

OPERATOR MANUAL

INTERFACE BOX IB-326A

JULY 1983

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INTERFACE BOX
IB-326A

Installation and operation instructions are provided in the manual.

The interface box is a standard military type which provides a standard military type connector for the interface box. The interface box is a standard military type which provides a standard military type connector for the interface box.

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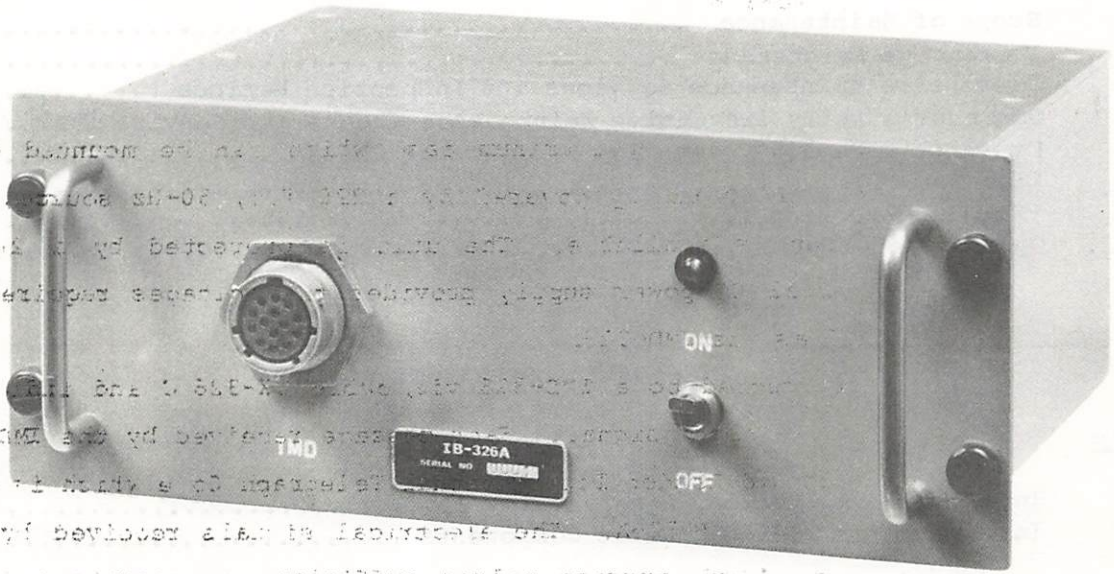


Figure 1-1. Interface Box IB-326A, General View

CHAPTER 1
INTRODUCTION

1-1. Scope

This manual describes Interface Box IB-326A and covers its installation, operation and preventive maintenance.

1-2. Purpose and Use

The IB-326A is an interface unit which interconnects a standard military teleprinter to Digital Message Entry Device TMD-326 thus providing printed copy of the transmitted messages. The unit operates only in static installations such as mobile communication shelters or communication centers. The unit is powered by a 220 Vac 50-Hz source, and when operating, supplies the DC operational voltage for the TMD-326.

1-3. Description

The IB-326A is housed in an aluminum case which can be mounted on a 1/2-ATC rack. The unit is normally powered by a 220 Vac, 50-Hz source, although a 110V ac option is available. The unit is protected by a 200-mA in-line fuse. An internal DC power supply provides the voltages required to operate IB-326A as well as the TMD-326.

The IB-326A is connected to a TMD-326 via cable CX-326/C and indicates this status by means of a "flag" signal. Each message received by the TMD-326 is converted to the standard Baudot International Telegraph Code which is then transferred serially to the IB-326A. The electrical signals received by the IB-326A are converted to 40-mA current pulses sufficient to operate a teleprinter. A red LED indicator located on the front panel illuminates during this operation.

1-4. Technical Characteristics

Pulse Rate	50 Baud
Pulse Current	40 mA
Input Line Voltage	220/110 Vac, 50/60 Hz
TMD-326 Supply Voltage.....	8.5 Vdc @ 1.5 A maximum
Operating Temperature Range..	-40° to +55° C
Bounce/Shock	Meets MIL-STD-810C requirements
Mechanical Dimensions	7.5 x 20 x 17.1 cm (HxLxW)

1-5. Accessories

CHAPTER 1

Cable CX-326/C (Cat No. 2009136) connects the IB-326 to the TMD-326. The cable terminates at each end with 14-pin U316/U type connectors.

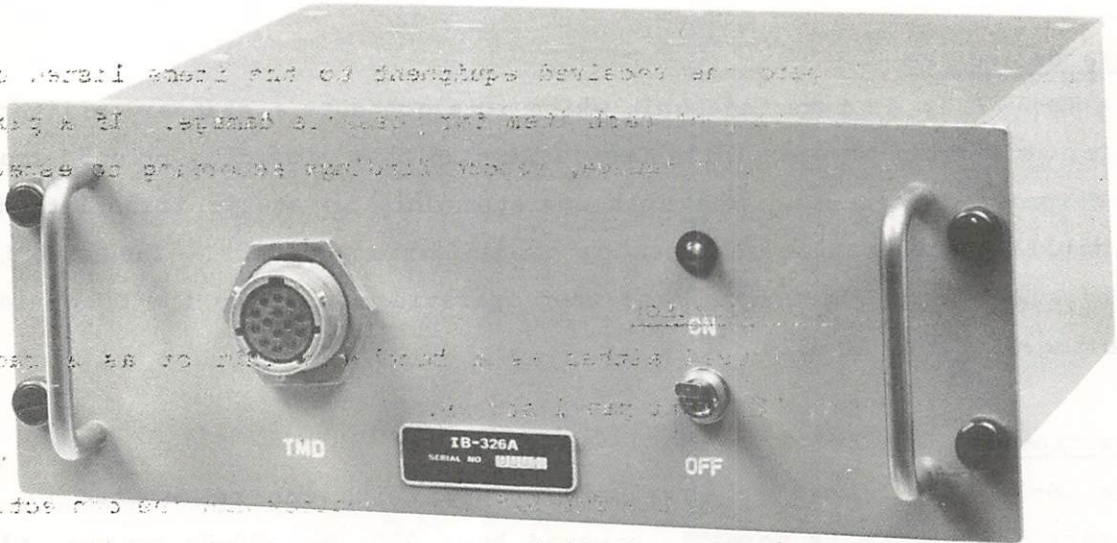
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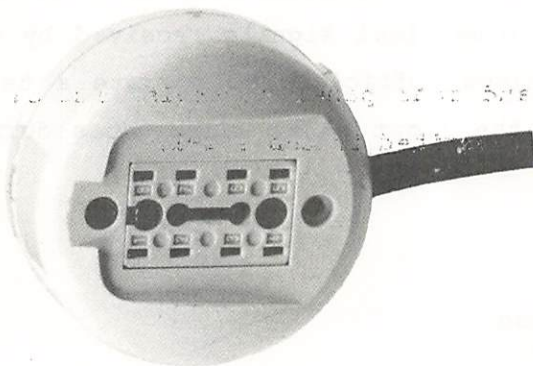
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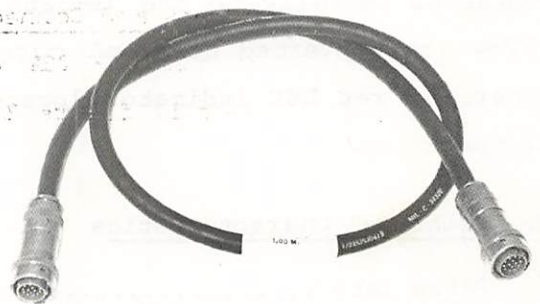


Interface Box IB-326A

Remove the 14-pin U316/U type connectors from the cable and remove the backing.



Teleprinter Cord
(Partial View)



Cable CX-326/C

Figure 1-2. Interface Box IB-326A, Basic Components

CHAPTER 2

INSTALLATION AND OPERATION2-1. Unpacking and Inspection

a. Unpacking. Open the IB-326A shipping carton and remove the packing material. Remove the equipment and prepare it for testing.

b. Inspection. Compare the received equipment to the items listed on the packing list. Visually inspect each item for possible damage. If a part is missing or if there is obvious damage, report findings according to established procedures.

2-2. TMD-326/Teleprinter Installation

a. The IB-326A can be used either as a bench-top unit or as a rack mounted unit using the four (4) front panel screws.

b. Connect cable CX-326/C to the TMD-326 AUX connector and the connector marked TMD on the front panel of the IB-326A. Connect the IB-326A power cable to the AC mains. Verify that the TMD-326 is functioning properly. Refer to TMD-326 Operator Manual OM-193 for operating instructions.

c. Connect the IB-326A teleprinter cable ("TP Cord") to the teleprinter input. Check that the teleprinter is paper loaded and operating properly.

2-3. Controls, Indicators and Connectors

The location of all IB-326A front and rear panel controls, indicators and connectors are shown in figure 2-1 and described in table 2-1.

Table 2-1. IB-326A Controls, Indicators and Connectors

Control, Indicator Connector	Position	Function
Power ON/OFF Switch (SI)	ON/OFF	Turns on AC power to provide DC voltages to the IB-326A and TMD-326.
LED Indicator (Red)		When illuminated, indicates IB-326A is on.
TMD Connector		14-pin connector for connecting TMD-326 to IB-326A via cable CX-326/C.
Teleprinter Connector		An 8-pin connector at end of the teleprinter cord which connects the IB-326A and the teleprinter.
Fuse Holder		Holds 200-mA fuse for 220 Vac operation.

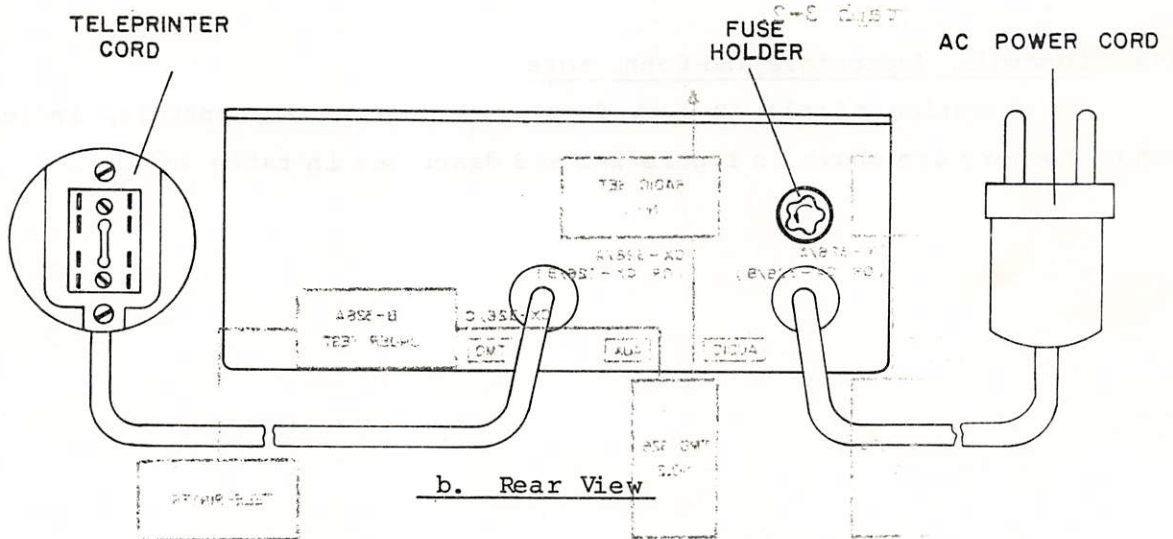
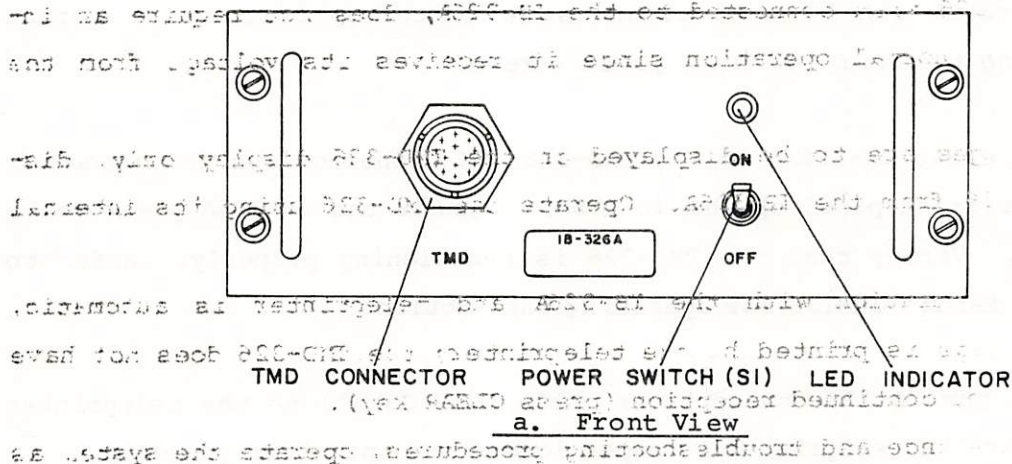


Figure 2-1. Interface Box IB-326A, Panel Views

2-4. Operating Procedures

- a. Turn the IB-326A on. Verify that the LED illuminates.
- b. Turn TMD-326 mode selector to RX.
- c. Turn on the teleprinter. Make sure that it is not "run freely".
- d. Establish radio contact with a remote location. Have remote location transmit a message using a TMD-326 (refer to TMD-326 Operator Manual OM-193). The message received by the TMD-326 should automatically be transferred to the teleprinter. The printed message will appear in the characteristic TMD-326 format (rows of nine (9) alphanumeric characters). Each additional message, transmitted via the TMD-326 will be printed by the teleprinter several rows from the previous message.

2-5. Precautions

- a. The TMD-326 when connected to the IB-326A, does not require an internal battery for normal operation since it receives its voltage from the IB-326A.
- b. If messages are to be displayed on the TMD-326 display only, disconnect the TMD-326 from the IB-326A. Operate the TMD-326 using its internal battery.
- c. TMD-326 operation with the IB-326A and teleprinter is automatic. Each received message is printed by the teleprinter; the TMD-326 does not have to be "adjusted" for continued reception (press CLEAR key).
- d. For maintenance and troubleshooting procedures, operate the system as described in paragraph 3-2.

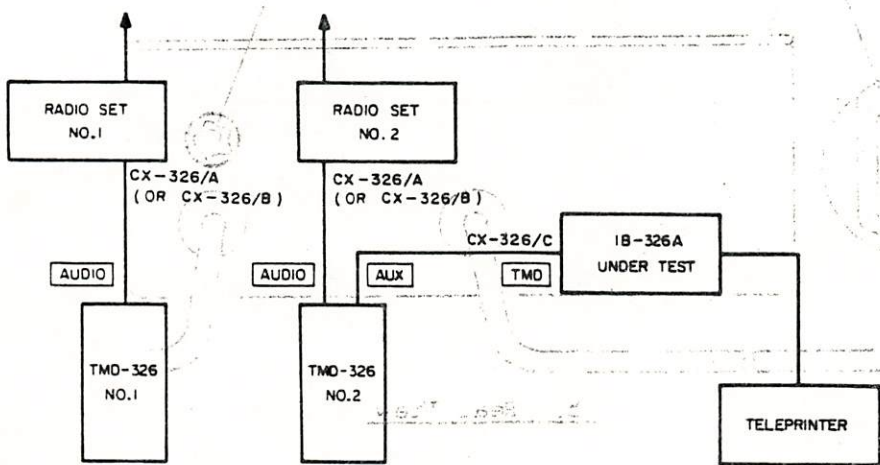


Figure 2-2. Interface Box IB-326A, Interconnection Diagram

CHAPTER 3
OPERATOR MAINTENANCE

3-1. Scope of Maintenance

The maintenance duties assigned to the operator are listed below, and do not require tools or test equipment.

- a. Preventive Maintenance (see para. 3-2).
- b. Visual Inspection (see para. 3-7).
- c. Operational Checks (see para. 3-8).
- d. Cleaning (see para. 3-6).

3-2. Preventive Maintenance

Preventive maintenance is the systematic care, servicing and inspection of equipment, to prevent the occurrence of trouble, to reduce downtime and to assure that the equipment is serviceable.

The procedures detailed in paragraphs 3-4 and 3-5 cover systematic care essential for proper upkeep and operation of the equipment. The preventive maintenance checks are to be performed on a daily and weekly basis as specified in paragraph 3-3 and after operating the unit. All preventive maintenance operations are to be performed with the IB-326A disconnected from the AC voltage source.

3-3. Preventive Maintenance Services and Inspection Periods

Maintenance service and inspection are required on a daily and weekly basis. Paragraph 3-4 and 3-5 specify the items to be inspected and serviced. In addition to the routine service and inspection, the equipment, if possible, should be reinspected and serviced before and after a mission.

3-4. Operator's Daily Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure
1	Completeness	Check that the equipment is complete, including all accessories.
2	Exterior surfaces	Remove dust, dirt and moisture from the equipment panels and exterior surfaces.
3	Controls	Check that ON/OFF switch is mounted securely. During performance checks, verify that ON/OFF switch is functional.
4	Performance test	Perform all steps in the operational checklist.

3-5. Operator's Weekly Preventive Maintenance Checks

Sequence No.	Items to be Inspected	Procedure
1	Cables	Inspect cables for completeness. Check that the jacket is not cut or broken.
2	Connector	Inspect for damage, loose fit and corrosion.

3-6. Cleaning

Inspect the exterior of the IB-326A. The exterior surfaces should be free of any dirt, grease or fungus. Remove dust and dirt with a dry clean soft cloth. Remove grease and fungus using a water dampened cloth.

3-7. Visual Inspection

When the equipment fails to operate check the following:

- a. ON/OFF switch is in OFF position.
- b. Cables have loose connections.

If the above checks do not remedy the trouble, proceed to the operational checklist in Para. 3-8 below.

3-8. Operational Checks

a. General. The operational checklist should help the operator to locate the trouble quickly. Use the corrective measures to remedy the situation. If the measures suggested do not restore normal operation, troubleshooting is required at a higher maintenance level as described in Maintenance Manual MA 2336-09526-00.

b. Procedure. Connect the IB-326A, TMD-326 and teleprinter as described in TMD-326 Operator Manual OM-193, Chapter 2.

c. Checklist.

Table 3-1. Operational Checklist

Item	Procedure	Normal Indication	Corrective Action
1.	Turn the IB-326A on.	ON indicator on the IB-326A illuminates.	a. Check voltage cable connection. b. Check fuse. Replace if required.
2.	Turn the TMD-326 on.	ON indicator on the TMD illuminates.	a. Check CX-326/C cable. Replace if required. b. Check TMD operation with its own internal battery. c. If TMD is inoperable, replace TMD. If operable send IB-326A to higher maintenance level.
3.	Turn the teleprinter on.	Teleprinter does not "run freely".	a. Check teleprinter cord. b. Check CX-326/C cable. Replace if required. c. Send IB-326A to higher maintenance level.
4.	Set TMD-326 mode selector to TEST (perform complete TMD self-test).	"TEST" will print out on the teleprinter. TMD test terminates with "ERROR" message. RCV indicator does not illuminate during test steps.	a. Check TMD-326 operating with transceiver, (see Operator Manual). b. Check cable CX-326/C. Replace if required. c. Send IB-326A to higher maintenance level.