# TB 43-0001-61-8

**DEPARTMENT OF THE ARMY TECHNICAL BULLETIN**

# EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST

## TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE)

## (FOURTH QUARTER CY 2007)

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

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# EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST TEST, MEASUREMENT, AND DIAGNOSTIC EQUPMENT (TMDE) (FOURTH QUARTER, CY 2008)



**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 or 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 send in your comments electronically to our E-mail address: 2028@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. For the World Wide Web use: https://amcom2028.redstone.army.mil. Instructions for sending an electronic 2028 can be found at the back of this manual.

## TABLE OF CONTENTS

# CHAPTER 1

# GENERAL

## SECTION I. INTRODUCTION

### 1.1 Purpose

**a.** This bulletin provides information and/or action to be taken to correct equipment faults reported through Equipment Improvement Recommendations (EIRs). It also provides notification of minor alterations, publication changes, advance information of modification work orders (MWOs) and maintenance program planning and execution.

**b.** This technical bulletin (TB) is published quarterly to disseminate technical information concerning Test, Measurement, and Diagnostic Equipment (TMDE) to field units and major commands.

### 1.2 Scope

**a.** This bulletin contains EIR and general information pertaining to TMDE that is managed or maintained by the U.S. Army Aviation and Missile Command. It may contain information on EIRs, equipment publication changes, MWOs, warranty recall information, and publication actions – some resulting from DA Forms 2028, Recommended Changes to Publications and Blank Forms.

**b.** This bulletin is informational in nature. It contains discretionary entries, authorizes certain maintenance actions, and gives advance information on the future changes to equipment publications.

**c.** This bulletin may contain minor changes that may be performed without an MWO. Control and reporting of these changes in accordance with DA PAM 750-8 is not required except as routine maintenance action.

### 1.3 Obtaining the Equipment Improvement Report and Maintenance Digest.

This TB will be posted to the LOGSA website. The digest may be requested from APD. The Digest is also available from the USATA home page under the "Publications" header.

**1.4 Inquiries**. Points of contact for this EIR are Mr. Gary Davenport, gary.m.davenport@conus.army.mil, DSN 788-0600, commercial 256-842-0600 or Mr. Fred Melton, fred.melton@conus.army.mil, DSN 645-8082, commercial 256-955-8082.

## SECTION II. GENERAL INFORMATION

### 1.1 Purpose

The purpose of an EIR is to initiate early and effective corrective action, where necessary, to eliminate failure and/or improve material. AR 750-1 makes the submission of an EIR mandatory when an equipment failure occurs as a result of other than normal wear, operational malpractice, or accidental damage. DA Pamphlet 750-8 provides the detailed instructions for the submission of an EIR.

### 1.2 Deficiency Reporting

**a.** DA PAM 750-8, The Army Maintenance Management System, is the guideline for initiating and submitting EIRs which are to be reported on SF 368, Quality Deficiency Report (QDR).

**b.** Materiel received damaged, due to improper packaging or packing, must be reported on SF 364, Report of Discrepancy (ROD), in accordance with AR 735-11-2.

**c.** Transportation/shipping damage must be reported on SF 361, Discrepancy in Shipment Report, in accordance with AR 735-11-2.

### 1.3 Priorities for EIR

**a.** CATEGORY 1. A deficiency/improvement recommendation which will or may affect life or limb of personnel or impair the combat capabilities of the using organization or individual. Deficiencies that affect operational capability, to the extent that mission accomplishment is jeopardized, fall within this definition.

**b.** CATEGORY 2. A deficiency/improvement recommendation which does not meet the criteria set forth in category 1.

## CHAPTER 2

## SAFETY-OF-(USE/FLIGHT) MESSAGES

### 2.1 General

This section provides information on safety issues that all personnel should be made aware of and/or requires an action to be taken by the user to rectify the situation.

# CHAPTER 3

# EQUIPMENT IMPROVEMENT RECOMMENDATION CASES

## SECTION I. INTRODUCTION

**3.1 General**. This chapter provides information on Equipment Improvement Reports (EIR's)/QDR cases requiring corrective action by the field that were opened or closed during the period, as well as information on EIR cases that have had a change of status. Unless definite limitations are specified, recipients of this technical bulletin are authorized to apply corrections as indicated for deficiencies listed in the following section. These changes or corrections are to be undertaken only if adequate skills, tools, and parts are available. If additional information is needed, make reference to the EIR number in your inquiry.

## SECTION II. ACTIVE (OPEN) EIR CASES

**3.2 EIRs still under investigation**. All QDRs have been closed.

## SECTION III. INACTIVE (CLOSED) EIR CASES

**3.3 EIRs requiring answers to the originator only**. None

**3.4 Closed EIR cases**. There is no QDR information for this quarter.

# CHAPTER 4

# MINOR ALTERATIONS/INFORMATION

## 4.1 General

All minor alterations are optional for application to the item indicated at the field maintenance level specified. Minor alterations are to be undertaken only if adequate skills, tools, and parts are available. Application of minor alterations will be recorded in the appropriate equipment record as a routine maintenance action.

## 4.2 Guildline 6625 Verification Procedure

The following procedure is provided to verify the 6623 Range Extender for operation.

Test Equipment Required

Test standards of equal performance may be substituted

| Description | Model Number |
|---|---|
| DC Comparator Bridge (DCC Bridge) | Guildline 6622A |
| Resistance StandardGuildline | 4020B series |
| DC Current Shunt Standards | Guildline 9711A |
| DC Current Source | XantrexXHR 7.5-130 |
| Temperature Controlled Oil Bath | Customer Supplied |

Procedure

1. Preliminary measurement of the 9711A at 1 Amp/100 mΩ shunt position:

a. Place the 4020B 1 Ω resistance standard in the oil bath, shield the 9711A current shunt standard from air currents and allow both to stabilize at approximately 25 deg Celsius.

b. Connect the 4020B 1 Ω standard to the 6622A DCC bridge (using the leads supplied) to one of the 16 Rs terminals and connect the 9711A/1 Amp/100 mΩ current shunt to one of the 16 Rx terminals of the 6622A DCC bridge.

c. Measure the value of the 9711A/1 Amp/100 mΩ shunt resistance using a current of 150mA and reversal rate of 30 seconds. Perform 100 readings and use the data manager to remove the first 50 readings.

**NOTE**

**The first test does not use the 6623; the accuracy of this measurement will be transferred to the 6623 using the method specified below.**

d. Record the results of the measurement in table 1.

2. Verification of the X10 Ratio 6623 range extender with the 9711A at 150mA/100 mΩ

a. Remove the C1 and C2 leads of the 6622A DCC bridge from the terminals of the shunt and connect the 6623 range extender X10 terminals to the shunt. The C2 lead must be connected to the TOP terminal and the C1 lead to the BOTTOM terminal of the 6623 extender. Concurrently, the C2 lead must be connected to the "High" side of the shunt and the C1 lead must be connected to the Ground.

b. Dial in approximately 150 mA on the current source (the display will show 0.1 amps) the resolution is only one digit so estimate the value.

**NOTE**

**Adjust the Power Supply XHR 7.5-130 with the OUTPUT on then put the power supply in standby until you have your DCC Bridge set-up.**

c. Set-up the 6622A DCC bridge, using the BridgeWorks-R software, for a measurement using the extender ratio of X10 and reversal rate of 60 seconds.

d. Enable the power supply and then start the BridgeWorks-R software run with the 6622A DCC bridge.

e. Measure the value of the 9711A/150mA/100 mΩ shunt. Perform 100 readings and use the data manager to remove the first 50 readings. Record the results in table 1.

f. Compare the result of 1 d with the result of 2 e, the mean value of the two results is the corrected value of Rx/Rs. The difference of the measurement value obtained in 1 d and the mean of the values is the 6623 X10 ratio error and should be less than +/- 0.5 ppm. Record your results in table 1.

3. Verification of the X100 ratio 6623 range extender with the 9711A/1A/0.01 Ω.

a. Set-up the 9711A for a 1A check. (Move plugs to 10A/.01 range).

b. Measure the value of the 9711A/10A/10 mΩ shunt on the 6623 Extender X10 range as in 2 c to 2 e, but use a current value of 1 A. Correct the measurement value for the X10 ratio error calculated in 2 e and record the results of the measurement and the corrected value in table 1.

c. Move the leads from the extender X10 terminals to the X100 range terminals.

d. Measure the value of the 9711A/1A/10 mΩ shunt as in 3 b but select the extender ratio value X100 in the BridgeWorks-R Test Window set-up. Record the results in table 1.

e. Compare the result of 3 b to 3 d; the difference in the corrected measurement value in 3 b and the measurement value in 3 d is the X100 ratio error and should be less than +/- 0.5 ppm. Record your results in table 1.

4. Verification of the X1000 ratio 6623 range extender with the 9711A at 100A/1 mΩ shunt position.

a. Set-up the 9711A for a 10A check. (Move plugs to 100A/1 mΩ range).

b. Measure the value of the 9711A/100A/1 mΩ shunt on the 6623 extender X100 range as in 3 b; but, use a current value of 10A. Correct the measurement value for the X100 ratio error calculated in 3 e and record the results of the measurement and the corrected value in table 1.

c. Move the leads from the 6623 Extender X100 range terminals to the X1000 range terminals.

d. Measure the value of the 9711A/100A/1 mΩ shunt as in 4 b; but, select the extender ratio value of X1000 in the BridgeWorks-R Test Window set-up. Record the results in table 1.

e. Compare the result of 4 b to 4 d; the difference in the corrected measurement value in 4 b and the measurement value in 4 d is the X1000 ratio error and should be less than +/- 1 ppm. Record your results in table 1.

Retain a copy of this Verification with your test report documents; these checks/verifications must be performed every 360 days. For additional guidance on any of these tests please review your manufacturer's manual for clarity. The Training Department at Redstone Arsenal, Alabama is available to provide additional training and support for this item. Contact Martin Burditt at (256) 955-7002 or DSN 645-7002 or martin.burditt@conus.army.mil.

Table 1. Model 6623 Summary of Calibration Verification Results

| Measurement mode | Rx value nominal (Ω) | Rx current amps | Value Rx/Rs measured | ppm standard dev | Ratio error (ppm) | Uncertainty +/- ppm |
|---|---|---|---|---|---|---|
| 6622A 9711A/1A/.1 | 0.1 | 0.15 | | ---------- | | |
| 6623 X10 9711A/1A/.1 | 0.1 | 0.15 | | | | |
| 6623 X10 9711A/10A/.01 | 0.01 | 1 | | | | |
| 6623 X100 9711A/10A/.01 | 0.01 | 1 | | ---------- | | |
| 6623 X100 9711A/100A/.001 | 0.001 | 10 | | | | |
| 6623 X1000 9711A/100A/.001 | 0.001 | 10 | | ---------- | | |

### 4.3 6625 Automated Tools Available

Point your browser to https://usata.redstone.army.mil (the USATA home page) and download the 6625 resistance bridge automated tools available there. From the home page click on "Publications" → "Controller Automated Tools" → "Procedures" and download "Start-Menu-DC&Low AC.exe" and "G6664BXP.exe".

These tools supplement the 6625 resistance system's Bridgeworks-R software and the Guildline Supplemental CD.

### 4.4 AN/PRM-34 Radio Test Set

The AN/PRM-34 is being coded out due to a problem in the Army Master Data File (AMDF) not adjusting the end item price since 1986. There are no serviceable AN/PRM-34 assets in Army stock; so, coding them out today could make your customers non mission capable. The only option available is to repair these items until the AN/PRM-35 is fielded, which PD TMDE says will take at least five years starting in August 08. The three boards that are required for replacement (Circuit Card Assemblies: 5998-01-158-2999, 5998-01-158-3000 and 5998-01-160-4461) are available and their prices have been updated over the years. The item manager recently submitted a request to change the price of the end item in the AMDF. Since the AMDF price is not updated, teams should pursue maintenance expenditure limit (MEL) waivers in accordance with AR-750-1 and the TB 43-0002.

Recommend contacting the USATA Region equipment manager or parts personnel in your region for the possible availability of boards in stock.

POC
Donald Boudah
Comm - (256) 876-0129
DSN - 746-0129
E-mail – donald.boudah@us.army.mil

### 4.5 MECC Shelter Deployment Video

The Mobile Expandable Container Configuration (MECC) is in the process of being deployed to various regions. A training video is available online at https://usata.redstone.army.mil/tbs/mecc/shelterfinal.wmv.

## CHAPTER 5

## EQUIPMENT PUBLICATIONS – NOT INCLUDED

## CHAPTER 6

## MODIFICATION WORK ORDERS – NOT INCLUDED

## CHAPTER 7

## TRAINING OPPORTUNITIES – NOT INCLUDED

By order of the Secretary of the Army

GEORGE W. CASEY, JR.
*General, United States Army*
*Chief of Staff*

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*Secretary of the Army*

0802814

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## 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
7. **Date Sent**: 19-OCT –93
8. **Pub no:**55-2840-229-23
9. **Pub Title**: TM
10. **Publication Date**: 04-JUL-85
11. Change Number: 7
12. Submitter Rank: MSG
13. **Submitter FName**: Joe
14. Submitter MName: T
15. **Submitter LName**: Smith
16. **Submitter Phone**: 123-123-1234
17. **Problem**: 1
18. Page: 2
19. Paragraph: 3
20. Line: 4
21. NSN: 5
22. Reference: 6
23. Figure: 7
24. Table: 8
25. Item: 9
26. Total: 123
27. **Text**

This is the text for the problem below line 27.