TB 9-6625-2335-35

CALIBRATION PROCEDURE FOR MULTIMETER, HEWLETT-PACKARD MODEL 3457A

Headquarters, Department of the Army, Washington, DC
14 May 2003

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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our FAX number is: DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual. For the World Wide Web, use: https://amcom2028.redstone.army.mil.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This procedure provides instructions for the calibration of Multimeter, Hewlett-Packard, Model 3457A. The manufacturer's manual was used as the prime data source in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this procedure.

a. Model Variations None.

b. Time and Technique. The time required for this calibration is approximately 2 hours, using the dc and low frequency technique.

2. Forms, Records, and Reports

a. Forms, records, and reports required for calibration personnel at all levels are prescribed by TB 750-25.

b. All software adjustments made are reportable. Report software adjustments made using parameter and range failing performance check; i.e., 3 V dc, 300 V ac.

3. Calibration Description. TI parameters and performance specifications that pertain to this calibration are listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications	
Dc volts	Range	Accuracy: ±(% of reading + No. of counts)[1]
	30 mV	0.0045 + 385
	300 mV	0.0035 + 40
	3 V	0.0025 + 7
	30 V	0.0040 + 20
	300 V	0.0055 + 7
Dc current	Range	Accuracy: ±(% of reading + No. of counts)[1]
	300 µA	0.04 + 104
	3 mA	0.04 + 104
	30 mA	0.04 + 104
	300 mA	0.08 + 204
	1 A	0.08 + 604

Table 1. Calibration Description - Continued

Test instrument parameters	Performance specifications		
Ac volts true rms	Accuracy: ±(% of reading + No. of counts)[1, 2]		
		Range	
	Frequency	30 mV to 30 V	300 V
	20 to 45 Hz	0.6 + 1320	0.66 + 1320
	45 to 100 Hz	0.25 + 1320	0.31 + 1320
	100 Hz to 20 kHz	0.17 + 1320	0.23 + 1320
	400 Hz to 20 kHz[3]	0.18 + 1320	0.24 + 1320
	20 to 100 kHz	0.7 + 2300	1.1 + 3900
	100 to 300 kHz	3.2 + 9900	- - -
	300 kHz to 1 MHz	10.2 + 66600	- - -
Ac current true rms	Accuracy: ±(% of reading + No. of counts)[1, 2]		
		Range	
	Frequency[4]	30 mA and 300 mA	1 A
	20 to 45 Hz	0.93 + 2800	1.03 + 2800
	46 to 100 Hz	0.38 + 2800	0.48 + 2800
	101 Hz to 20 kHz	0.33 + 2800	0.43 + 2800
	400 Hz to 20 kHz[3]	0.33 + 2800	0.43 + 2800
	21 to 100 kHz	1.08 + 4000	- - -
Resistance 4-wire Ω	Range	Accuracy: ±(% of reading + No. of counts)[1]	
	30Ω	0.0075 + 335	
	300Ω	0.0055 + 35	
	3 kΩ	0.005 + 7	
	30 kΩ	0.005 + 7	
	300 kΩ	0.005 + 8	
	3 MΩ	0.0065 + 14	
	30 MΩ	0.04 + 83	
Resistance 2-wire Ω	Range	Accuracy: ±(% of reading + No. of counts)[1]	
	30Ω	0.0075 + 20335	
	300Ω	0.0055 + 2035	
	3 kΩ	0.005 + 207	
	30 kΩ	0.005 + 27	
	300 kΩ	0.005 + 10	
	3 MΩ	0.0065 + 14	
	30 MΩ	0.04 + 83	
Frequency	Range:	Accuracy: ±(% of reading)	
	10 to 400 Hz	0.05	
	400 Hz to 1.5 MHz	0.01	

[1]Auto zero on, 10 PLC, 6-1/2 digits, 1-year specifications.

[2]Ac coupled, ac slow filter on (**ACBAND20**).

[3]Ac fast filter (**ACBAND400**).

[4]Checked at 1 kHz only.. Other frequencies checked in ACV function.

SECTION II
EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in this calibration procedure. This equipment is issued with Secondary Transfer Calibration Standards Set, AN/GSM-286. Alternate items may be used by the calibrating activity. The items selected must be verified to perform satisfactorily prior to use and must bear evidence of current calibration. The equipment must meet or exceed the minimum use specifications listed in table 2

5. Accessories Required. The accessories required for this calibration are issued as indicated in **4** above. Common usage accessories are not listed in this calibration procedure.

Table 2. Minimum Specifications of Equipment Required

<table>
<tr><th>Common name</th><th>Minimum use specifications</th><th>Manufacturer and model (part number)</th></tr>
<tr><td rowspan="4">CALIBRATOR</td><td>Dc voltage — Accuracy (±%)
30 mV — 0.004
300 mV — 0.001
3 V — 0.0009
30 V — 0.0012
300 V — 0.0014</td><td rowspan="4">John Fluke, Model 5720A (p/o MIS-35947); w/power amplifier, John Fluke Model 5725A (5725A)</td></tr>
<tr><td>Ac voltage range: 30 mV to 300 V
Frequency: 20 Hz to 1 MHz
Accuracy: (±%)</td></tr>
<tr><td>
<table>
<tr><th rowspan="2">Voltage</th><th colspan="7">Frequency (kHz)</th></tr>
<tr><th>0.02</th><th>0.05</th><th>1</th><th>10</th><th>90</th><th>250</th><th>1000</th></tr>
<tr><td>30 mV</td><td>0.16</td><td>0.073</td><td>0.053</td><td>0.56</td><td>0.19</td><td>0.88</td><td>3.1</td></tr>
<tr><td>300 mV</td><td>0.16</td><td>0.073</td><td>0.053</td><td>0.56</td><td>0.19</td><td>0.88</td><td>3.1</td></tr>
<tr><td>3 V</td><td>0.16</td><td>0.073</td><td>0.053</td><td>0.56</td><td>0.19</td><td>0.88</td><td>3.1</td></tr>
<tr><td>30 V[1]</td><td>0.16</td><td>0.073</td><td>0.053</td><td>0.56</td><td>0.19</td><td>0.88</td><td>---</td></tr>
<tr><td>300 V[2]</td><td>---</td><td>0.087</td><td>0.073</td><td>---</td><td>0.31</td><td>---</td><td>---</td></tr>
</table>
</td></tr>
<tr><td>Resistance (Ω) — Accuracy (±%)
0 — ≤837 μΩ
10 — 0.01
100 — 0.05
1 k — 0.006
10 k — 0.002
100 k — 0.001
1 M — 0.002
10 M — 0.01</td><td></td></tr>
<tr><td>FUNCTION/ARBITRARY WAVEFORM GENERATOR</td><td>Function: Sine wave
Amplitude: 1 V rms
Frequency — Accuracy (±%)
20 Hz — 0.0125
1 MHz — 0.0025</td><td>Hewlett-Packard, Model 33250A (MIS-45853)</td></tr>
</table>

[1]Frequency: 500 kHz; Accuracy: ±3.1%.

[2]Frequency: 40 Hz; Accuracy: ±0.18%.

SECTION III
CALIBRATION PROCESS

6. Preliminary Instructions

a. The instructions outlined in paragraphs **6** and **7** are preparatory to the calibration process. Personnel should become familiar with the entire procedure before beginning the calibration.

b. Items of equipment used in this procedure are referenced within the text by common name as listed in table 2.

c. Unless otherwise specified, verify the result of each test and, whenever the test requirement is not met, take corrective action before continuing with the calibration. Software adjustments required to calibrate the TI are included in this procedure. Additional maintenance information is contained in the manufacturer's manual for this TI.

d. When software adjustments are being performed, the normal process is to enter the input value followed by the delimiter **,** (comma) and security code **3457** using **MATH** keys then press **ENT** key. However, if the security code has been disabled, the process will be to enter input value only using **MATH** keys then press **ENT** key. TI will display **CALIBRATING** if the correct process is used.

e. Unless otherwise specified, all controls and control settings refer to the TI.

7. Equipment Setup

WARNING

HIGH VOLTAGE is used or exposed during the performance of this calibration. DEATH ON CONTACT may result if personnel fail to observe safety precautions. REDUCE OUTPUT(s) to minimum after each step within the performance check where applicable and after completion of each performance check.

a. Connect TI to a 115 V ac power source.

b. Press **LINE ON/OFF** pushbutton to **ON** and allow at least 1 hour for warmup.

c. Press blue shift key then ¬ **/TEST** key. When self-test is completed TI must display **SELF TEST OK**.

d. Press keys as listed in (1) through (3) below:

(1) **CONFIGURATION AUTO CAL**.

(2) **MATH 1**.

(3) **ENT**.

e. TI will display **CALIBRATING** for approximately 35 seconds while routine is running.

f. Press keys as listed in (1) through (3) below:

(1) **CONFIGURATION DIGITS DISP**.

(2) **MATH 6**.

(3) **ENT**.

NOTE

If power to TI is turned off or TI is reset during remainder of the performance checks, repeat **f** above.

8. Dc Voltage

a. Performance Check

(1) Press **DCV** key.

(2) Connect a low thermal short to TI front **INPUT HI** and **LO**.

(3) Press **RANGE** - or ¯ key to select ranges listed in table 3. If TI does not indicate within limits specified, perform **b**(1), (2), and (9) below.

Table 3. Dc Offset

Test instrument		
Ranges	Indications	
	Min	Max
300 V	-000.0007 V	+000.0007 V
30 V	-00.00020 V	+00.00020 V
3 V	-0.000007 V	+0.000007 V
300 mV	-000.0040 mV	+000.0040 mV
30 mV	-00.00385 mV	+00.00385 mV

(4) Remove short from front panel **INPUT HI** and **LO**.

(5) Connect low thermal short to TI rear panel **INPUT HI** and **LO**.

(6) Press keys to select the rear input terminals as listed in (a) through (c) below:

(a) **CONFIGURATION TERM**.

(b) **MATH 2**.

(c) **ENT**.

(7) Press **RANGE** - or ¯ key to select ranges listed in table 3. TI will indicate within limits specified for each range.

(8) Remove short from rear panel **INPUT HI** and **LO**.

(9) Press keys as listed in (a) through (c) below:

(a) **CONFIGURATION TERM**.

(b) **MATH 1**.

(c) **ENT**.

(10) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT HI** and **LO**.

(11) Press **RANGE** - or ¯ key to select ranges and set calibrator output to settings listed in table 4. If TI does not indicate within limits specified, perform corresponding software adjustments.

Table 4. Dc Voltage

Test instrument ranges	Calibrator output settings	Test instrument indications		Software adjustments
		Min	Max	
30 mV	30 mV	29.9948 mV	30.0052 mV	**b**(1), (3) and (9)
300 mV	300 mV	299.9855 mV	300.0145 mV	**b**(1), (4) and (9)
3 V	3 V	2.999918 V	3.000082 V	**b**(1), (5) and (9)
3 V	-3 V	-2.999918 V	-3.000082 V	**b**(1), (6) and (9)
30 V	30 V	29.9986 V	30.0014 V	**b**(1), (7) and (9)
300 V	300 V	299.9828 V	300.0172 V	**b**(1), (8) and (9)

b. Software Adjustments

(1) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(2) Enter **0,3457** using **MATH** keys.

(3) Enter **.030,3457** using **MATH** keys.

(4) Enter **.300,3457** using **MATH** keys.

(5) Enter **3,3457** using **MATH** keys.

(6) Enter **-3,3457** using **MATH** keys.

(7) Enter **30,3457** using **MATH** keys.

(8) Enter **300,3457** using **MATH** keys.

(9) Press **ENT** key. TI must display **CALIBRATING** while adjustment routine is running.

9. Ac Voltage

a. Performance Check

(1) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT HI** and **LO**.

(2) Press keys as listed in (a) through (e) below:

(a) **ACV**.

(b) Blue shift then **CONFIGURATION A/NPLC**.

(c) **SCROLL** ¯ until **ACBAND** is displayed.

(d) **MATH 20**.

(e) **ENT**.

(3) Press TI **RANGE** - or ¯ key to select ranges and set calibrator output to settings listed in table 5. If TI does not indicate within limits specified, perform **b** below.

Table 5. Ac Voltage – Slow Filter

Test instrument ranges	Calibrator output settings		Test instrument indications	
	Volts	Frequency	Min	Max
30 mV	30 mV	20 Hz	29.8068 mV	30.1932 mV
30 mV	30 mV	50 Hz	29.9118 mV	30.0882 mV
30 mV	30 mV	1 kHz	29.9358 mV	30.0642 mV
300 mV	300 mV	1 kHz	299.358 mV	300.642 mV
300 mV	300 mV	50 Hz	299.118 mV	300.882 mV
300 mV	300 mV	20 Hz	298.068 mV	301.932 mV
3 V	3 V	20 Hz	2.98068 V	3.01932 V
3 V	3 V	50 Hz	2.99118 V	3.00882 V
3 V	3 V	1 kHz	2.99358 V	3.00642 V
30 V	30 V	1 kHz	29.9358 V	30.0642 V
30 V	30 V	50 Hz	29.9118 V	30.0882 V
30 V	30 V	20 Hz	29.8068 V	30.1932 V
300 V	300 V	40 Hz	297.888 V	302.112 V
300 V	300 V	50 Hz	298.953 V	301.047 V
300 V	300 V	1 kHz	299.178 V	300.822 V

(4) Press keys as listed in (a) through (d) below:

(a) Blue shift then **CONFIGURATION A/NPLC**.

(b) **SCROLL** ¯ until **ACBAND** is displayed.

(c) **MATH 500**.

(d) **ENT**.

(5) Set calibrator output for settings and press TI **RANGE** - or ¯ key to select ranges listed in table 6. TI will indicate within limits specified.

Table 6. Ac Voltage – Fast Filter

Calibrator output settings		Test instrument ranges	Test instrument indications	
Volts	Frequency		Min	Max
300 V	90 kHz	300 V	296.31 V	303.69 V
30 V	10 kHz	30 V	29.9328 V	30.0672 V
30 V	90 kHz	30 V	29.767 V	30.233 V
30 V	250 kHz	30 V	28.941 V	31.059 V
30 V	500 kHz	30 V	26.274 V	33.726 V
3 V	1 MHz	3 V	2.6274 V	3.3726 V
3 V	250 kHz	3 V	2.8941 V	3.0233 V
3 V	90 kHz	3 V	2.9767 V	3.0233 V
3 V	10 kHz	3 V	2.99328 V	3.00672 V
300 mV	10 kHz	300 mV	299.328 mV	300.672 mV
300 mV	90 kHz	300 mV	297.67 mV	302.33 mV
300 mV	250 kHz	300 mV	289.41 mV	310.59 mV
300 mV	1 MHz	300 mV	262.74 mV	337.26 mV
30 mV	1 MHz	30 mV	26.274 mV	33.726 mV

30 mV	250 kHz	30 mV	28.941 mV	31.059 mV
30 mV	90 kHz	30 mV	29.767 mV	30.233 mV
30 mV	10 kHz	30 mV	29.9328 mV	30.0672 mV

b. Software Adjustments

NOTE

Software adjustments must be performed on the 3 V range first because the offset constant for all ac voltage and current ranges is computed while calibrating the 3 V.

(1) Set calibrator to **STANDBY**.

(2) Press TI **RANGE** - or ¯ key to select 3 V range.

(3) Set calibrator for a 3 V, 1 kHz output.

(4) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(5) Enter **3,3457** using **MATH** keys.

(6) Press **ENT** key. TI will display **CALIBRATING** while adjustment routine is running.

(7) Set calibrator for a 30 mV, 1 kHz output.

(8) Press **RANGE** ¯ key to select 30 mV range and repeat (4) above.

(9) Enter **.030,3457** using **MATH** keys and repeat (6) above.

(10) Press **RANGE** - key to select 300 mV range.

(11) Set calibrator for a 300 mV, 1 kHz output and repeat (4) above.

(12) Enter **.300,3457** using **MATH** keys and repeat (6) above.

(13) Press **RANGE** - key to select 30 V range.

(14) Set calibrator for a 30 V, 1 kHz output and repeat (4) above.

(15) Enter **30,3457** using **MATH** keys and repeat (6) above.

(16) Press **RANGE** - key to select 300 V range.

(17) Set calibrator for a 300 V, 1 kHz output and repeat (4) above.

(18) Enter **300,3457** using **MATH** keys and repeat (6) above.

10. Ohms 2-Wire

a. Performance Check

(1) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT HI** and **LO**.

(2) Press **OHM** key.

(3) Set calibrator for a 0Ω output, **EX SNS** off and **2-wire Comp** on.

(4) Press TI **RANGE** - or ¯ key to select ranges listed in table 7. If TI does not indicate within limits specified, perform **b**(1), (2) and (4) below.

Table 7. Ohms Offset - 2-Wire

Test instrument	
Ranges	Indications (≤)
30 Ω	00.20335 Ω
300 Ω	000.2035 Ω
3 kΩ	0.000207 kΩ
30 kΩ	00.00027 kΩ
300 kΩ	000.001 kΩ
3 MΩ	0.000014 MΩ
30 MΩ	00.00083 MΩ

(5) Press TI **RANGE** - or ¯ key to select ranges and set calibrator output for settings listed in table 8. At each output setting, use calibrator output adjustment controls to set calibrator control display **Reading** equal to TI indication. If calibrator control display **Error** indications are not within limits specified, perform **b**(1), (3) and (4) below.

Table 8. Ohms 2-Wire

Test instrument ranges	Calibrator	
	Output settings	Control display **Error** indications (±%)
30 Ω	10 Ω	2.041
300 Ω	100 Ω	0.209
3 kΩ	1 kΩ	0.0257
30 kΩ	10 kΩ	0.0077
300 kΩ	100 kΩ[1]	0.006
3 MΩ	1 MΩ	0.0079
30 MΩ	10 MΩ	0.0483

[1]Set calibrator **2 wire Comp** off before setting output.

b. Software Adjustments

(1) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(2) Enter **0,3457** using **MATH** keys.

(3) Enter calibrator output display indication rounded to TI digits of display **,3457** using **MATH** keys.

(4) Press **ENT** key. TI will display **CALIBRATING** while adjustment routine is running.

11. Ohms 4-Wire

a. Performance Check

(1) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT HI** and **LO**.

(2) Connect calibrator **SENSE HI** and **LO** to TI W **SENSE HI** and **LO**.

(3) Press blue shift key then **OHM/OHMF** key.

(4) Set calibrator for a 0Ω output, **EX SNS** on and **2-wire Comp** off.

(5) Press **RANGE** - or ¯ key to select ranges listed in table 9. If TI indications are not within limits specified, perform **b**(1), (2) and (4) below.

Table 9. Ohms 4-Wire Offset

Test instrument	
Ranges	Indications (≤)
30 Ω	00.00335 Ω
300 Ω	000.0035 Ω
3 kΩ	0.000007 kΩ
30 kΩ	00.00007 kΩ
300 kΩ	000.0008 kΩ
3 MΩ	0.000014 MΩ
30 MΩ	00.00083 MΩ

(6) Press TI **RANGE** - or ¯ key to select ranges and set calibrator output for settings listed in table 10. At each output setting use calibrator output adjustment controls to set calibrator control display **Reading** equal to TI indication. If calibrator control display **Error** indications are not within limits specified, perform **b**(1), (3) and (4) below.

Table 10. Ohms 4-Wire

Test instrument ranges	Calibrator	
	Output settings	Control display **Error** indications (±%)
30 Ω	10 Ω	0.041
300 Ω	100 Ω	0.009
3 kΩ	1 kΩ	0.0057
30 kΩ	10 kΩ	0.0057
300 kΩ	100 kΩ	0.0058
3 MΩ	1 MΩ	0.0079
30 MΩ	10 MΩ	0.0483

b. Software Adjustments

(1) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(2) Enter **0,3457** using **MATH** keys.

(3) Enter calibrator output display indication rounded to TI digits of resolution **,3457** using **MATH** keys.

(4) Press **ENT** key. TI will display **CALIBRATING** while the adjustment routine is running.

12. Dc Current

a. Performance Check

(1) Disconnect TI inputs from external equipment.

(2) Press **DCI** key.

(3) Press **RANGE** - or ¯ key to select ranges listed in table 11. If TI does not indicate within limits specified, perform **b**(1), (2), and (8) below.

Table 11. Dc Current Offset

Test instrument		
Ranges	Indications	
	Min	Max
300 µA	-000.0104 µA	+000.0104 µA
3 mA	-0.000104 mA	+0.000104 mA
30 mA	-00.00104 mA	+00.00104 mA
300 mA	-000.0204 mA	+000.0204 mA
1 A	-0.000604 A	+0.000604 A

(4) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT I** and **LO**.

(5) Press **RANGE** - or ¯ key to select ranges and set calibrator for output settings listed in table 12. If TI does not indicate within limits specified, perform corresponding software adjustments.

Table 12. Dc Current

Test instrument ranges	Calibrator output settings	Test instrument indications		Software Adjustments
		Min	Max	
300 µA	300 µA	299.8696 µA	300.1304 µA	b(1), (3) and (8)
3 mA	3 mA	2.998696 mA	3.001304 mA	b(1), (4) and (8)
30 mA	30 mA	29.98696 mA	30.01304 mA	b(1), (5) and (8)
300 mA	300 mA	299.7396 mA	300.2604 mA	b(1), (6) and (8)
1 A	1 A	0.998596 A	1.001404 A	b(1), (7) and (8)

b. Software Adjustments

(1) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(2) Enter **0,3457** using **MATH** keys.

(3) Enter **.0003,3457** using **MATH** keys.

(4) Enter **.003,3457** using **MATH** keys.

(5) Enter **.03,3457** using **MATH** keys.

(6) Enter **.3,3457** using **MATH** keys.

(7) Enter **1,3457** using **MATH** keys.

(8) Press **ENT** key. TI will display **CALIBRATING** while adjustment routine is running.

13. Ac Current

a. Performance Check

(1) Connect calibrator **OUTPUT HI** and **LO** to TI **INPUT I** and **LO**.

(2) Press **ACI** key.

(3) Press **RANGE** - or ¯ key to select ranges and set calibrator for output settings at 1 kHz listed in table 13. If TI does not indicate within limits specified, perform corresponding software adjustments.

Table 13. Ac Current

Test instrument ranges	Calibrator output settings at 1kHz	Test instrument indications		Software Adjustments
		Min	Max	
30 mA	30 mA	29.873 mA	30.127 mA	b(1), (2) and (5)
300 mA	300 mA	298.73 mA	301.27 mA	b(1), (3) and (5)
1 A	1 A	0.9929 A	1.0071 A	b(1), (4) and (5)

b. Software Adjustments

(1) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(2) Enter **.03,3457** using **MATH** keys.

(3) Enter **.3,3457** using **MATH** keys.

(4) Enter **1,3457** using **MATH** keys.

(5) Press **ENT** key. TI will display **CALIBRATION** while adjustment routine is running.

14. Frequency Counter

a. Performance Check

(1) Connect function/arbitrary waveform generator **Output** to TI **INPUT HI** and **LO** using 50Ω feedthrough termination.

(2) Press **FREQ** key.

(3) Set function/arbitrary waveform generator for a sine wave, 20 Hz, 1 V rms output. If TI does not indicate between 19.99000 and 20.01000 Hz, perform **b** below.

(4) Set function/arbitrary waveform generator frequency to 1 MHz. If TI does not indicate between 999.9000 kHz and 1.000100 MHz, perform **b** below.

b. Software Adjustments

(1) Set function/arbitrary waveform generator frequency to 1 MHz.

(2) Press blue shift key then **CONFIGURATION C/OFFSET COMP** key. TI will display **CAL**.

(3) Enter **1000000,3457** using **MATH** keys.

(4) Press **ENT** key. TI will display **CALIBRATING** while the adjustment routine is running.

15. Final Procedure

a. Deenergize and disconnect all equipment.

b. Annotate and affix DA label/form in accordance with TB 750-25.

By Order of the Secretary of the Army:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff

OFFICIAL:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0307705

Distribution:

To be distributed in accordance with initial distribution number (IDN) 344770 requirements for calibration procedure TB 9-6625-2335-35.

TB 9-6625-2335-35

Instructions for Submitting an Electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however, only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" whomever@redstone.army.mil
To: <2028@redstone.army.mil

Subject: DA Form 2028

1. **From**: Joe Smith
2. Unit: home
3. **Address**: 4300 Park
4. **City**: Hometown
5. **St**: MO
6. **Zip**: 77777
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19. Paragraph: 3
20. Line: 4
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22. Reference: 6
23. Figure: 7
24. Table: 8
25. Item: 9
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27. **Text**

This is the text for the problem below line 27.