install replacement parts in the same position as the original.

3-3. Disassembly and Reassembly

The steps necessary to disassemble and reassemble the flutter and wow meter are obvious, and no special instructions are required. However, certain procedures and precautions must be observed prior to, and during, reassembly.

a. Make sure that all mating machine surfaces are absolutely clean.

b. Make sure that no hardware, such as nuts, bolts, and washers, has fallen inside the flutter and wow meter.

3-4. Equipment Adjustments

The following adjustments must be performed after replacing a defective part or as a result of troubleshooting.

a. Input Selector Adjustment Potentiometers R61, R62, and R63. These potentiometers, located under the chassis, should be adjusted for the following nominal resistances between wiper arm and ground:

R61-8 ohms
R62-30 ohms
R63-600 ohms

b. *Oscillator Frequency Adjustment*. To calibrate the 3000 Hz oscillator, connect the Frequency Meter (or Frequency Counter) to the OSC OUTPUT terminals on the front panel. Turn on the power to the flutter and wow meter and the frequency meter and adjust OSC FREQ. capacitor C30, located on the rear chassis apron (fig. 2-1), until the output reads 3000 +150 Hz.

Section II. GENERAL SUPPORT MAINTENANCE TESTING PROCEDURES

3-5. General

a. Testing procedures are prepared for use by Signal Field Maintenance Shops and Signal Service Organizations responsible for general support maintenance of electronic 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. These procedures may also be used as a guide for testing equipment that has been repaired at the general support level if the proper tools and test equipments are available.

b. Comply with the instructions preceding each chart before proceeding to the chart. Perform each step in sequence. Do not vary the sequence.

For each step, perform all the actions required in the Control settings columns; then perform each specific test procedure and verify it against its performance standard.

3-6. Test Equipment, Tools, and Materials

All test equipment, tools, materials, and other equipment required during the testing procedures given in this section are listed in the following subparagraphs.

a. Test Equipment. No test equipment is required for the testing procedures given in this section.

b. Tools. No special tools are required.

c. Other Equipment. No other equipment is required.

3-7. Modification Work Orders

The performance standards listed in the following tests are based on the assumption that the modification work orders have been performed. A listing of current modification work orders will be found in DA Pam 310-7.

3-8. Physical Tests and Inspection

a. Test Equipment and Materials. None.

b. Test Connections and Conditions. No connections necessary.

c. Procedure. The following procedure is applicable to Flutter and Wow Meter ME-254/U.

Step No.	*Control Settings* — *Test equipment*	*Control Settings* — *Equipment under test*	*Test procedure*	*Performance standard*
1	None	Controls may be in any position.	*a*. Inspect case and chassis for damage or missing parts, and for condition of paint. NOTE Touchup painting is recommended in place of refinishing whenever practicable; do not paint or polish screwheads, binding posts, receptacles, and other plated parts with abrasives.	*a*. No damage evident or parts missing. External surfaces intended to be painted must not show bare metal. Panel lettering must be legible.
			b. Inspect all controls and mechanical assemblies for loose or missing screws, bolts, and nuts.	*b*. Screws, bolts, and nuts must be tight; none missing.
			c. Inspect all connectors, sockets, receptacles, and fuseholders for looseness, damage, or missing parts.	*c*. No loose parts or damage. No missing parts.
2	None	Controls may be in any position.	*a*. Rotate all panel controls throughout their limits of travel.	*a*. Controls must rotate freely, without binding or excessive looseness.
			b. Operate all switches.	*b*. Switches must operate properly.

CHAPTER 4

DEPOT OVERHAUL STANDARDS

4-1. Applicability of Depot Overhaul Standards

The tests outlined in this chapter are designed to measure the performance capability of a repaired equipment. Equipment that is to be returned to stock should meet the standards given in these tests.

4-2. Applicable References

a. *Repair Standards*. Applicable procedures of the Signal Corps depot performing these tests and the general standards for repaired electronics equipment form a part of the requirements for testing this equipment.

b. *Technical Publications*. The following technical publication is applicable to this equipment: TM 11-6625-670-12.

c. *Modification Work Orders*. Perform all applicable modification work orders pertaining to this equipment before making the tests specified. DA Pam 310-7 lists all available MWO's.

4-3. Test Facilities Required

The test equipment and materials required in determining compliance with the requirements of this specific standard are given in paragraph 2-3 and in the list of additional test equipment that follows.

Additional test equipment	*Part No.*	*Description*
Flutter tape	62-1002A	600 feet on 7-inch plastic reel, full width, 7.5 ips, first half 3 kHz unmodulated, balance 1.5 percent peak flutter at 75 Hz modulation frequency
Flutter record	37-1002	12-inch, 33 1/3 vinyl pressing with three cuts as follows: *a.* 3 kHz unmodulated for flutter measurements *b*. 3 kHz modulated 1.5 percent peak at 75 Hz *c*. Blank groove (for rumble testing)

4--4. General Test Requirements

Perform the tests given in paragraph 4-5 to verify proper operation of Flutter and Wow Meter ME-254/U. No special test setup is required. Connect the tape or record output from a tape recorder or record player to the INPUT terminals of the flutter and wow meter.

4-5. Flutter and Wow Meter Test

Calibration of the flutter and wow meter must be performed after replacing a defective part or as a result of troubleshooting. Since accurate calibration of a flutter measuring device requires specialized signal generating equipment and reference standards, it is not practicable to calibrate the MIE-254/U in the field from a primary reference. However, calibration of the unit from a standard tape or record is easily accomplished and instructions for this purpose are packaged with the additional test equipment listed in paragraph 4-3. The following controls, located on top of the chassis, may require adjustment while performing the calibration.

R42: 6-250 Hz (flutter adjustment)
R43: 0.5-6 Hz (wow adjustment)
R38: CAL (0.5-250 Hz combined flutter and wow adjustment)

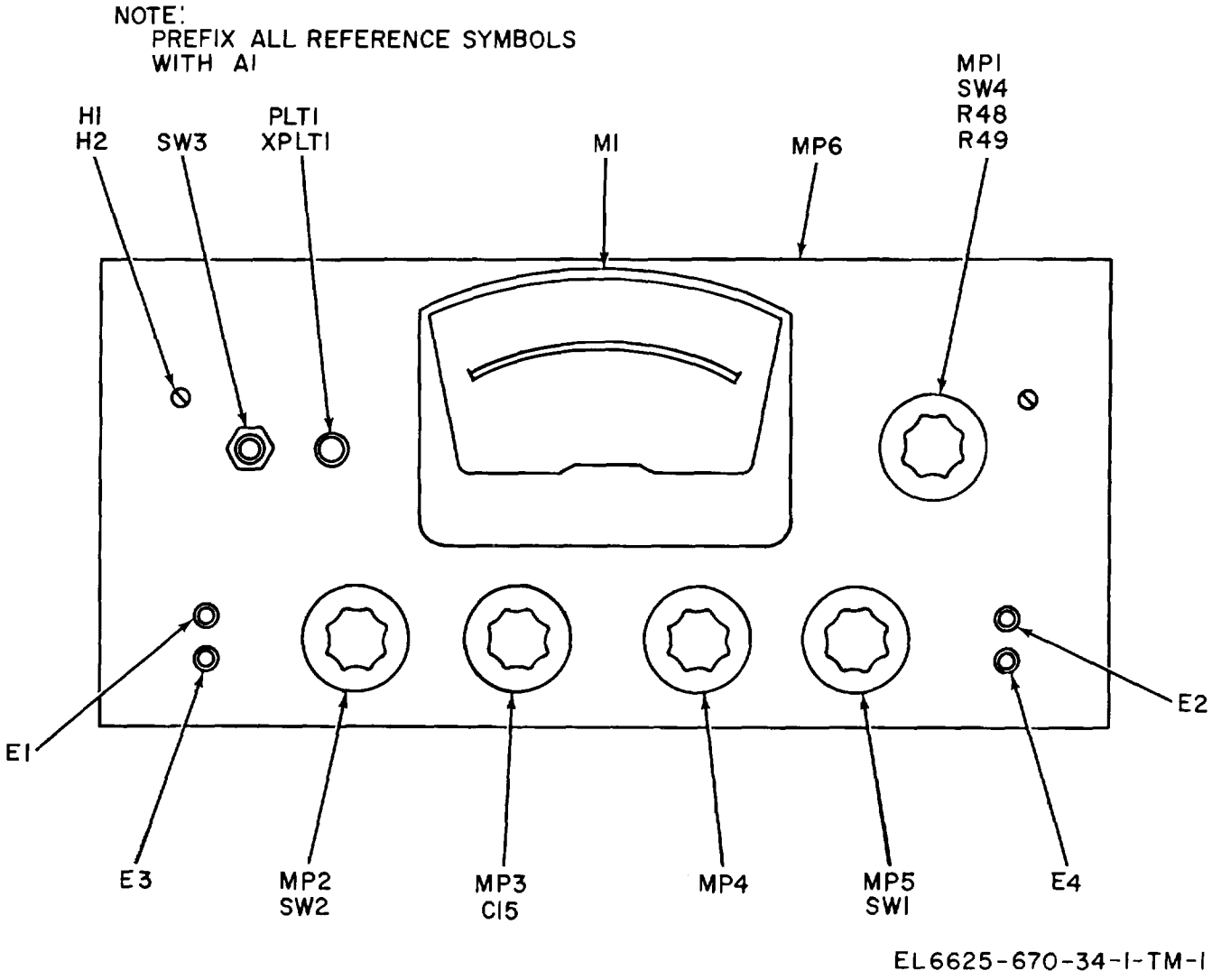


Figure 4-4. Meter front panel.

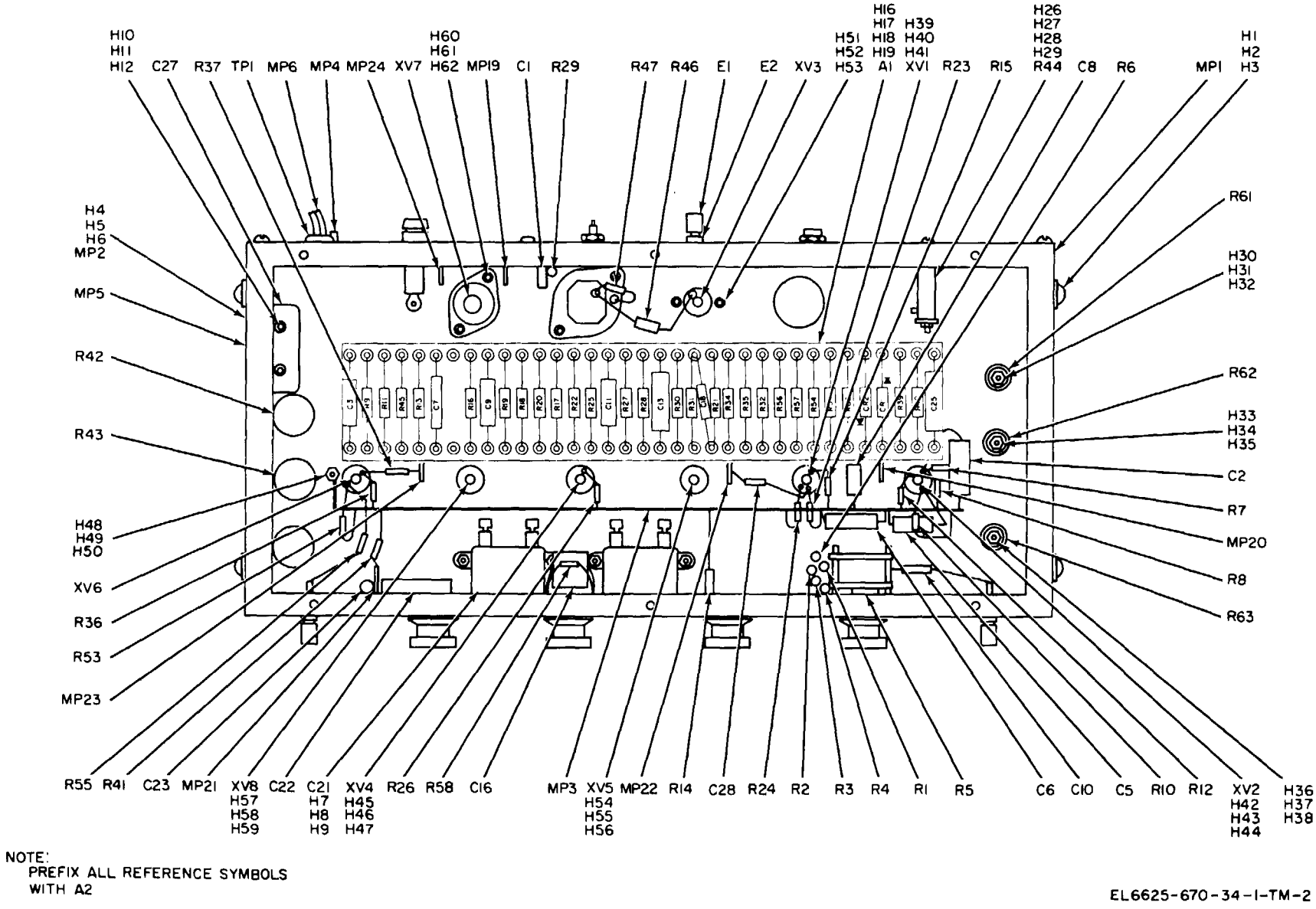
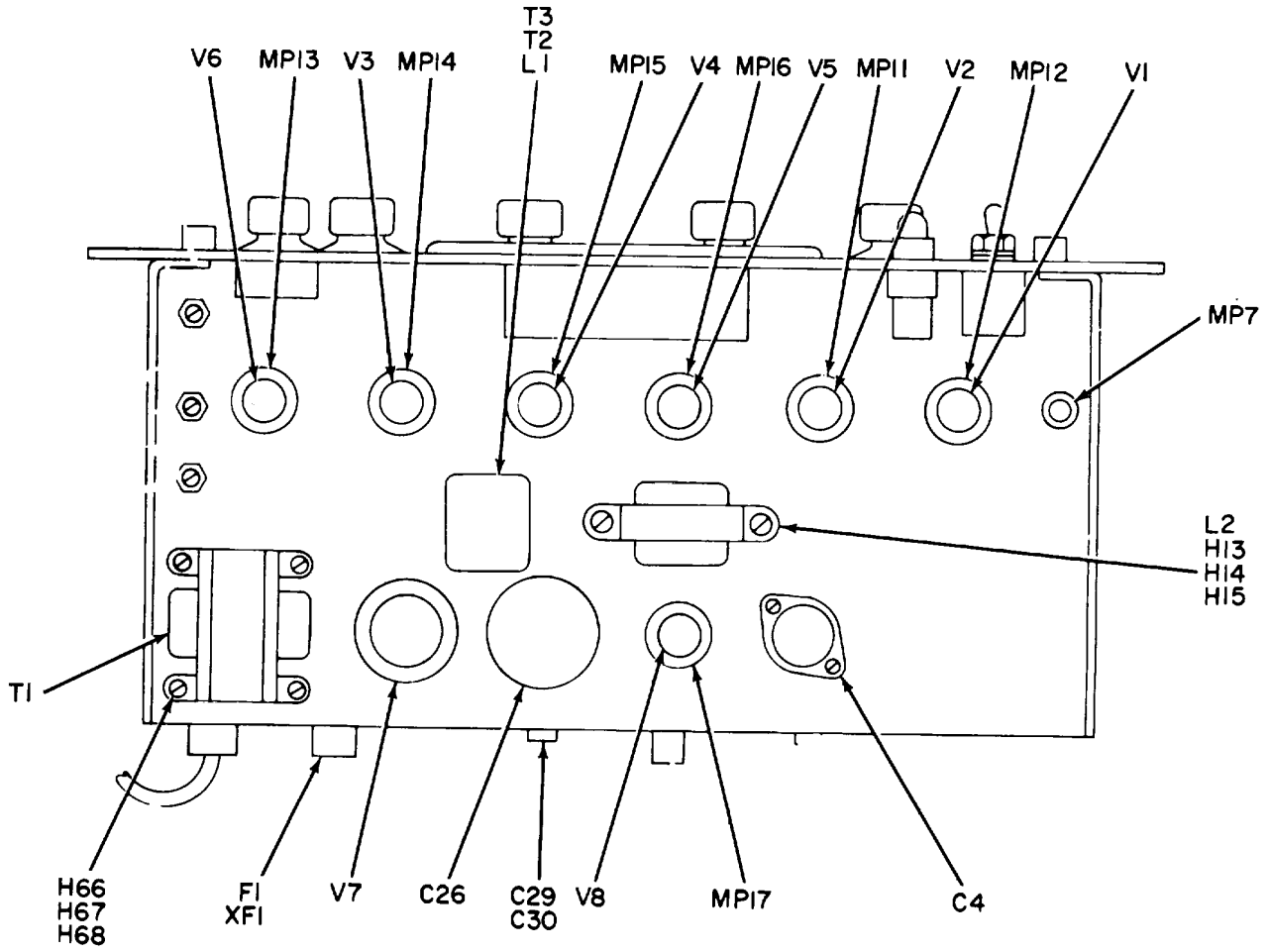


Figure 4-5. Meter chassis bottom view.



NOTE:
PREFIX ALL REFERENCE SYMBOLS WITH A2

EL6625-670-34-1-TM-3

Figure 4-6. Meter chassis, top view.

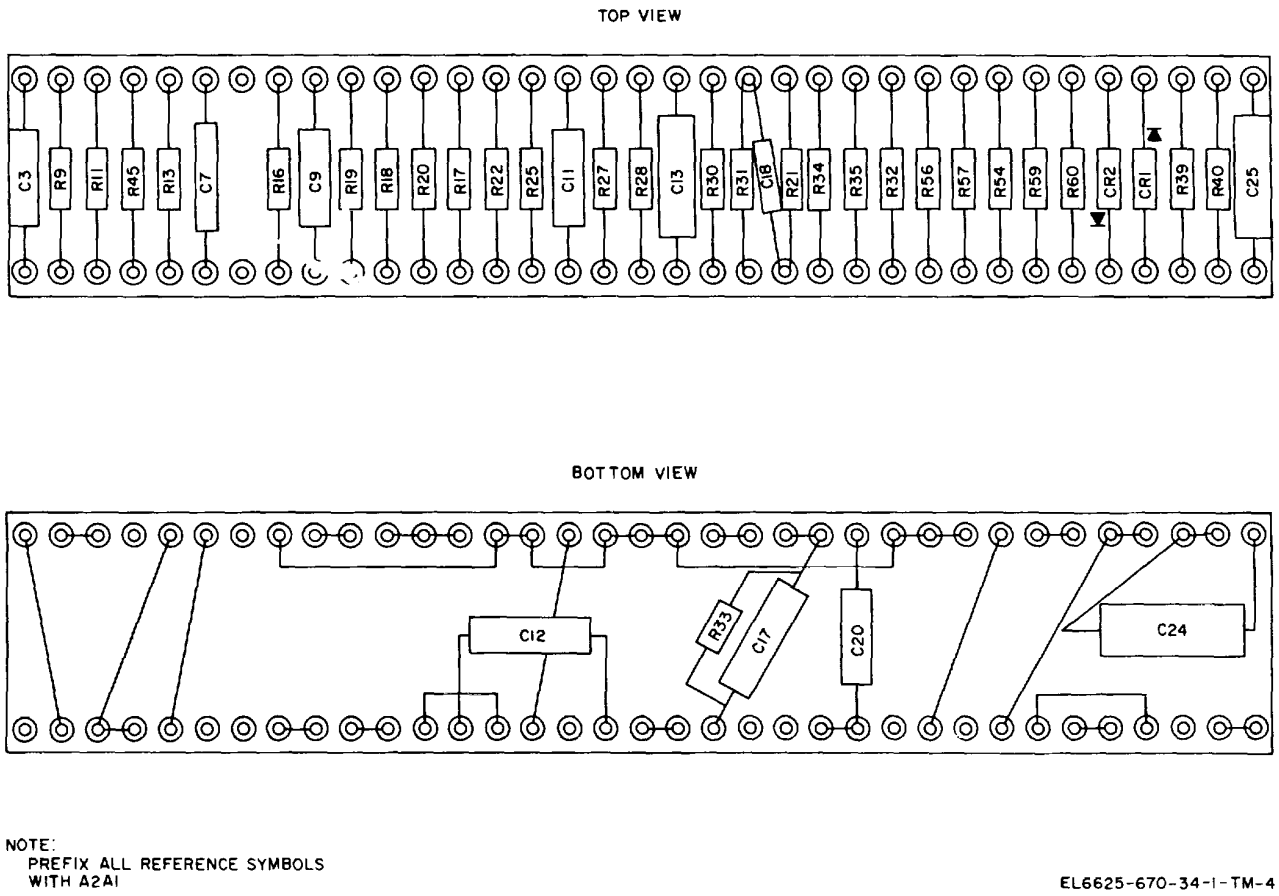


Figure 4-7. Meter RC component board.

APPENDIX A

REFERENCES

The following publications contain information applicable to the operation of METER, FLUTTER AND WOW ME-254/U.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8 and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	US Army Equipment Index of Modification Work Orders.
TM 38-750	The Army Maintenance Management System (TAMMS).
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB 746-10	Field Instructions for Painting and Preserving Electronics Command Equipment.

APPENDIX B

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS

Section I. INTRODUCTION

B-1. Scope

This appendix lists repair parts, special tools, and test equipment required for the performance of direct support and general support maintenance of the ME-254/U.

B-2. General

This Repair Parts and Special Tools List is divided into the following sections.

a. *Repair Parts-Section II* A list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level.

b. *Special Tools, Test and Support Equipment-Section III*. Not applicable.

c. *Federal Stock Number and Reference Number Index-Section IV* A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers (manufacturer's part number) in ascending alpha-numeric sequence, cross-referenced to the item sequence numbers.

d. *Index-Reference Designation Cross-Reference to Item Sequence Number-Section V* A list of reference designations in ascending alpha-numeric sequence cross-referenced to item sequence of the Repair Parts List.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of section II

a. *Source, Maintenance, and Recoverability Codes (SMR), Column 1*.

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

(a) Code P-applied to high mortality repair parts which are procured by, stocked in, and supplied from the military supply system and which are not considered insurance type items.

(b) Code P1-applied to low mortality repair parts which are procured by, stocked in, and supplied from, the military supply system.

(c) Code G-applied to major assemblies which are procured with PEMA funds for initial issue only and are used as exchange assemblies at direct and general support maintenance level. These assemblies will not be stocked above general support maintenance level or returned to depot supply level.

(d) Code M-applied to repair parts which are not procured or stocked as separate supply items but are to be manufactured at the indicated maintenance levels. The lowest maintenance level authorized to manufacture the item will be entered in the second digit position of the source code.

(e) Code A-applied to repair parts which are not procured or stocked as separate supply items but are to be assembled from two or more individually procured and stocked supply items at the indicated maintenance level. The lowest maintenance level authorized to assemble the item will be entered in the second digit position of the source code.

(f) Code C-applied to repair parts authorized for local procurement. If not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels.

(g) Code X-applied to parts and assemblies which are not procured or stocked, the mortality rate of which is normally below that of the applicable end item, and the failure of which would result in retirement of the end item from service.

(h) Code X1-applied to repair parts which are not procured or stocked, the require

ment for which will be filled by use of next higher procured and stocked assembly or component.

(I) Code X2-applied to repair parts which are not procured or stocked, the requirement for which will be filled through cannibalization and salvage sources.

(j) Code Z-applied to obsolete repair parts no longer stocked or procured.

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

Code	*Explanation*
0	Organizational maintenance
F	Direct support maintenance
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-

(a) Code R-applied to repair parts and assemblies which are repaired at direct and general support maintenance levels. These repair parts which are not economically reparable at depot level will be recovered at the direct and general support maintenance levels and will be replaced from supply on an exchange basis.

(b) Code S--repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.

(c) Code T-applied to high dollar value repair parts which are subject to special handling and are most economically repaired, overhauled, or rebuilt at depot maintenance level. These repair parts will be recovered at the depot maintenance level and will be replaced from supply on an exchange basis.

(d) Code U-applied to repair parts specifically selected for salvage because of precious metal content, critical materials; high-dollar value, reusable casing or casting material, etc. These repair parts will be recovered at the maintenance level prescribed by the commodity command.

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. This column indicates the Sequence number, Indenture code, Federal item name and any additional description of the item required. A sequence number followed by letter "D" shows item as deleted. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A two-character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based; e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the assembly group. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc).

f. 30-Day DS/GS Maintenance Allowances, Columns 6 and 7.

NOTE

Allowances in GS column are for GS maintenance only.

(1) The allowance columns are divided into three subcolumns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the applicable allowance columns. 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 DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example, authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

g. 1-Year Allowance Per 100 Equipment/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 1 year.

h. Depot Maintenance Allowance Per 100 Equipments, Column 9. This column indicates op-

posite the first appearance of each item, the total quantity authorized for depot maintenance of 100 equipments. Subsequent appearances of the same item will have the letters "REF" in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

I. Illustration, Column 10. This column is divided as follows.

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

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

B-4. Special Information

a. The basis of issue for authorized special tools, test and support equipment is the number of end items of equipment supported and the number of maintenance personnel allocated to perform the required maintenance.

b. Parts which require manufacture or assembly at a category higher than that authorized for installation will indicate in the source column the higher category.

B-5. How to Locate Repair Parts

a. When Federal Stock Number or Reference Number is unknown:

(1) *First*. Find the illustration covering the assembly group to which the repair part belongs.

(2) *Second*. Identify the repair part on the illustration and note the complete reference designation used to call out the item.

(3) *Third*. Using the Reference Designation Cross-Reference to Item Sequence Number Index (sec V), find the reference designation and note the item sequence number listed.

(4) *Fourth*. Locate the item sequence number in the Repair Parts List (sec II).

b. Federal Stock Number or Reference Number is known.

(1) *First*. Using the Index of Federal Stock Numbers and Reference Numbers (sec IV) find the pertinent federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in alphanumeric sequence, cross-referenced to the item sequence number.

(2) *Second*. Note the item sequence number shown opposite the Federal Stock Number or Reference Number.

(3) *Third*. Locate the item sequence number in the Repair Parts List (sec II).

c. When the Reference Designation is known:

(1) *First*. Locate the reference designation in the Reference Designation Cross-Reference to Item Sequence Number index.

(2) *Second*. Note the item sequence number shown opposite the reference designation.

(3) *Third*. Locate the item sequence number in the Repair Parts List (sec II).

B-6. Federal Supply Codes for Manufacturers

Code	*Manufacturer*
02954	Premier Metal Products Co. Inc., 337 Manida St., Bronx, N.Y. 10474
06555	Beede Electrical Instrument Co., South Main St., Penacock, N.H. 03301
08806	General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland, Ohio 44112
09022	Cornell-Dubilier Electric Corp., Mica Division, 282 West River, Providence, R.I. 02904
14655	Cornell-Dubilier Electric Corp., 50 Paris St., Newark, N.J.
21381	Heinman Mfg. Co., 220 Elbert St., Urbana, Ohio
23237	IRC Inc., Microcircuits Division, 401 North Broad St., Philadelphia, Pa. 19108
27193	Cutler-Hammer Inc., Specialty Products Division, 4201 N. 27th St., Milwaukee, Wis. 53216
44655	Ohmite Mfg. Co., 3601 W. Howard St., Skokie, Ill. 60076
56289	Sprague Electric Co., Marshall St., North Adams, Mass. 01247
71400	Bussmann Mfg., Division of McGraw-Edison Co., 2536 W. University St., St. Louis, Mo. 63017
71590	Centralab Division of Globe-Union Inc., 932 E. Keefe Ave., Milwaukee, Wis. 53212
71785	Cinch Mfg. Co., and Howard B. Jones Div., 1026 S. Homan Ave., Chicago, III. 60624
72512	Davies Harry Molding Co., 1428 N. Wells St., Chicago, III. 60610
72619	Dialight Corp., 60 Stewart Ave., Brooklyn, N.Y. 11237
72653	G. C. Electronics Co., 400 South Wyman, Rockford, Ill. 61101
73446	Amplifier Corp. of America, 75 Frost St., Westbury, N.Y. 11590
75915	Littelfuse Inc., 800 E. Northwest Hwy, Des Plaines, Ill. 60016
81349	Military Specifications Promulgated by Standardization Div. Directorate of Logistic Service DSA
82389	Switchcraft Inc., 5527 N. Elston Ave., Chicago, Ill. 60630
83330	Herman H. Smith Inc., 812 Snediker Ave., Brooklyn, N.Y. 11207

Code	*Manufacturer*
84171	Arco Electronics Inc., Community Drive, Great Neck, N.Y. 11022
86684	Radio Corp. of America, Electronic Components and Devices, 415 S. 5th St., Harrison, N.J. 07029
92219	Waldon Electronics Inc., 4625 W. 53rd St., Chicago, Il. 60632
96906	Military Standards Promulgated by Standardization Div. Directorate of Logistic Services DSA

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
G—O-S	6625-987-8527	A001 A METER, FLUTTER AND WOW ME254/U:..... MODEL 590A1; (73446)	EA	1										
X—H-S	6625	A002 B FRONT PANEL ASSEMBLY:..... 3613-1; (73446)	EA	1										
P—H	5305-984-62	A003 * SCREW, MACHINE:..... MS35206-263; (96906)	EA	2				*	*	*	5	2	4-4	H1
P—H	5310-934-9758	A004 * NUT, PAN, HEXAGON:..... MI35649-202; (96906)	EA	2				*	*	*	5	2	4-4	H2
P—H	5910	A005 C CAPACITOR, VIABLE:..... L14; (84d7i)	EA	1				*	1	1	12	5	4-4	A1C15
P—H	5355	A006 C KNOB:..... 10-1-1-2; (7212)	EA	5				*	1	2	19	10	4-4	A1MP1
P—H	5355	A007 C KNOB:..... SAME AS A006	EA	REF									4-4	A1MP2
P—H	5355	A008 C KNOB:..... SAME AS A006	EA	REF									4-4	A1MP3
P—H	5355	A009 C KNOB:..... SAME AS A006	EA	REF									4-4	A1MP4
P—H	5355	A010 C KNOB:..... SAME AS A006	EA	REF									4-4	A1MP5
P—H	6240-155-8706	A011 C CAMP, INCANDESCENT:..... 47; (8806)	EA	1				*	1	1	19	10	4-4	A1PLT1
P—H	6250	A012 C LAMPHOLDER:..... 95-0410-0932-01; (2619)	EA	1				*	1	1	12	5	4-4	A1XPL
P—H	6625-761-3996	A013 C METER, MODULATION:..... 70; (o6555)	EA	1				*	1	1	12	5	4-4	A1M1
MD-H	6625	A014 C PANEL, FRONT:..... 3613; (73446)	EA	1									4-4	A1MP6
P—H	5340-433-0716	A015 C RESISTOR, FIXED, FILM:..... DCCPN20X1214E: (23237)	EA	1				*	1	1	12	5	4-4	A1R48
P—H	5905	A016 C RESISTOR, FIXED, FILM:..... DCCRN20X2003F; (23237)	EA	2				*	1	1	19	10	4-4	A1R49

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAYS GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5905	A017 C RESISTOR, FIXED, FILM: SAME AS A016	EA	REF1				*	1	1	12	5	4-4	A1R50
P—H	5905-060-8648	A018 C RESISTOR, VARIABLE: CL2541; (44655)	EA	11				*	1	1	12	5	4-4	A1R38
P—H	5930-991-1268	A019 C SWITCH, ROTARY: PA0004; (71590)	EA	1				*	1	1	12	5	4-4	A1SW1
P—H	5930-537-7006	A020 C SWITCH, ROTARY: PAO013; (71590)	EA	11				*	1	1	12	5	4-4	A1SW2
P—H	5930-034-2386	A021 C SWITCH, ROTARY: PA1002; (71590)	EA	1				*	1	1	12	5	4-4	A1SW4
P—H	5930-112-5317	A022 C SWITCH, TOGGLE: 8280K15; (27193)	EA	1				*	1	1	12	5	4-4	A1SW3
P—H	5940	A023 C TERMINAL, POST: 1517R; (83330)	EA	3				*	*	1	8	3	4-4	A1E1
P—H	5940	A024 C TERMINAL, POST: SAME AS A023	EA	REF									4-4	A1E2
P—H	5940	A025 C TERMINAL, POST: 1517E; (83330)	EA	3				*	*	1	10	4	4-4	A1E3
P—H	5940	A026 C TERMINAL, POST: SAME AS A025	EA	REF									4-4	AE4
X--H-S	6625	A027 B CHASSIS ASSEMBLY: 3612-1; (73446)	EA	1									4-5	A2
MD-H	5340	A028 C BRACKET, ANGLE, LH: CB78; (02954)	EA	2									4-5	A2MP1
P—H	5305-638-3313	A029 * SCREW, MACHINE: MS35223-55; (96906)	EA	7				*	1	1	15	7	4-5	A2H1
P—H	5310-559-0070	A030 * WASHER, LOCK: MS35333-38; (96906)	EA	4				*	*	1	10	4	4-5	A2H2
P—H	5310-934-9257	A031 * NUT, PLAIN, HEXAGON: MS35649-282; (96906)	EA	11				*	1	1	19	11	4-5	A2H3
MD-H	5340	A032 C BRACKET, ANGLE, RH: SAME AS A028	EA	REF									4-5	A2P2

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5305-638-3313	A033 * SCREW, MACHINE:..... SAME AS A029	EA	REF									4-5	A2H5
P—H	5310-559-0070	A034 * WASHER, LOCK: ..... SAME AS A030	EA	REF									4-5	A2H5
P—H	5310-934-9257	A035 * NUT PLAIN, HEXAGON:..... SAME AS A031	EA	REF									4-5	A2H6
MD-H	6150	A036 C BUS BAR: 3706; (73446)	EA	1									4-5	A2MP3
P—H	5975	A037 C BUSHING, STRAIN RELIEF: SR6P; (21381)	EA	1				*	*	*	5	2	4-5	A2MP4
P—K	5910-553-7202	A038 C CAPACITOR, FED, ELECTROLYTIC:..... TVL2755; (56289)	EA	1				*	1	1	2	5	4-5	A2C4
P—H	5910-112-7408	A039 C CAPACITOR, FIXED, ELECTROLYTIC:..... CP53E1EF50R1; (81349)	EA	1				*	1	1	12	5	4-5	A2C21
P—H	5305-984-6225	A040 * SCREW, MACHINE:..... MS35206-238; (96906)	EA	13				1	1	1	22	13	4-5	A2H7
P—H	5310-579-0079	A041 * WASHER, LOCK: MS35333-37; (96906)	EA	15				1	1	1	27	15	4-5	A2H8
P—H	5310-934-9747	A042 * NUT, PLAIN, HEXAGON:..... MS3569-262; (96906)	EA	17				1	1	1	27	17	4-5	A2H9
P—X	5910-847-4044	A043 C CAPACITOR, FIXED, ELECTROLYTIC:..... 4TMP25; (56289)	EA	3				1	1	1	27	15	4-5	A2C22
P—H	5910-820-6622	A044 C CAPACITOR, FIXED, ELECTROLYTC:..... TVL2764; (56289)	EA	1				*	1	1	12	5	4-5	A2C26
P—H	5910	A045 C CAPACITOR FIXED, MICA: MF6D22; (09022)	EA	7				1	1	1	46	35	4-5	A2C1
P—H	5910	A046 C CAPACITOR FIXED, MICA: ..... SAME AS A045	EA	REF									4-5	A2C10
P—H	5910	A047 C CAPACITOR FIXED, MICA: ..... SAME AS A045	EA	REF									4-5	A2C28
P—H	5910-043-2948	A048 C CAPACITOR FIXED, MICA: WMF4P1; (14655)	EA	2				*	1	1	19	10	4-5	A2C2

(1)	(2)	(3)	(4)	(5)	(6) 30 DAYS DS MAINT ALLOWANCE			(7) 30 DAYS GS MAINT ALLOWANCE			(8)	(9)	(10) ILLUSTRATION	
SMR CODE	FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF MEAS	QTY INC IN UNIT	(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100	1-YEAR ALW PER 100 EQUIP CNTGCY	DEPOT MAINT ALW PER 100 EQUIP	(a) FIGURE NO.	(b) ITEM NO.
P—H	5910-043-2948	A049 C CAPACITOR FIXED, MICA: ..... SAME AS A048	EA	REF									4-5	A2C6
P—H	5910-716-9799	A050 C CAPACITOR FIXED, MICA: WW6D; (0902)	EA	2				*	1	1	19	10	4-5	A2C5
P—H	5910-950-8222	A051 C CAPACITOR FIXED, MICA: WMF4S47; (09022)	EA	2				*	1	1	19	10	4-5	A2C8
P--H	5910-706-4130	A052 C CAPACITOR FIXED, MICA: WMF2S22; (09022)	EA	3				1	1	1	27	15	4-5	A2C14
P—H	5910-706-4130	A053 C CAPACITOR FIXED, MICA: ..... SAME AS A052	REF										4-5	A2C19
P—H	5910	A054 C CAPACITOR FIXED, MICA: ..... 30D103;(81349)	EA	1				*	1	1	12	5	4-5	A2C16
P—H	5910-933-6627	A055 C CAPACITOR, FIXED, MICA: WF4S47; (09022)	EA	1				*	1	1	12	5	4-5	A2C23
P—H	5910	A056 C CAPACITOR, FIXED, MICA: WMF6S15; (09022	EA	1				*	1	1	12	5	4-6	A2C29
P—H	5910-579-0079	A057 C CAPACITOR, FIXED, PAPER DIELECTRIC: .. CP53EFE205K1; (81349)	EA	1				*	1	1	12	5	4-5	2AC27
P—H	5305-984-62 25	A058 * SCREW, MACHINE:..... SAME AS A041	EA	REF									4-5	A2H10
P--H	5305-579-009	A059 * WASHER, LOCK: ..... SAME AS A041	EA	REF									4-5	A2H11
P--H	5910-934-9947	A060 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF									4-5	A2H12
P--H	5910-26-2301	A061 C CAPACITOR, VARIABLE: L308; (84171)	EA	1				*	1	1	12	5	2-1	A2C30
MD-H	6625	A062 C CHASSIS, ELECTRONIC EQUIPMENT..... 3612; (73446)	EA	1										AMP25
P—H	5950	A063 C CHOKE FILTER:..... 3628; (7346)	EA	1				*	1	1	12	5	2-1	A212
P—H	5305-208-4861	A064 * SCREW, MACHINE:..... 3523-27; (96906)	EA	4				*	*	1	10	4	2-1	A2H13

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5310-579-0079	A065 * WASHER LOCK: ..... SAME AS A041	EA	REF									2-1	A2H14
P—H	5310-934-9747	A066 * NUT, PIN, HEXAGON: ..... SAME AS A042	EA	REF									2-1	A2H155
P—H	5950	A067 C CHOKE, RADIO FREQUENCY:..... 3562; (73446)	EA	1				*	1	1	12	5	2-1	A2L1
P--H-S	6625	A068 C COMPONENT BOARD ASSEMBLY:..... 3611-1; (7346)	EA	1				1	1	1	59	40	4-5	A2A1
P—H	5305-984-6225	A069 * SCREW, MACHINE:..... SAME AS A040	EA	REF									4-5	A2H16
P—H	5310-579-0079	A070 * WASHER, LOCK: ..... SAME AS A041	EA	REF									4-5	A2H17
P—H	5310-934-9747	A071 * NUT, PLAIN, HEXAGON:..... SAME AS A042	EA	REF									4-5	A2H18
MD-H	5365	A072 * SPACER, SLEVE:..... 3709; (73446)	EA	2									4-5	A2H19
P—H	5910-847-4044	A073 D CAPACITOR FIXED, ELECTROLYTIC:..... SAME AS A043.....	EA	REF									4-7	A2A1 C24
P—H	5910-847-4044	A074 D CAPACITOR, FIXED, ELECTROLYTIC:..... SAME AS A043.....	EA	REF									4-7	A2A1 C25
P—H	5910	A075 D CAPACITOR, FIXED, ELECTROLYTIC:..... SAME AS A045.....	EA	REF									4-7	A2A1 C3
P—H	5910	A076 D CAPACITOR, FIXED, MICA: ..... SAME AS A045.....	EA	REF									4-7	A2A1 C9
P—H	5910	A077 D CAPACITOR, FIXED, MICA: ..... SAME AS A045.....	EA	REF									4-7	A2A1 C11
P—H	5910	A078 D CAPACITOR, FIXED, MICA: ..... SAME AS A045.....	EA	REF									4-7	A2A1 C20
P—H	5910	A079 D CAPACITOR, FIXED, MICA: ..... SAME AS A050.....	EA	REF									4-7	A2A1 C7
P—H	5910-950-8222	A080 D CAPACITOR, FIXED, MICA: ..... SAME AS A051.....	EA	REF									4-7	A2A1 C12

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5910-706-4130	A081 D CAPACITOR, FIXED: ..... SAME AS A052	EA	REF									4-7	A2A1 C13
P-H	5910-903-8844	A082 D CAPACITOR, FIXED, MICA: WMF2D22; (14655)	EA	1				*	1	1	12	5	4-7	A2A1 C17
P—H	5910-406-8863	A083 D CAPACITOR, FIXED, MICA: CM1IFD511JN3; (81349)	EA	1				*	1	1	12	5	4-7	A2A1 C8
X-_H	6625	A084 D COMPONENT BOARD: 3611; (73446)	EA										4-7	A2A1 TB1
P--H	5905	A085 D RESISTOR, FIXED, COMPOSITION: GBT1-2-27OR10; (23237)	EA	1				*	1	1	12	5	4-7	A2A1 R9
P—H	5905	A086 D RESISTOR, FIXED, COMPOSITION: GBT1-2-10R010; (23237)	EA	4				1	1	1	33	20	4-7	A2A1 R11
P—H	5905	A087 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A086	EA	REF									4-7	A2A1 R28
P—H	5905	A088 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A086	EA	REF									4-7	A2A1 R45
P—H	5905-195-6761	A089 D RESISTOR, FIXED, COMPOSITION: GBT1-2-100R10; (23237)	EA	5				1	1	1	40	25	4-7	A2A1 R3
P—H	5905-195-6761	A090 D RESISTOR, FIXED COMPOSITION: ..... SAME AS A089	EA	REF									4-7	A2A1 R16
P—H	5905-195-6761	A091 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A089	EA	REF									4-7	A2A1 R25
P—H	5905-195-6761	A092 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A089	EA	REF									4-7	A2A1 R34
P—H	5905-192-3973	A093 D RESISTOR, FIXED, COMPOSITION: GBTL-2-47010; (23237)	EA	2				*	1	1	19	10	4-7	A2A1 R17
P—H	5905-192-3973	A094 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A093	EA	REF									4-7	A2A1 R20
P—H	5905-190-8885	A095 D RESISTOR, FIXED, COMPOSITION: GBT1-2-2.2M10; (23237)	EA	2				*	1	1	19	10	4-7	A2A1 R18
P—H	5905-190-8885	A096 D RESISTOR, FIXED, COMPOSITION: ..... SAME AS A095	EA	REF									4-7	A2A1 R35

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5905	A097 D RESISTOR, FIXED COMPOSITION:..... GBT1-2-47K010; (23237).....	EA	1				*	1	1	12	5	4-7	A2A1 R21
P--H	5905	A098 D RESISTOR, FIXED, ... GBT1-2-68K10; (23237).....	EA	3				1	1	1	27	15	4-7	A2A1 R22
P--H	5905	A099 D RESISTOR, FIXED, COMPOSITION:..... SAME AS A098.....	EA	REF									4-7	A2A1 R32
P--H	5905	A100 D RESISTOR, FIXED, COMPOSITION:..... SAME AS A098.....	EA	REF									4-7	A2A1 R39
P—H	5905	A101 D RESISTOR, FIXED, COMPOSITION:..... GBT1-2-33K10; (23237).....	EA	4				1	1	1	33	20	4-7	A2A1 R27
P—H	5905	A102 D RESISTOR, FIXED, COMPOSITION:..... SAME AS A101.....	EA	REF									4-7	A2A1 R54
P—H	5905	A103 D RESISTOR, FIXED, COMPOSITION:..... GBT1-2-27K10; (23237).....	EA	3				1	1	1	27	15	4-7	A2A1 R33
P—H	5905	A104 D RESISTOR, FIXED, COMPOSITION:..... GBT1-2-33K10; (23237).....	EA	1				*	1	1	12	5	4-7	A2A1 R56
P—H	5905-279-2616	A105 D RESISTOR, FIXED, COMPOSITION:..... GBT1-2-15K10; (23237).....	EA	1				*	1	1	12	5	4-7	A2A1 R57
P—H	5905	A106 D RESISTOR, FIXED, FILM:..... GBT1-2-229K10; (23237).....	EA	4				1	1	1	33	20	4-7	A2A1 R9
P—H	5905	A107 D RESISTOR, FIXED, FILM:..... SAME AS A106.....	EA	REF1				*	1	1	12	5	4-7	A2A1 R30
P—H	5905	A108 D RESISTOR, FIXED, FILM:..... SAME AS A106.....	EA	REF1				*	1	1	12	5	4-7	A2A1 R31
P—H	5905	A109 D RESISTOR, FIXED, FILM:..... SAME AS A106.....	EA	REF1				*	1	1	12	5	4-7	A2A1 R40
P—H	5905	A110 D RESISTOR, FIXED, FILM:..... GBT1-2-390010 (23237).....	EA	2				*	1	1	19	10	4-7	A2A1 R59
P—H	5905	A111 D RESISTOR, FIXED, FILM:..... SAME AS A110.....	EA	REF1				*	1	1	12	5	4-7	A2A1 R60
P—H	5961	A112 D SEMICONDUCTOR DEVICE, DIODE:..... 1N69; (81349).....	EA	2				*	1	1	19	10	4-7	A2A1 CR1

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5961	A113 D SEMICONDUCTOR DEVICE, DIODE: ..... SAME AS A112	EA	REF									4-7	A2A1 CR2
P—H	5340-663-2425	A114 C CORD, POWER LINE WITH PLUG: 3540; (73446)	EA	1									2-1	A2MP6
P—D		A115 C ELECTRON TUBE: 12AX7; (86684)	EA	1							12	5	2-1	1A2V1
P—D	5960-846-6619	A116 C ELECTRON TUBE: 12AT7; (86684)	EA	2							71	60	2-1	A2V2
P--D	5960-846-669	A117 C ELECTRON TUBE: ..... SAME AS A116	EA	REF									2-1	A2V6
P--D	5960-556-1308	A118 C ELECTRON TUBE: 6AL5; (86684)	EA	2							71	60	2-1	A2V3
P—D	5960-556-1308	A119 C ELECTRON TUBE: ..... SAME AS A118	EA	REF									2-1	A2V5
P—D	5960-262-0243	A120 C ELECTRON, TUBE: 6U8; (86684)	EA	1							46	30	2-1	A2V4
P—D	2530-915-9070	A121 C ELECTRON TUBE: 5V4G; (86684)	EA	1							46	30	2-1	A2V7
P—D	5960-556-1444	A122 C ELECTRON, TUBE: OA2; (86684)	EA	1							46	30	2-1	A2V8
P—H	5920	A123 C FUSE, CARTRIDGE: AGC1; (75915)	EA	2				*	1	1	19	10	2-1	A2F1
P—H	5920-156-9233	A124 C FUSEHOLDER: 3545; (71400)	EA	1				*	1	1	12	5	2-1	A2XF1
P—H	5325-829-3890	A125 C GROMMET, RUBBER: 3710; (92219)	EA	1				*	1	1	12	5	2-1	A2MP7
P—H	5935-283-2561	A126 C JACK, TELEPONE: 12A; (82389)	EA	1				*	1	1	12	5	2-1	A2TP1
M—D	6625	A127 C PLATE, BOTTOM, CHASSIS: EP410; (02954)	EA	1										A2MP8
MD-H	5910	A128 C PLATE, MOUNTING, CAPACITOR: 3609; (73446)	EA	1										A2MP9

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5305-984-6225	A129 * SCREW, MACHINE:..... SAME AS A040	EA	REF										A2H20
P—H	5310	A130 * WASHER, LOCK: KS35337-37; (96906)	EA	2				*	*	*	5	2		A2H21
P—H	5310-934-9747	A131 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF										A2H22
MD-H	5910	A132 C PLATE, MOUNTING, CAPACITOR: 3608; (73446)	EA	1										A2MP 10
P—H	5305-984-6225	A133 * SCREW, MACHINE:..... SAME AS A040	EA	REF										A2H23
P—H	5310-579-0079	A134 * WASHER, LOCK: ..... SAME AS A041	EA	REF										A2H24
P—H	5310-934-9747	A135 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF										A2H25
P—H	5905-192-0390	A136 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-1M5; (23237)	EA	1				*	1	1	12	5	4-5	A2R1
P—H	5905	A137 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-100K5; (23237)	EA	1				*	1	1	12	5	4-5	A2R2
P—H	5905	A138 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-10K5; (23237)	EA	1				*	1	1	12	5	4-5	A2R3
P—H	5905	A139 C RESISTOR, FIXED, COMPOSITION:..... GBT-1-2-1K5; (23237)	EA	1				*	1	1	12	5	4-5	A2R4
P—H	5905	A140 C RESISTOR, FIXED, COMPOSITION:..... GBT-1-2-1005; (23237)	EA	1				*	1	1	12	5	4-5	A2R5
P—H	5905	A141 C RESISTOR, FIXED, COMPOSITION:..... GBT-1-2-105; (23237)	EA	1				*	1	1	12	5	4-5	A2R6
P—H	5905	A142 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A086	EA	REF									4-5	A2R7
P—H	5905-195-6806	A143 C RESISTOR, FIXED, COMPOSITION:..... GB1-2-1R10; (23237)	EA	3				1	1	1	27	15	4-5	A2R8
P—H	5905-195-6806	A144 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A143	EA	REF									4-5	A2R12

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5905-195-6806	A145 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A143	EA	REF									4-5	A2R53
P—H	5905	A146 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-70R10; (23237)	EA	4				1	1	1	33	20	4-5	A2R10
P—H	5905	A147 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A146	EA	REF									4-5	A2R26
P—H	5905	A148 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A146	EA	REF									4-5	A2R51
P—H	5905	A149 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A146	EA	REF									4-5	A2R52
P—H	5905	A150 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-220010; (23237)	EA	3				1	1	1	27	15	4-5	A2R15
P—H	5905	A151 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A150	EA	REF									4-5	A2R24
P—H	5905	A152 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A150	EA	REF									4-5	A2R36
P—H	5905	A153 C RESISTOR, FIXED, COMPOSITION:..... GBT1-2-1M10; (23237)	EA	1				*	1	1	12	5	4-5	A2R23
P—H	5905	A154 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A101	EA	REF									4-5	A2R29
P—H	5905	A155 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A103	EA	1				*	1	1	12	5	4-5	A2R23
P—H	5905	A156 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A103	EA	REF									4-5	A2R58
P—H	5905	A157 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A103	EA	REF									4-5	A2R37
P—H	5905	A158 C RESISTOR, FIXED COMPOSITION:..... GBT1-1R10; (23237)	EA	REF									4-5	A2R55
P—H	5905-195-6761	A159 C RESISTOR, FIXED, COMPOSITION:..... SAME AS A089	EA	REF									4-5	A2R47
P—H	5905-279-2519	A160 C RESISTOR, FIXED, FILM:..... DCCRN2X4 ;(23237)	EA	1				*	1	1	12	5	4-5	A2R41

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAYS GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5905	A161 C RESISTOR, FIXED, WIRE WOUND: 270-125R; (44655)	EA	1				*	1	1	12	5	4-5	A2R44
P—H	5305-984-6225	A162 * SCREW, MACHINE:..... SAME AS A040	EA	REF									4-5	A2H26
P—H	5310-579-0079	A163 * WASHER, LOCK: ..... SAME AS A041	EA	REF									4-5	A2H27
P—H	5310-082-1404	A164 * WASHER, FLAT: MS27183-6 (96906)	EA	1									4-5	A2H28
P—H	5310-934-9747	A165 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF									4-5	A2H29
P--H	5905	A166 C RESISTOR, FIXED, WIRE WOUND: 270-25-8; (44655)	EA	1				*	1	1	12	5	4-5	A2R61
P—H	5305-638-3313	A167 * SCREW, MACHINE:..... SAME AS A029	EA	REF									4-5	A2H30
P—H	5310-765-3197	A168 * WASHER, FLAT: MS27183-41; (96906)	EA	7				*	1	1	15	7	4-5	A2H31
P—H	5310-934-9757	A169 * NUT, PLAIN, HEXAGON: ..... SAME AS A031	EA										4-5	A2H32
P—H	5905	A170 C RESISTOR, FIXED, WIRE WOUND: 270-25-30; (44655)	EA	1				*	1	1	12	5	4-5	A2R62
P—H	5305-638-3313	A071 SCREW, MACHINE:..... SAME AS A029	EA	REF									4-5	A2H33
P—H	5310-765-3197	A172 * WASHER, FLAT: ..... SAME AS A168	EA	REF									4-5	A2H34
P—H	5310-934-9757	A173 * NUT, PLAIN, HEXAGON: ..... SAME AS A031	EA	REF									4-5	A2H35
P—H	5905	A174 C RESISTOR, FIXED, WIRE WOUND: 270-25-600; (44655)	EA	1				*	1	1	12	5	4-5	A2R63
P—H	5305-638-3313	A175 * SCREW, MACHINE:..... SAME AS A029	EA	REF									4-5	A2H36
P—H	5310-765-3397	A176 * WASHER, FLAT: ..... SAME AS A168	EA	REF									4-5	A2H37
P—H	5310-934-9757	A177 * NUT, PLAIN, HEXAGON: ..... SAME AS A031	EA	REF									4-5	A2H38

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30 DAYS GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	590 5-577-6606	A178 C RESISTOR, VARIABLE: CU2541; (44655)	EA	1				*	1	1	12	5	4-5	A2R14
P—H	5905-990-1389	A179 C RESISTOR, VARIABLE: CMU1052; (44655)	EA	2				*	1	1	19	10	2-1	A2R42
P—H	5905-990-1389	A180 C RESISTOR, VARIABLE: SAME AS A179	EA	REF									2-1	A2R43
P—H	5960-535-0633	A181 C SHIELD, ELECTRON TUBE: 9S2; (71785)	EA	3				*	1	1	13	6	4-6	A2MP
P—H	5960-535-0633	A182 C SHIELD, ELECTRON TUBE: SAME AS A181	EA	REF									4-5	A2MP 12
P—H	5960-535-0633	A183 C SHIELD, ELECTRON TUBE: SAME AS A181	EA	REF		13							4-5	A2MP
P—H	5960-537-4737	A84 C SHIELD, ELECTRON TUBE: 7S3; (71785)	EA	4				*	1	1	16	8	4-6	A2MP 14
P—H	5960-537-4737	A185 C SHIELD, ELECTRON TUBE: SAME AS A181	EA	REF									4-6	AMP 15
P—H	5960-537-4737	A186 C SHIELD, ELECTRON TUBE: SAME AS A184	EA	REF									4-5	A2MP 16
P—H	5960-537-4737	A187 C SHIELD, ELECTRON TUBE: SAME AS A181	EA	REF									4-5	A2MP 17
P—H	5935-201-8939	A188 C SOCKET, ELECTRON TUBE: 9XM; (71785)	EA	4				*	1	1	16	8	4-5	A2XV1
P—H	5305-558-4889	A189 * SCREW, MACHINE: MS353333-14; (96906)	EA	14				1	1	1	27	14	4-5	A2H39
P—H	5310-193-7577	A190 * WASHER, LOCK: MS35333-36; (96906)	EA	14				1	1	1	27	14	4-5	A2H40
P—H	5310-934-9739	A191 * NUT, PLAIN, HEXAGON: M35649-242; (96906)	EA	14				1	1	1	27	14	4-5	A2H41
P—H	5935-201-8939	A192 C SOCKET, ELECTRON TUBE: SAME AS A188	EA	REF									4-5	A2XV2
P-H	5305-558-4889	A193 * SCREW, MACHINE: SAME AS A189	EA	REF									4-5	A2H42

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P—H	5310-193-7577	A194 * WASHER, LOCK: ..... SAME AS A190	EA	REF									4-5	A2H43
P—H	5310934-9739	A195 * NUT, PLAIN, HEXAGON: ..... SAME AS A191	EA	REF									4-5	A2H44
P—H	5935-20-8939	A196 C SOCKET, ELECTRON, TUBE: ..... SAME AS A188	EA	REF									4-5	A2XV4
P—H	5305-558-4889	A197 * SCREW, MACHINE:..... SAME AS A189	EA	REF									4-5	A2H45
P—H	5310-193-7577	A198 * WASHER, LOOK: ..... SAME AS A190	EA	REF									4-5	A2H46
P—H	5310-934-9739	A199 * NUT, PLAIN, HEXAGON: ..... SAME AS A191	EA	REF									4-5	A2H47
P—H	5935-201-8939	A200 C SOCKET, EEC N TUBE: ..... SAME AS A186	EA	REF									4-5	A2XV3
P—H	5305-558-4889	A201 * SCREW, MACHINE:..... SAME AS A189	EA	REF									4-5	A2H48
P—H	5310-193-7577	A202 * WASHER, LOCK: ..... SAME AS A190	EA	REF									4-5	A2H49
P—H	5310-934-9739	A203 * NUT, PLAIN, HEXAGON: ..... SAME AS A191	EA	REF									4-5	A2H50
P—H	5935-333-6186	A204 C SOCKET, ELECTRON TUBE: 7XM; (71785)	EA	3				*	1	1	13	6	4-5	A2XV3
P—H	5305-558-4889	A205 * SCREW, MACHINE:..... SAME AS A189	EA	REF									4-5	A2H51
P—H	5310-193-7577	A206 * WASHER, LOCK: ..... SAME AS A190	EA	REF									4-5	A2H52
P—H	5310-934-9739	A207 * NUT, PLAIN, HEXAGON: ..... SAME AS A191	EA	REF									4-5	A2H53
P—H	5935-333-6186	A208 C SOCKET, ELECTRON TUBE: ..... SAME AS A204	EA	REF									4-5	A2XV5
P—H	5305-558-4889	A209 * SCREW, MACHINE:..... SAME AS A189	EA	REF									4-5	A2H54

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30 DAYS DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30 DAYS GS MAINT ALLOWANCE (a)	(b)	(c)	(8) 1-YEAR ALW PER 100 EQUIP	(9) DEPOT MAINT ALW PER 100	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
P--H	5310-193-7577	A210 * WASHER, LOCK ..... SAME AS A190	EA	REF									4-5	A2H55
P--H	5310-934-9739	A211 * NUT, PLAIN ..... SAME AS A191	EA	REF									4-5	A2H56
P--H	5935-333-6186	A212 C SOCKET, ELECT TUBE:..... SAME AS A204	EA	REF									4-5	A2XV8
P--H	5310-558-4889	A213 * SCREW, MACHINE..... SAME AS A189	EA	REF									4-5	A2H57
P—H	5310-193-757	A214 * WASHER, LOCK: ..... SAME AS A190	EA	REF									4-5	A2H58
P—H	5310-934-9739	A215 * NUT, PLAIN, HEXAGON: ..... SAME AS A190	EA	REF									4-5	A2H59
P—H	5935-501-5549	A216 C SOCKET, ELECTRON TUBE: ME8; (71785)	EA	1				*	*	*	5	2	4-5	A2XV7
P—H	5305-984-6225	A217 * SCREW, MACHINE:..... SAME AS A040	EA	REF									4-5	A2H60
P—H	5310-579-0079	A218 * WASHER, LOCK: ..... SAME AS A040	EA	REF									4-5	A2H61
P—H	5310-934-9747	A219 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF									4-5	A2H62
P—H	5940-779-2219	A220 C TERMINAL BOARD:..... 54A; (71785)	EA	1				*	*	*	5	2	4-5	A2MP18
P—H	5305-208-4861	A221 * SCREW, MACHINE:..... SAME AS A064	EA	REF									4-5	A2H63
P—H	5310-579-0079	A222 * WASHER, LOCK: ..... SAME AS A041	EA	REF									4-5	A2H64
P—H	5310-934-9747	A223 * NUT, PLAIN, HEXAGON: ..... SAME AS A042	EA	REF									4-5	A2H65
P—H	5940-171-0156	A224 C TERMINAL BOARD:..... 51B; (71785)	EA	3				*	1	1	13	6	4-5	A2MP19
P—H	5940-171-0156	A225 C TERMINAL BOARD:..... SAME AS A224	EA	REF									4-5	A2MP20

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE (Continued)

(1)	(2)	(3)	(4)	(5)	(6) 30 DAYS DS MAINT			(7) 30 DAYS GS MAINT			(8)	(9)	(10)	
	FEDERAL	DESCRIPTION	UNIT	QTY INC	(a)	(b)	(c)	(a)	(b)	(c)	1-YEAR ALW PER 100	DEPOT MAINT ALW PER	(a) FIGURE	(b) ITEM
P—H	5940-171-0156	A226 C TERMINAL BOARD: SAME AS A224	EA	REF									4-5	A2MP21
P-H	5940-177-9863	A227 C TERMINAL BOARD: 52; (71785)	EA	2				*	*	1	10	4	4-5	A2MP22
P—H	5940-177-9863	A228 C TERMINAL BOARD: SAME AS A227	EA	REF									4-5	A2MP23
P—H	5940	A229 C TERMINAL BOARD: 1962; (72653)	EA	1				*	*	*	5	2	4-5	A2MP24
P—H	5940	A230 C TERMINAL, POST: SAME AS A025	EA	REF									4-5	A2E1
P—H	5940	A231 C TERMINAL, POST: SAME AS A023	EA	REF									4-5	A2E2
P—H	5950	A232 C TRANSFORMER, DISCRIMINATOR: 6284; (73446)	EA	5				*	1	1	12	5	2-1	A2T2
P—H	5950	A233 C TRANSFORMER, OSCILLATOR: 3561; (73446)	EA	5				*	1	1	12	5	2-1	A2T3
P—H	5950-990-4235	A234 C TRANSFORMER, POWER: 3503; (73446)	EA	5				*	1	1	12	5	2-1	A2T1
P—H	5305-984-6193	A235 * SCREW, MACHINE: MS35206-245; (96906)	EA	4				*	1	1	12	4	2-1	A2H66
P—H	5310-765-3197	A236 * WASHER, FLAT: SAME AS A168	EA	REF									2-1	A2H67
P—H	5310-934-9757	A237 * NUT, PLAIN, HEXAGON: SAME AS A031	EA	REF									2-1	A2H68

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
2530-915-9070	A121	5310-559-0070	A034	5310-934-9757	A237
5305-208-4861	A064	5310-579-0079	A041	5310-934-9758	A004
5305-208-4861	A221	5310-570-0079	A059	5310-934-9947	A060
5305-558-4889	A189	5310-579-0079	A065	5325-829-3890	A125
5305-558-4889	A193	5310-579-0079	A070	5340-433-0716	A015
5305-558-4889	A197	5310-579-0079	A134	5340-663-2425	A114
5305-558-4889	A201	5310-579-0079	A163	5905-060-8648	A018
5305-558-4889	A205	5310-579-0079	A218	5905-190-8885	A095
5305-558-4889	A209	5310-579-0079	A222	5905-190-8885	A096
5305-558-4889	A213	5310-765-3197	A168	5905-192-0390	A136
5305-638-3313	A029	5310-765-3197	A172	5905-192-3973	A093
5305-638-3313	A033	5310-765-3197	A176	5905-192-3973	A094
5305-638-3313	A167	5310-765-3197	A236	5905-195-6761	A089
5305-638-3313	A171	5310-934-9257	A031	5905-195-6761	A090
5305-638-3313	A175	5310-934-9257	A035	5905-195-6761	A091
5305-984-6193	A235	5310-934-9739	A191	5905-195-6761	A092
5305-984-6210	A003	5310-934-9739	A195	5905-195-6761	A159
5305-984-6225	A040	5310-934-9739	A199	5905-195-6806	A143
5305-984-6225	A058	5310-934-9739	A203	5905-195-6806	A144
5305-984-6225	A069	5310-934-9739	A207	5905-195-6806	A145
5305-984-6225	A129	5310-934-9739	A211	5905-279-2519	A160
5305-984-6225	A133	5310-934-9739	A21 5	5905-279-2616	A105
5305-984-6225	A162	5310-934-9747	A042	5905-577-6606	A178
5305-984-6225	A217	5310-934-9747	A066	5905-990-1389	A179
5310-082-1404	A164	5310-934-9747	A071	5905-990-1389	A180
5310-193-7577	A19g	5310-934-9747	A131	5910-043-948	A048
5310-193-7577	A194	5310-934-9747	A135	5910-043-2948	A049
5310-193-7577	A198	5310-934-9747	A165	5910-112-6890	A057
5310-193-7577	A202	5310-934-9747	A219	5910-112-7408	A039
5310-193-7577	A206	5310-934-9747	A223	5910-406-8863	A083
5310-193-7577	A210	5310-934-9757	A169	5910-553-7202	A038
5310-193-7577	A214	5310-934-9757	A173	5910-706-4130	A052
5310-559-0070	A030	5310-934-9757	A177	5910-706-4130	A053

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER		ITEM SEQUENCE NO.
REF NO.	MFG CO.	ITEM SEQ NO.
GBT1-2-22K10	23237	A108
GBT1-2-220K10	23237	A109
GBT1-2-220010	23237	A150
GBT1-2-220010	23237	A151
GBT1-2-220010	23237	A152
GBT1-2-2TK10	23237	A103
GBT1-2-27K10	23237	A156
GBT1-2-27K10	23237	A157
GBT1-2-270R10	23237	A085
GBT1-2-33K10	23237	A101
GBT1-2-33K10	23237	A102
GBT1-2-33K10	23237	A154
GBT1-2-33K10	23237	A155
GBT1-2-39K10	23237	A104
GBT1-2-390010	23237	A110
GBT1-2-390010	23237	A111
GBT1-2-47K10	23237	A097
GBT1-2-470R10	23237	A146
GBT1-2-470R10	23237	A147
GBT1-2-470R10	23237	A148
GBT1-2-47010	23237	A093
GBT1-2-47010	23237	A094
GBT1-2-68K10	23237	A098
GBT1-2-68K10	23237	A099
GBT1-2-68K10	23237	A100
L308	84171	A061
L314	84171	A005
MODEL 590A1	73446	A001
MS27183-41	96906	A168
MS27183-41	96906	A172
MS27183-41	96906	A176
MS27183-41	96906	A236
MS27183-6	96906	A164
M35206-238	96906	A040
MS35206-238	96906	A058
MS35206-238	96906	A069
MS35206-238	96906	A129
MS35206-238	96906	A133
MS35206-238	96906	A162
MS35206-238	96906	A217
MS35206-245	96906	A235
MS35206-263	96906	A003
MS35223-14	96906	A189
MS35223-14	96906	A193
MS35223-14	96906	A197
MS35223-14	96906	A201
MS35223-14	96906	A205
M35223-14	96906	A209
MS35223-14	96906	A213
MS35223-27	96906	A064
MS35223-27	96906	A221
MS35223-55	96906	A029
MS35223-55	96906	A033
MS35223-55	96906	A167
MS35223-55	96906	A171
MS35223-55	96906	A175
MS35333-36	96906	A190
MS35333-36	96906	A194
MS35333-36	96906	A198
MS35333-36	96906	A202
MS35333-36	96906	A206
M35333-36	96906	A210
MS35333-36	96906	A214
MS35333-37	96906	A041
MS35333-37	96906	A059
MS35333-37	96906	A065
MS35333-37	96906	A070
MS35333-37	96906	A134
MS35333-37	96906	A163
K35333-37	96906	A218
MS35333-37	96906	A222
MS35333-38	96906	A030
MS35333-38	96906	A034
MS35337-37	96906	A130
MS35649-202	96906	A004
MS35649-242	96906	A191
MS35649-242	96906	A195
MS35649-242	96906	A199
MS35649-242	96906	A203
MS35649-242	96906	A207
MS35649-242	96906	A211
MS35649-242	96906	A215
MS35649-262	96906	A042
MS35649-262	96906	A060
MS35649-262	96906	A066
MS3564 9-262	96906	A071
MS35649-262	96906	A131
MS35649-262	96906	A135
MS3564 9-262	96906	A165
MS35649-262	96906	A219
MS35649-262	96906	A223
MS35649-282	96906	A031
MS35649-282	96906	A035

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
5910-706-4130	A081
5910-716-9799	A050
5910-716-9799	A079
5910-726-2301	A061
5910-820-6622	A044
5910-847-4044	A043
5910-847-4044	A073
5910-847-4044	A074
5910-903-8844	A082
5910-933-6627	A055
5910-950-8222	A051
5910-950-8222	A080
5920-156-9233	A124
5930-034-2386	A021
5930-112-5317	A022
5930-537-7006	A020
5930-991-1268	A019
5935-201-8939	A188
5935-201-8939	A192
5935-201-8939	A196
5935-201-8939	A200
5935-283-1256	A126
5935-333-6186	A204
5935-333-6186	A208
5935-333-6186	A212
5935-50-5549	A216
5940-171-0156	A224
5940-171-0156	A225
5940-171-0156	A226
5940-177-9863	A227
5940-177-9863	A228
5940-779-2219	A220
5950-990-4235	A234

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
5960-262-0243	A120
5960-535-0633	A181
5960-535-0633	A182
5960-535-0633	A183
5960-537-4737	A184
5960-537-4737	A185
5960-537-4737	A186
5960-537-4737	A187
5960-556-1308	A118
5960-556-1308	A119
5960-556-1444	A122
5060-846-6619	A116
5960-846-6619	A117
6240-115-8706	A011
6625-761-3996	A013
6625-987-8527	A001

REF NO	MFG CO.	ITEM SEQ. NO.
AGC1	75915	A123
CB78	02954	A028
CB78	02954	A032
CD30FD912J03	81349	A054
CLU2541	44655	A018
CMU1052	44655	A179
CMU1052	44655	A180
CM5FD511JN3	81349	A083
CP53E1EC205K1	81349	A057
CP53E1EF504R1	81349	A039
CU2541	44655	A178
DCCPN20X1214E	23237	A015
DCCRN2X2003F	23237	A016

REF NO	MFG CO	ITEM SEQ. CO.
DCCRN20X2003F	23237	A017
DCCRN20X4003F	23237	A160
EP410	02954	A127
GBT-1 -2-1K5	23237	A139
GBT-1-2-1005	23237	A140
GBT-1-2-105	23237	Al41
GBTl-1R10	23237	A158
GBT1-2-1M10	23237	A153
GBT1-2-1M5	23237	A136
GBT1-2-1R10	23237	A143
GBT1-2-1R10	23237	A144
GBT1-2-1R10	23237	A145
GBT1-2-1R10	23237	A149
GBT1-2-10K5	23237	A138
GBT1-2-10R10	23237	A086
GBT1-2-10R10	23237	A087
GBT1-2-10R10	23237	A088
GBT1-2-10R10	23237	A142
GBT1-2-100K5	23237	A137
GBT1-2-100R10	23237	A089
GBT1 2-100R10	23237	A090
GBT1-2-100R10	23237	A091
GBT1-2-100R10	23237	A092
GBT1-2-100R10	23237	A159
GBT1-2-15K10	23237	A105
GBT1-2-2.2M10	23237	A095
GBT1-2-2.2M10	23237	A096
GBT1-2-220K10	23237	A106
GBT1-2-220K10	23237	A107

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER		ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER		ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER		ITEM SEQUENCE NO.
REF NO.	ITEM MFG CO.	SEQ. NO.	REF NO.	MFG CO.	ITEM SEQ. NO.	REF NO.	MFG CO.	ITEM SEQ. NO.
MS35649-282	96906	A169	1N69	81349	A112	3706	73446	A036
MS35649-282	96906	A173	1N69	81349	A113	3709	73446	A072
MS35649-282	96906	A177	12A	82389	A126	3710	92219	A125
MS35649-282	96906	A237	12AT7	86684	A116	4TMP25	56289	A043
PA1002	71590	A021	12AT7	86684	A117	4TMP25	56289	A073
PA1004	71590	A019	12AX7	86684	A115	4TMP25	56289	A074
PAI013	71590	A020	1517B	83330	A025	4104-1-1-2	72512	A006
SR6P	21381	A037	1517B	83330	A026	4104-1-1-2	72512	A007
TVL2755	56289	A038	1517B	83330	A230	4104-1-1-2	72512	A008
TVL2764	56289	A044	1517R	83330	A023	4104-1-1-2	72512	A009
WMF2D22	14655	A082	1517R	83330	A024	4104-1-1-2	72512	A010
WMF2S22	09022	A052	1517R	83330	A231	47	08806	A011
WMF2S22	09022	A053	1962	72653	A229	5V4G	86684	A121
WMF2S22	09022	A081	270-125R	44655	A161	51B	71785	A224
WMF4D47	09022	A055	270-25-30	44655	A170	51B	71785	A225
WMF4P1	14655	A048	270-25-600	44655	A174	51B	71785	A226
WMF4P1	14655	A049	270-25-8	44655	A166	52	71785	A227
WMF4S47	09022	A051	3503	73446	A234	52	71785	A228
WMF4S47	09022	A080	3540	73446	A114	54A	71785	A220
WMF6D1	09022	A050	3545	71400	A124	6AL5	86684	A118
WMF6D1	09022	A079	3561	73446	A233	6AL5	86684	A119
WMF6D22	09022	A045	3562	73446	A067	6U8	86684	A120
WMF6D22	09022	A046	3608	73446	A132	6284	73446	A232
WMF6D22	09022	A047	3609	73446	A128	7S3	71785	A184
WMF6D22	09022	A075	3611	73446	A084	7S3	71785	A185
WMF6D22	09022	A076	3611-1	73446	A068	7S3	71785	A186
WMF6D22	09022	A077	3612	73446	A062	7S3	71785	A187
WMF6D22	09022	A078	3613	73446	AO14	7XM	71785	A204
WMF6S15	09022	A056	3613-1	73446	A002	7XM	71785	A208
0A2	86684	A122	3628	73446	A063	7XM	71785	A212

FEDERAL STOCK NUMBER		ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
REF NO.	MFG CO.	ITEM SEQ. NO.				
70	06555	A013				
7612-1	73446	A024				
8EM	71785	A216				
828K015	27193	A022				
9S2	71785	A181				
9S2	71785	A182				
9S2	71785	A183				
9XM	71785	A188				
9XM	71785	A192				
9XM	71785	A196				
9XM	71785	A200				
95-0410-0932-301	72619	A012				

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
A1C15	005	A1C7	A079	C2	A048
A1E1	A203	A1C9	A076	C21	A039
A1E2	A024	A1R11	A086	C22	A043
A1E3	A025	A1R13	A089	C23	A055
A1E4	A026	A1R16	AO90	C26	A044
A1MP1	A006	A1R17	A093	C27	A057
A1MP2	A007	A1R18	A095	C28	A047
A1MP3	A008	A1R19	A106	C29	A056
A1MP4	A009	A1R20	A094	C30	A061
A1MP5	A010	A1R21	A097	C4	A038
A1MP6	A014	A1B22	A098	C5	A050
A1M1	A013	A1R25	A091	A2C6	A049
A1PLT1	A011	A1R27	A101	A2C8	A051
A1R38	A018	A1R28	A087	A2E1	A230
A1R48	A015	A1R30	A107	A2E2	A231
AR49	A016	A1R31	A108	A2F1	A123
A1R50	A017	A1R32	A099	A2H1	A029
A1SW1	A019	A1R33	A103	A2H10	A058
A1SW2	A020	A1R3	A092	A2H11	A059
A1SW3	A022	A1R35	A096	A2H12	A060
A1SW4	A021	A39	A100	A2H13	A064
A1XPLT1	A012	A1R40	A109	A2H14	A065
A2	A024	A1R45	A088	A2H15	A066
A2A	A068	A1R54	A102	A2H16	A069
A2A1CR1	A112	A1R56	Al04	A2H17	A070
A1CR2	A113	A1R57	A105	A2H18	A071
A1C11	A077	A1R59	A110	A2H19	A072
A1C12	A080	AR60	A111	A2H2	A030
A1C13	A081	A1R9	A085	A2H20	A129
A1C17	A082	A1TB1	A084	A2H21	A030
A1C18	A083	C1	A045	A2H22	A131
A1C20	A078	C10	A046	A223	A133
A1C24	A073	C14	A052	A2H24	A134
A1C25	A074	C16	A054	A2H25	A135
A1C3	A075	C19	M53	A2H26	A162

SECTION IV INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
A2H27	A163	A2H59	A215	A2MP5	A062
A2H28	A164	A2H6	A035	A2MP6	A114
A2H29	A165	A2H60	A217	A2MP7	A125
A2H3	A031	A2H61	A218	A2MP8	A127
A2H3	A168	A2H62	A219	A2MP9	A128
A2H30	A167	A2H63	A221	A2R1	A136
A2H32	A169	A2H64	A222	A2R10	A146
A2H33	A171	A2H65	A223	A2R12	A144
A2H34	A172	A2H66	A235	A2R14	A178
A2H35	A173	A2H67	A236	A2R15	A150
A2H36	A175	A2H68	A237	A2R2	A137
A2H37	A176	A2H7	A040	A2R23	A153
A2H3	A177	A2H8	A041	A2R2	A151
A2H39	A189	A2H9	A042	A2R26	A147
A2H4	A033	A2L1	A067	A2R29	A154
A2H40	A190	A2L2	A063	A2R3	A138
A2H41	A191	A2MP1	A028	A2R36	A152
A2H2	A193	A2MP10	A132	A2R37	A156
A2H43	A194	A2MP12	A181	A2R4	A139
A2H44	A195	A2MP12	A182	A2R41	A160
A2H5	A197	A2MP13	A183	A2R42	A179
A2H46	A198	A2MP14	A184	A2R43	A180
A2H47	A199	A2MP15	A185	A2R44	A161
A2H48	A201	A2MP16	A186	A2R46	A158
A2H49	A202	A2MP17	A187	A2R47	A159
A2H5	A034	A2MP18	A220	A2R5	A140
A2H50	A203	A2MP19	A224	A2R51	A148
A2H51	A205	A2MP2	A032	A2R52	Al49
A252	A206	A2MP20	A225	A2R53	A145
A2H53	A207	A2MP21	A226	A2R55	A157
A2H54	A209	A2MP22	A227	A2R56	A155
A2H55	A210	A2MP23	A228	A2R6	A141
A2H56	A211	A2MP24	A229	A2R61	A166
A2H57	A213	A2MP3	A036	A2R62	A170
A2H58	A214	A2MP4	A037	A2R63	A174

FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.	FEDERAL STOCK NUMBER	ITEM SEQUENCE NO.
A2R7	A142				
A2R8	A143				
A2P1	A126				
A2T1	A234				
A2T2	A232				
A2T3	A233				
A2V1	A115				
A2V2	A116				
A2V3	A118				
A2V4	A120				
A2V5	A119				
A2V6	A117				
A2V7	A121				
A2V8	A122				
A2XF1	A124				
A2XV1	A188				
A2XV2	A192				
A2XV3	A204				
A2XV4	A196				
A2XV5	A208				
A2XV6	A200				
H1	A003				
H2	A004				

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

VERNE L. BOWERS,
Major General, United States Army,
The Adjutant General.

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USAERDAW (2)
USACRREL (2)
Army Dep (1) except
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TOAD (14)
LEAD (7)
ATAD (10)
NAAD (3)
SVAD (3)
Gen Dep (1)
Sig Sec Gen Dep (5)
Sig Dep (10)
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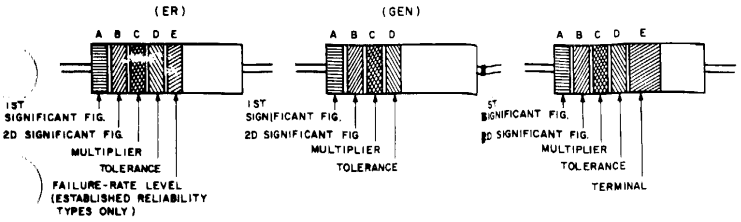
(1 copy each):
11-95
11-96
11-117
11-127
11-158
11-500 (AA-AC, FM)
29-134
29-427
29-500 (FA)

NG: None.
USAR: None.
For explanation of abbreviations used, see AR 310-50.

- *U.S. GOVERNMENT PRINTING OFFICE : 1983 0 - 381-647 (1716)



COLOR CODE MARKING FOR COMPOSITION TYPE RESISTORS.

COLOR-CODE MARKING FOR FILM-TYPE RESISTORS.

TABLE I
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	TERM.
BLACK	0	BLACK	0	BLACK	1			BROWN	M	
BROWN	1	BROWN	1	BROWN	10			RED	P	
RED	2	RED	2	RED	100			ORANGE	R	
ORANGE	3	ORANGE	3	ORANGE	1,000			YELLOW	S	
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	±10 (COMP. TYPE ONLY)	WHITE		SOLDERABLE
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	1.01					
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. ON FILM RESISTORS, THIS BAND SHALL BE APPROXIMATELY 1-1/2 TIMES THE WIDTH OF OTHER BANDS, AND INDICATES TYPE OF TERMINAL.

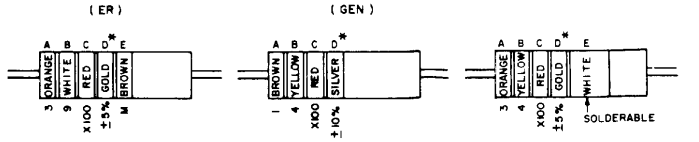
RESISTANCES IDENTIFIED BY NUMBERS AND LETTERS
(THESE ARE NOT COLOR CODED)

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.

EXAMPLES OF COLOR CODING



NOMINAL RESISTANCE 3,900 OHMS
RESISTANCE TOLERANCE ±5%
FAILURE RATE LEVEL M

NOMINAL RESISTANCE 1,400 OHMS
RESISTANCE TOLERANCE ±10%

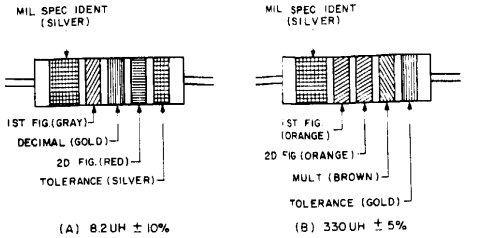
NOMINAL RESISTANCE 3,400 OHMS
RESISTANCE TOLERANCE ±5%
TERMINAL SOLDERABLE

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.



(A) 8.2UH ± 10% (B) 330UH ± 5%

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 FIGURE ARE MULTIPLIED TO OBTAIN THE INDUCTANCE VALUE OF THE CHOKE COIL.

B. COLOR CODE MARKING FOR MILITARY STANDARD INDUCTORS.

Figure 4-1. Color code marking for military standard resistors, inductors, and capacitors.

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

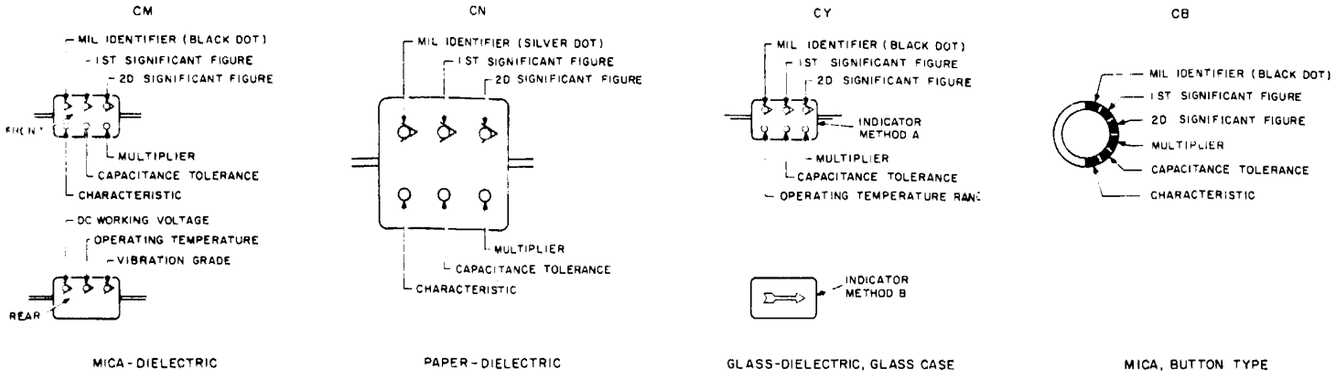


TABLE 3 — FOR USE WITH STYLES CM, CN, CY AND CB.

COLOR	MIL ID	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER[1]	CAPACITANCE TOLERANCE				CHARACTERISTIC[2]			DC WORKING VOLTAGE	OPERATING TEMP RANGE	VIBRATION GRADE
					CM	CN	CY	CB	CM	CN	CB	CM	CY, CM	CM
BLACK	CM, CY CB	0	0	1			±20%	±20%		A			$-55°_{TO}+70°C$	10-55 Hz
BROWN		1	1	10					B	E	B			
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				$-55°_{TO}+125°C$	10-2,000Hz
GREEN		5	5		±5%				F			500		
BLUE		6	6										$-55°_{TO}+150°C$	
PURPLE (VIOLET)		7	7											
GREY		8	8											
WHITE		9	9											
GOLD				0.1			±5%	±5%						
SILVER	CN				±10%	±10%	±10%	±10%						

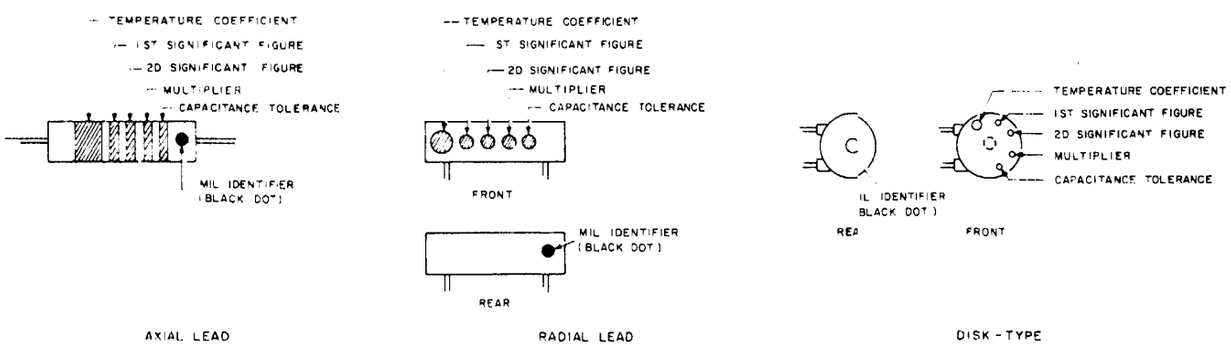


TABLE 4 — TEMPERATURE COMPENSATING, STYLE CC.

COLOR	TEMPERATURE COEFFICIENT[4]	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER[1]	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	±2%	±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				
GREY		8	8	0.01			
WHITE		9	9	0.1	±10%		
GOLD	+100					±1.0 UUF	
SILVER							

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,

Figure 4-2. Color code marking for military standard resistors, inductors, and capacitors - Continued.

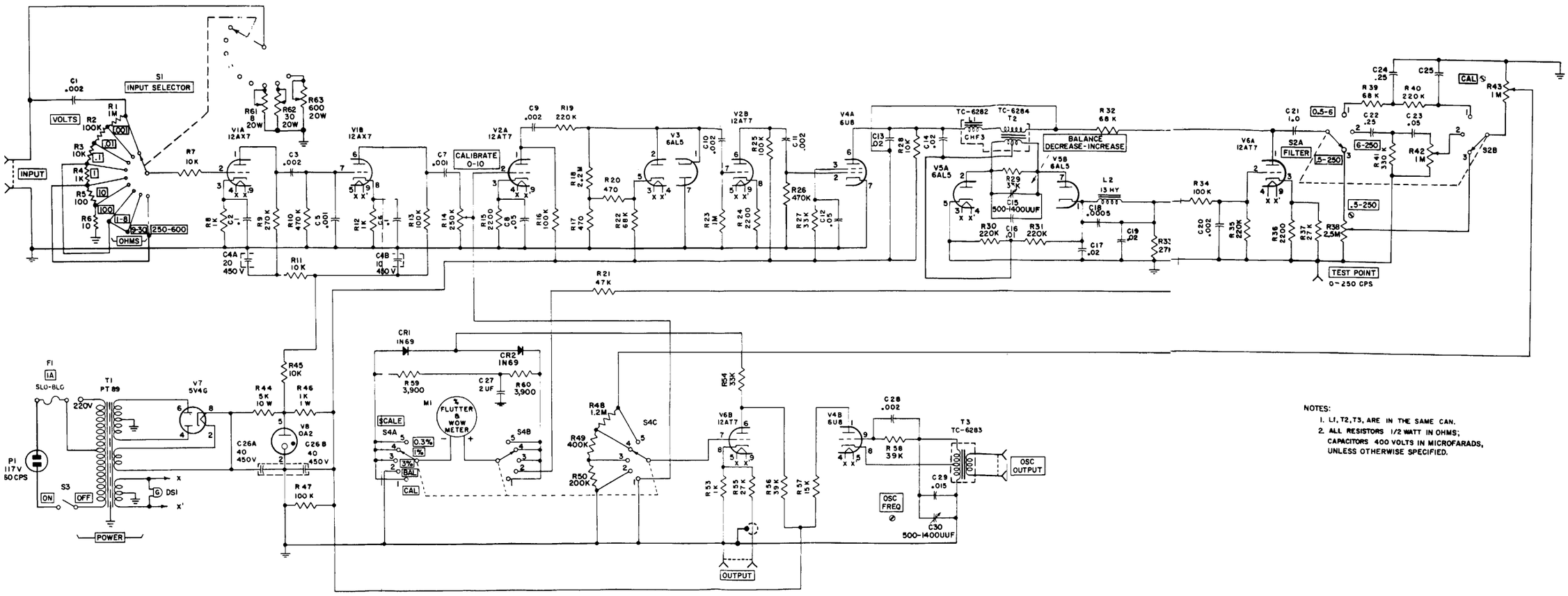


Figure 4-3. Meter, flutter and wow ME-254/U schematic diagram.

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