

NORMAL

MWO effective date 15 August 1988 and completion date 15 August 1992

DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER
DEPARTMENT OF THE NAVY

MWO 11-5895-833-30-3-2
EE060-BA-MWO-010/01658-MSC46 (V)

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

TCTO 31R5-2GSC39-522
(Data Code 3116505)
(USAF Rescission Date 15 August 1990)

MODIFICATION OF
SYNTHESIZER, ELECTRICAL FREQUENCY

0-1658/MSC-46(V)

(NSN 5895-00-127-4825)

TO DESIGNATE SAFETY HAZARDS

Departments of the Army, the Navy, and the Air Force
Washington, DC, 15 August 1988

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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

For Air Force, submit AFTO Form 22 (Technical Order System Publication Improvement Report and Reply) in accordance with paragraphs 6-5, Section VI, T.O. 00-5-1. Forward direct to prime ALC/MST.

For Navy, mail comments to the Commander, Space and Naval Warfare Systems Command, ATTN: SPAWAR 8122, Washington, DC, 20363-5100.

In either case, a reply will be furnished direct to you.

1. Purpose of Modification. This modification eliminates safety hazards on Electrical Frequency Synthesizer O-1658/MS-46 (V) by installing a HIGH VOLTAGE warning label over exposed electrical terminals in accordance with OSHA requirements. The equipment to be modified is used on Satellite Communication Terminals AN/GSC-39 (V) 1 and AN/GSC-39 (V) 2.

2. Priority Classification. This modification is classified as NORMAL. For Air Force Activities, this modification will be accomplished not later than 90 days after receipt of this modification work order. Failure to accomplish this work by 15 August 1990 shall be justification for withdrawing equipment from service until compliance is accomplished.

a. Equipment in use (including equipment in supply or maintenance activities below depot level, and equipment in administrative storage). Equipment in use will be modified as soon as practicable but no later than the scheduled completion date. Equipment not modified after expiration of MWO completion date will be reported as NORM/NOT READY in accordance with applicable Army Regulations.

b. Equipment in wholesale depot supply or maintenance activities. Serviceable equipment in depot supply or maintenance will be modified prior to issue. The modification will be applied to unserviceable equipment at time of normal maintenance, overhaul, or rebuild.

c. Prepositioned stock. Equipment which is prepositioned against a war reserve requirement will be modified during cyclic maintenance.

3. End Item or System to be Modified. The following end items are modified by this MWO:

End item	Serial numbers	NSN
Synthesizer, Electrical Frequency O-1658/ MSC-46(V)	All	5895-00-127-4825

4. Modules (Components, Assemblies, Subassemblies, Boards and Cards) to be Modified. Not applicable.

5. Parts to be Modified. Not applicable.

6. Application.

a. Time compliance schedule, MWO effective date 15 August 1988 and completion date 15 August 1992.

b. Level of maintenance. Direct support maintenance personnel are authorized to perform this MWO.

c. Applied by. The following listed personnel are authorized to perform this modification.

(1) Army: Operator-Maintainer 29Y20.

(2) Navy: Maintainer-Navy Enlisted Code 1462 or 1463.

(3) Air Force: Space Communications Operator/Technician AFSC 30456.

d. Time required.

(1) Time for completion of MWO application to one end item.

(a) Total of 1/2 hour using one person.

(b) Total of 1/2 hour downtime for one end item.

(2) Time for completion of one assembly or component. Not applicable.

(3) Time for completion of one part. Not applicable.

e. MWO to be applied prior to or concurrently with this MWO. Not applicable.

f. Additional information. The electrical frequency synthesizer to be modified and its companion frequency converter must be removed from traffic carrying service when performing this MWO.

7. Technical Publications Affected/Changed as a Result of This MWO. Not applicable.

8. Supply Kits/Parts and Disposition.

a. Kits/parts required to accomplish MWO.

(1) General. The following is a list of kit/parts required to accomplish the MWO. Prior to performing modification, check kit for completeness.

NSN/(Mfg part no.)	Item name and part number	Quantity required per:		
		End item	Module	Part
1150021125-1	Modification kit for O-1658/MS-46(V) consisting of:	1		
	Warning plate 2350021073-1	1		

NSN/(Mfg part no.)	Item name and part number	Quantity required per:		
		End item	Module	Part
	MWO identification plate 3090017598	1		
	Solvent kit 1040017601	1		
	Extra fast setting epoxy	1		

(2) Kits. The kit part no., weight, dimensions and classification are as follows:

- (a) Part No: 1150021125-1
- (b) Weight: 1 pound
- (c) Dimensions: 10" x 5"x 5"
- (d) Classification: Unclassified

b. Distribution and issue instructions. Kits for equipment to be modified will be push-shipped to user command in quantities negotiated in the Memorandum of Understanding (MOU) between using command MWO coordinators and USASATCOMA coordinator.

c. Bulk and consumable materials. Not applicable.

d. Parts disposition. Not applicable.

9. Special Tools; Jigs; Test, Measurement and Diagnostic Equipment (TMDE); and Fixtures Required. No special tools, jigs, test, measurement and diagnostic equipment and fixtures are required. The tools provided by Tool Kit, Electronic Equipment TK-100/G is required for this modification.

10. Modification Procedure.

a. General. Equipment to be modified by this MWO is illustrated in figure 1-1 of Direct and General Support Maintenance Manual for Synthesizer, Electrical Frequency, TM 11-5895-833-34-3. This procedure requires that all primary power be disconnected from the equipment to be modified. Before beginning the modification procedure, check the kit inventory (para 8a) for completeness. During performance of this MWO, identify and save all hardware removed during disassembly to facilitate proper reassembly. During reassembly, when new hardware is not designated, use the same hardware removed during disassembly.

b. Installation of Warning Plate

- (1) Set radio frequency synthesizer POWER switch to OFF.
- (2) Loosen four captive screws on front panel of electrical frequency synthesizer and pull chassis out until slides lock.
- (3) Remove all power connections from the rear of the synthesizer.
- (4) Remove all screws securing top cover plate and retain for later use.
- (5) Remove top cover plate and place it aside.
- (6) Release the two locking detents on slides and tilt chassis down.
- (7) Locate the area on the back side of the front panel above the POWER lamp and below the angle flange secured to the front panel. See figure 1. Clean this area, with solvent 1040017601(kit furnished), to remove grease, oil,

wax and other foreign substances. The area cleaned should be 2-1/2 inches wide, 5/8 inch below top of front panel and centered over the POWER lamp.

(8) Obtain from the modification kit one warning plate 2350021073-1 with warning label and extra fast setting epoxy.

(9) Position warning plate 2350021073-1 at the cleaned area centered over the POWER lamp, such that the warning label faces up and is readable from the front panel and that the 1/2-inch surface of the warning plate is against the back of the front panel.

(10) Read the instructions on the extra fast setting epoxy package, mix accordingly and apply the epoxy to the 1/2-inch surface of the warning plate. Install the warning plate in the position established in step (9), affixing the plate to the cleaned area at the back side of the front panel. Hold in place for two minutes.

(11) Release the two locking detents on slides and return chassis to a horizontal position making sure it locks in place.

(12) Replace top cover plate and fasten with the screws previously removed.

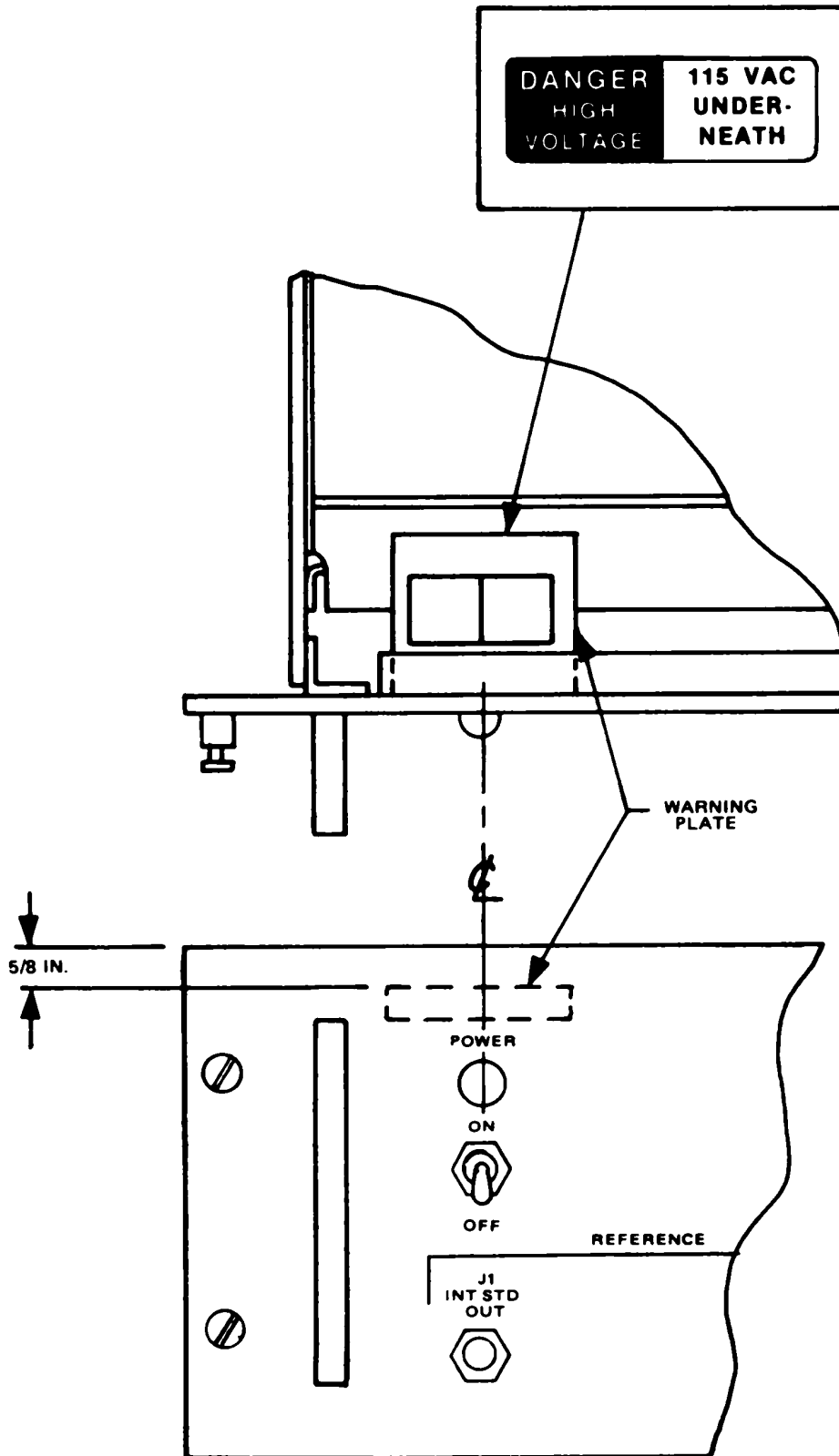
c. Return to Operational Configuration.

(1) Reconnect all power connections.

(2) Return electrical frequency synthesizer into rack and secure with the four captive screws on front panel.

(3) Return all power to electrical frequency synthesizer.

11. Calibration Requirements. Not applicable.



CE1YA001

Figure 1. Warning Plate Location Diagram

12. Weight and Balance Data. Change is negligible and does not affect equipment performance.

13. Quality Assurance Requirements. Not applicable.

14. Recording and Reporting of the Modification.

a. Army activities.

(1) Recording of modification accomplishment. Record the modification on DA Form 2408-5 (Equipment Modification Record) when multiple-form assembled equipment log book is applicable, or DA Form 2409 (Equipment Maintenance Log (Consolidated)), as indicated in DA Pam 738-750 as contained in Maintenance Management Update.

(2) Reporting of modification accomplishment. The accomplishment of this modification shall be reported on DA Form 2407 (Maintenance Request) in accordance with paragraph 3-8, DA Pam 738-750. After completing the form mail the NMP copy (Copy 2) to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-ME-MWO, Fort Monmouth, NJ 07703-5000 (MWO Coordinator). Mail the control copy (Copy 3) to: Commander, US Army Depot Systems Command, ATTN: AMSDS-FM-MOEC, Chambersburg, PA 17201.

b. Air Force activities.

(1) Action required on maintenance records. Form entries will be accomplished in accordance with instructions prescribed by the 00-20 series technical orders.

(2) Action required on supply records. Not applicable.

c. Navy activities. Record of Accomplishment: Shipboard installation of this field change shall be reported on OPNAV (form) 4790/2K in accordance with Volume 2 of the Ships 3-M Manual OPNAVINST 4790.4. Installation of this field change at NAVTELCOM activities shall be in accordance with COMNAVTELCOMINST 4790.1A.

d. Marking equipment. On MWO identification plate 3090017598 (kit furnished), fill in the following:

MWO: 11-5895-833-30-3-2

TYPE: O-1658/MSC-46 (V)

SERIAL NO: (as applicable)

CONTRACT NO: DAAB07-78-C-0012

Select convenient area on electrical frequency synthesizer for mounting MWO identification plate, as close to existing identification plate as possible. Clean surface with solvent to remove grease, oil, wax and other foreign substances. Remove protective backing from adhesive side of MWO identification plate. Apply sufficient solvent to activate adhesive backing and cause a tacky, cobweb condition. Mount MWO identification plate at selected, cleaned area.

e. Identification data. Not applicable.

15. Product Improvement Proposal (PIP) Number. The authority for this MWO is PIP No. 1-83-07-0248.

16. Narrative and Graphic Description of MWO. To determine status of applicable MWO's for annual MWO validation, see paragraph 14a above for recording of modification accomplishment and 14d for placement of MWO data plate.

By Order of the Secretaries of the Army, the Navy and the Air Force:

Official:

CARL E. VUONO
General, United States Army
Chief of Staff

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

WILLIAM CHIAIESE
Vice Admiral, United States Navy
Commander, Space and Navel Warfare
Systems Command

Official:

WILLIAM O. NATIONS
Colonel, USAF
Director of Information
Management and Administration

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