

## TECHNICAL BULLETIN

**MODIFICATION PROCEDURES  
FOR  
FLIGHT COORDINATION CENTRAL  
AN/TSC-61B  
(NSN 5895-01-057-3968) (EIC: JP4)  
TO INCORPORATE  
SINGARS RADIOS**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**15 MAY 1993**

Technical Bulletin  
 No. 11-5895-469-30

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 Washington, DC, 15 May 1993

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**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this bulletin. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LM-LT, Fort Monmouth, New Jersey 07703-5007.

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

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## CHAPTER 1. INTRODUCTION

### 1-1. SCOPE

This Technical Bulletin (TB) contains instructions for changes to the AN/TSC-61B that will allow SINGARS RADIOS to function correctly when installed.

### 1-2. REFERENCES

- a. Army Regulations.
 

AR710-2	Supply Policy below the wholesale level as contained in unit Supply UPDATE.
AR725-50	Requisitioning, Receipt and Issuing System in Update.
- b. Technical Manuals.
 

TM 11-5895-469-12	Operator's and Organizational Maintenance Manual, Flight Coordination Central AN/TSC-61B.
TM 11-5895-469-34	Direct Support and General Support Maintenance Manual, Flight Coordination Central AN/TSC-61B.
- c. MIL-STD and Specification.
 

MIL-STD 454	Requirement 13 Standard General Requirement for Electronic Equipment.
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- d. FED-STD and Specifications.
 

NONE	
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- e. Pamphlets.
 

DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms.
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### 1-3. MAINTENANCE FORMS, RECORDS AND REPORTS

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

b. Reporting of Item and Packaging Discrepancies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J.

c. Transportation Discrepancy Report (TDR) (SF 361). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

## CHAPTER 2.

### FLIGHT COORDINATION CENTRAL MODIFICATION

#### 2-1. GENERAL

This chapter provides instructions for removing and / or shorting diodes from the FM Radio circuits. These modifications may be completed prior to installation of SINCGARS Radio without affecting operation of other radios in the shelter.

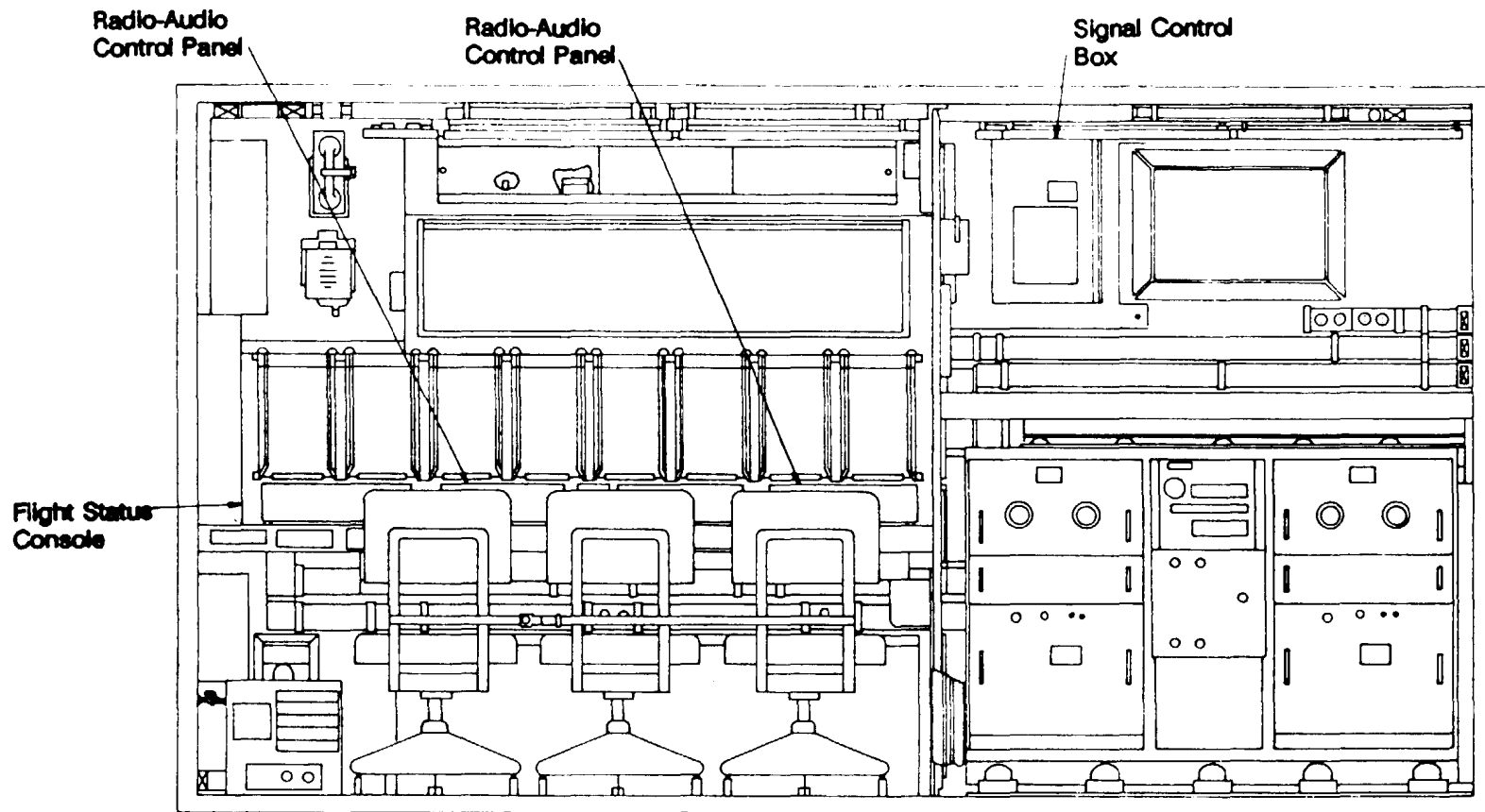
#### 2-2 MODIFICATION INFORMATION

The Radio Audio Control Panel C-10417/TS (Part Number SC-B-881153) (3 ea) and the Signal Control Box assembly (Part Number SC-D-881184) (1 ea) will be modified and their locations are illustrated in figure 1.

#### 2-3 TOOLS AND SUPPLIES

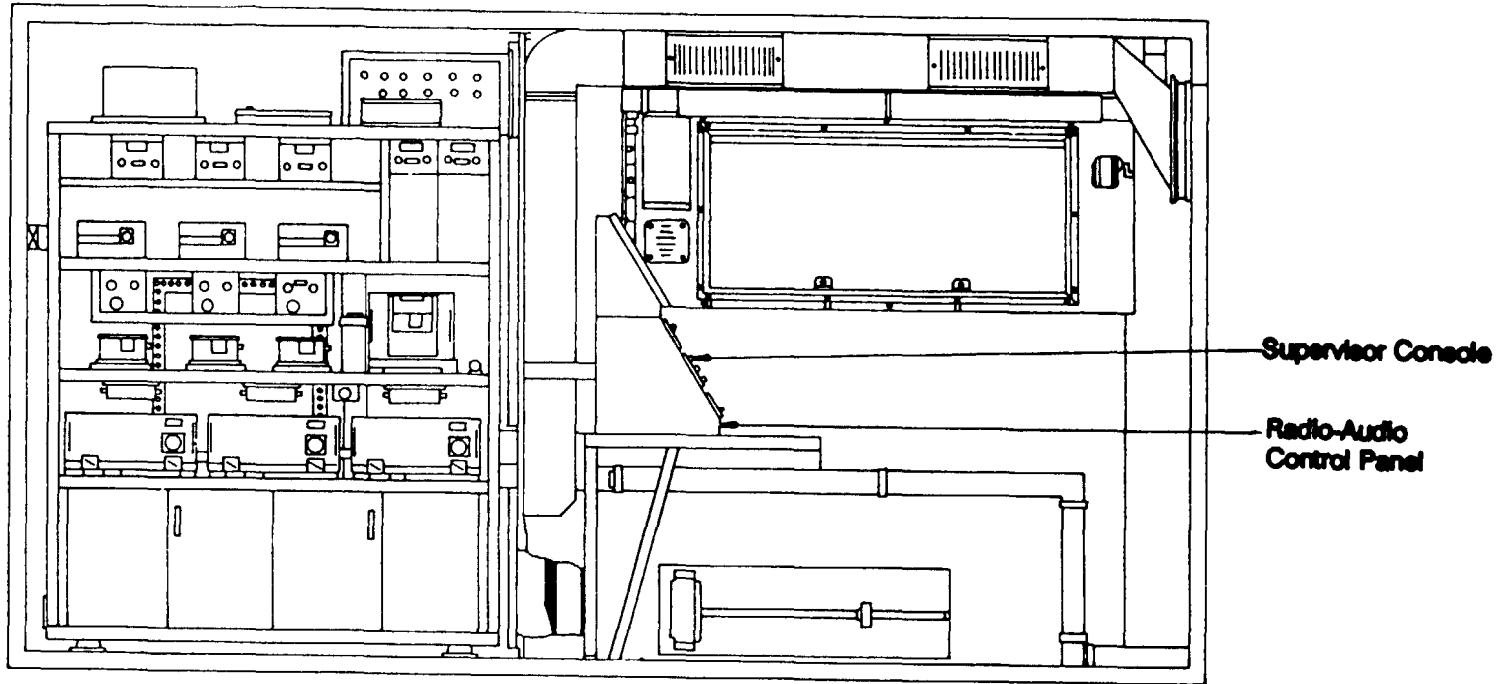
The following items or equivalents are required to install and test the modification

Item	Nomenclature
1.	Tool Kit, Electronic Equipment TK-100/G
2.	Multimeter AN/USM-223
3.	Heat shrink gun
4.	Shrink tubing 1/8 inch, 5 inch long (NSN: 5970-00-812-2969)
5.	Wire, insulated 20 gauge 12 inch long (NSN: 6145-01-141-0198)



ROADSIDE VIEW

Figure 1. AN/TSC-61B (Sheet 1 of 2)



**CURBSIDE VIEW**

**Figure 1. AN/TSC-61B (Sheet 2 of 2)**

2-4 MODIFICATION OF RADIO AUDIO CONTROL PANEL C-10417/TS, Part Number SC-B-881153. (see Figures 2 and 3)

**WARNING**

Turn off Main Power to prevent electrical injury.

a. Removal (Figure 2)

1. Turn the four (1) captive screws on the front of the Radio-Audio Control Panel counterclockwise to release it from the Flight Status or Supervisor console. (see Figure 2)
2. Disconnect cable assemblies from connectors J1(2), J2(3), J3(4), J4(5) and J5(6) on the Radio-Audio Control Panel (7).
3. Remove the Radio-Audio Control Panel (7) to clean flat location.
4. Unscrew the four cross-tip screws (8) from the top cover (9) and lift the cover out of the way.
5. Remove front panel knob (10) from the FM1 switch (11) by turning the knob counterclockwise. (see Figure 3)
6. Remove lock nut (12) from the FM1 switch (11) with adjustable wrench.
7. Push the FM1 switch (11) back through the mounting hole and lift and rotate the switch to locate diode CR1 (13) to be removed.
8. Identify diode CR1 (13) which is connected to Pins C7 and C9 contacts of the FM1 switch (11) with wires color coded violet and yellow.
9. Remove the body of diode CR1 (13) by cutting with a pair of diagonal pliers.
10. Connect the remaining pigtailed of diode CR1 (13) together with a pair of long nose pliers.
11. Solder the pigtailed together.
12. Reinstall the FM1 switch (11) by rotating the switch back to its original position and pushing it through the front mounting hole.
13. Replace the lock nut (12) on the FM1 switch (11) and tighten with adjustable wrench.
14. Replace the knob (10) on the FM1 switch (11) by turning clockwise.
15. Repeat steps 5 through 14 for FM2 and FM3 switches.
16. Reinstall the top cover (9) on the Radio-Audio Control Panel (7) and place the four cross-tip screws (8) in their mounting holes and tighten.
17. Change the part number from SC-B-881153 to SC-B-881153-1 on the Radio-Audio Control Panel (7) and Part Number SC-D-881528 to SC-D-881528-1 on Panel Assembly.
18. Repeat steps 1 through 17 for the other 2 Radio-Audio Control Panels.

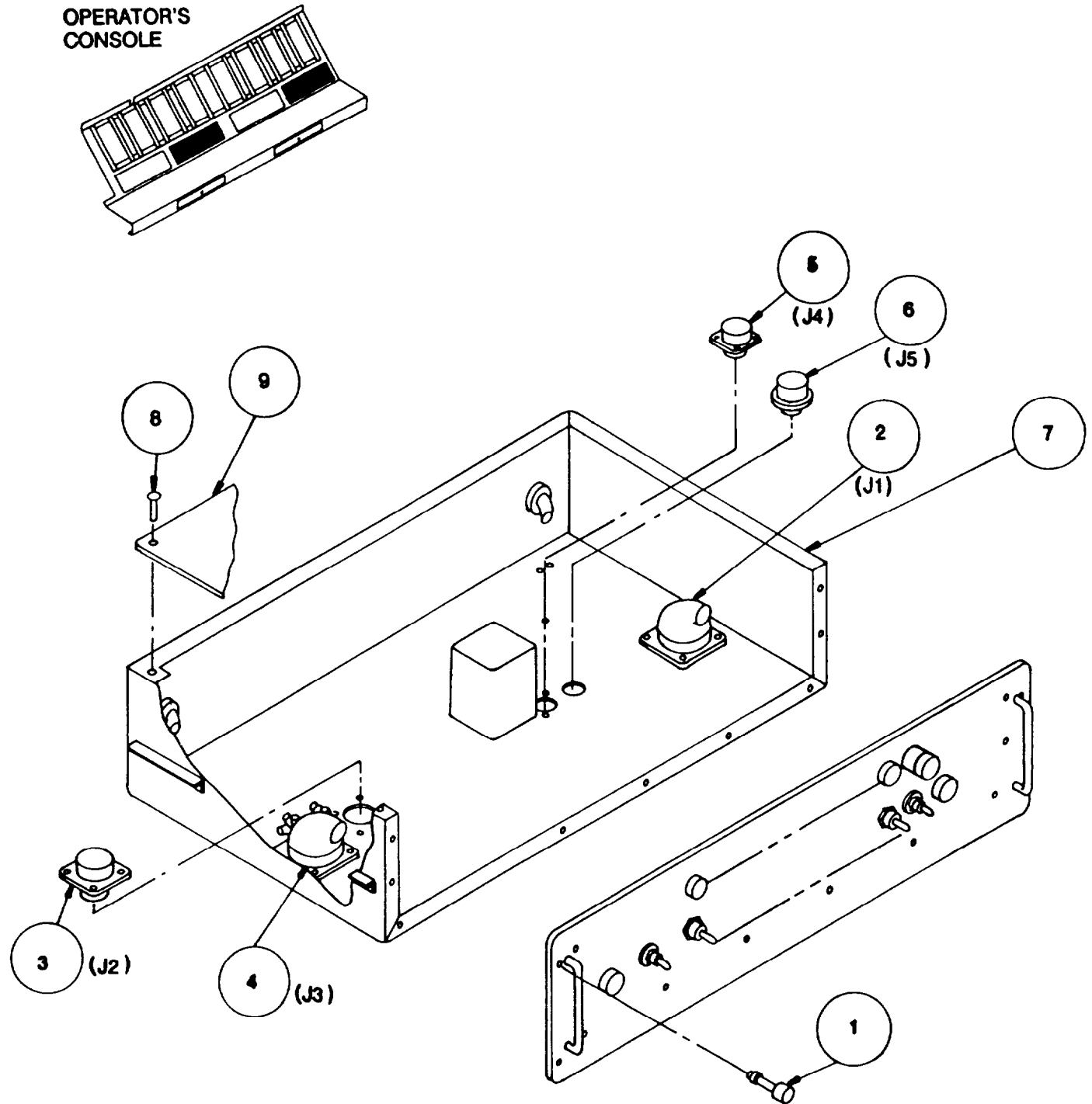


Figure 2. Radio-Audio Control Panel (C-10417/TS)



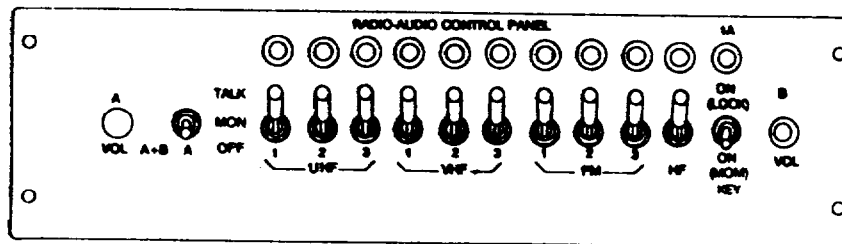
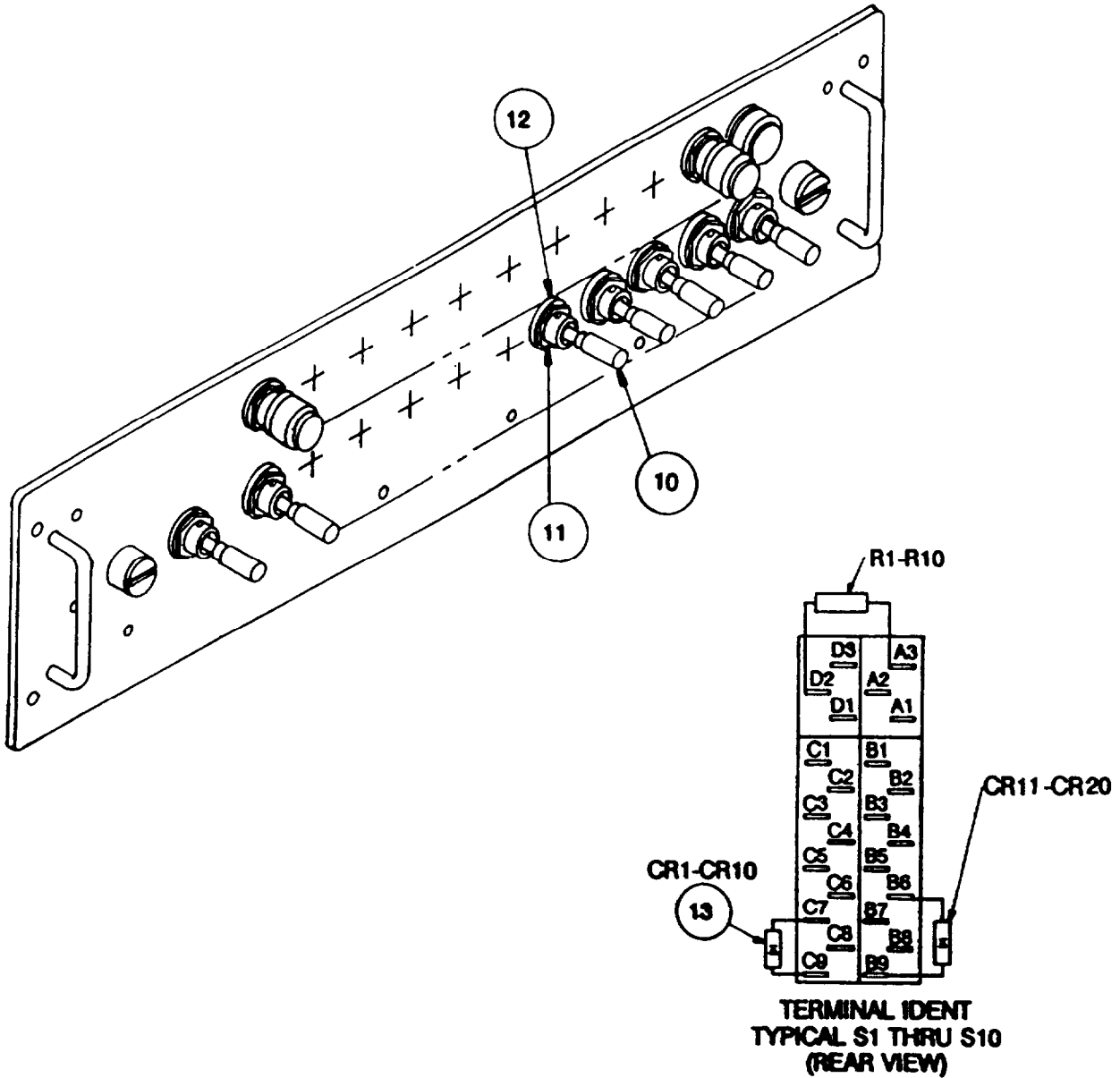


Figure 3. Panel Assembly (SC-D-881528)

## b. Replacement

1. Reconnect the cable assemblies to J1(2), J2(3), J3(4), J4(5), and J5(6). (see Figure 2)
2. Reinstall Radio-Audio Control Panel (7) back into the Flight Status or Supervisor console.
3. Tighten the four captive screws (1) clockwise on the Radio-Audio Control Panel to lock in place.

2-5 MODIFICATION OF BOX SIGNAL CONTROL ASSEMBLY Part Number SC-D-881184.  
(see Figure 4)**WARNING**

Turn off main power to prevent electrical injury.

## a. Removal

1. Release the two locking clips (1) that hold the cover closed.
2. Open the cover of the Box Signal Control Box Assembly.
3. Unscrew the connector collar on J40 inside the signal control box. Pull out collar and rubber sleeving far enough to expose the wire connections. Identify pin E (violet color coded wire).
4. Remove 1/2" of insulation from each end of additional eight inch piece of violet color coded wire and solder one end onto Pin E connection. Feed free end of wire through rubber sleeve and connector collar.
5. Connect free end to Pin 9 on TB1 (5) by crimping with long nose pliers and soldering in place.
6. Repeat steps 4 and 5 for J39 and J41. Connect J39 violet color coded wire to Pin 10 on TB1 (5) by crimping with long nose pliers and soldering in place. Connect J41 violet color coded wire to Pin 56 on TB1 (5) by crimping with long nose pliers and soldering in place.
7. Change the part number from SC-D-881184 to SC-D-881184-1.

## b. Reinstall.

1. Close the cover of the Signal Control Box Assembly.
2. Resnap the two locking clips (1) to lock the cover in place.

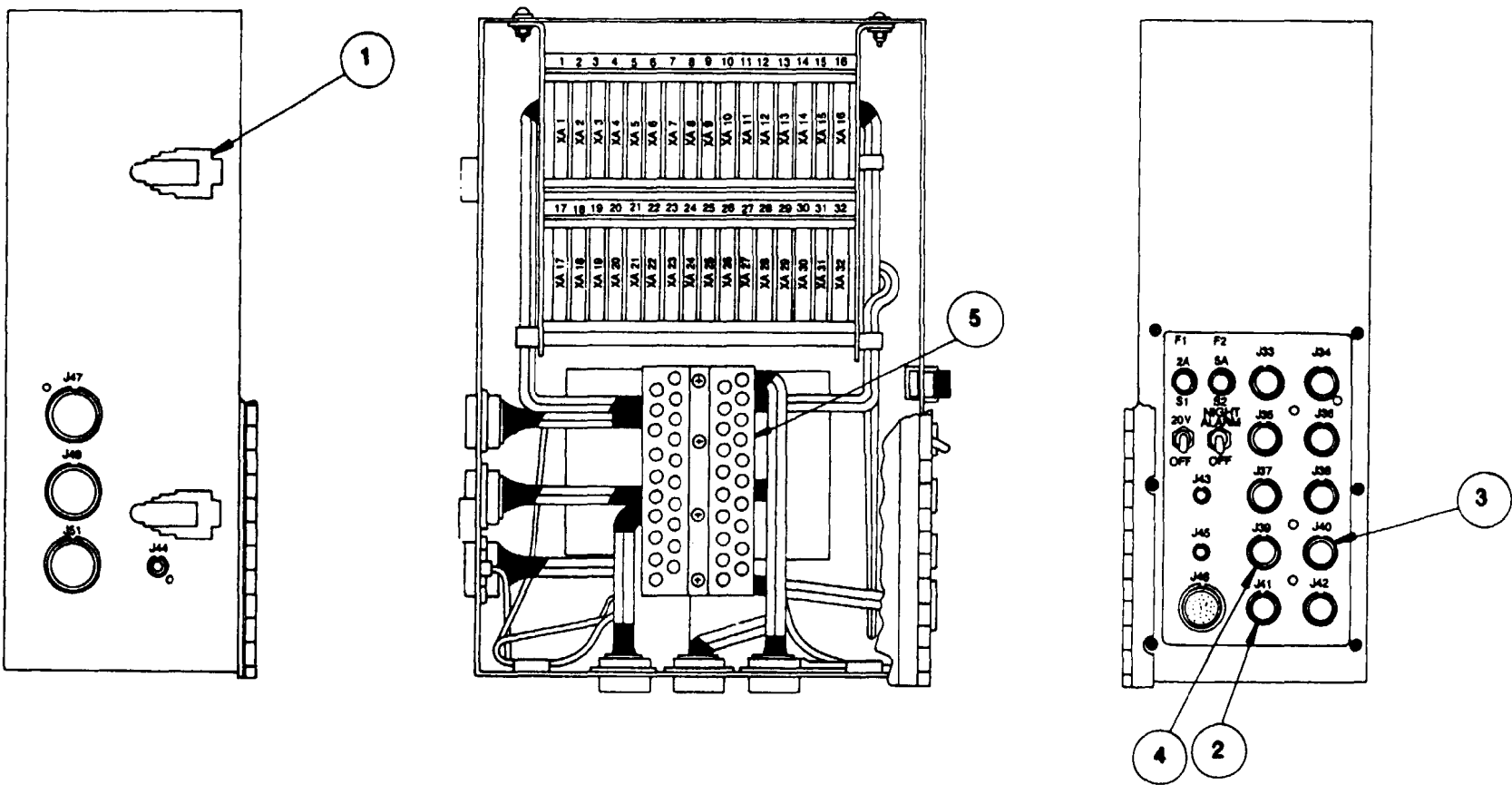


Figure 4. Box Signal Control Assembly (Part Number SC-D-881184)

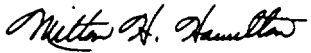
## 2-6. TEST

- a. Set the range switch of the AN/USM-223 Multimeter to RX1 and perform the following point to point continuity checks. All readings must be 0.2 ohms or less.
- b. Push switch S11 (Push to talk) on Radio-Audio Control Panel mounted on the Flight Status Console to locked on position.
- c. Push switch S7 (FM1) on Radio-Audio Control Panel to the talk position.
- d. Remove cable from connector J39.
- e. Measure connector J39 pin E on the Box Signal Control Assembly to ground.
- f. Release switch S7 (FM1) and Push switch S8 (FM2) on Radio-Audio Control Panel to the talk position.
- g. Remove cable from connector J40.
- h. Measure connector J40 pin E on the Box Signal Control Assembly to ground.
- i. Release switch S8 (FM2) and push switch S9 (FM3) on Radio-Audio Control Panel to the talk position.
- j. Remove cable from connector J41.
- k. Measure connector J41 pin E on the Box Signal Control Assembly to ground.
- l. Turn off switch S11 (Push to talk) on Radio Control Panel.
- m. Perform steps a thru l to the second Radio-Audio Control Panel mounted on the Flight Status console.
- n. Perform steps a thru l to the third Radio-Audio Control Panel mounted on the Supervisor console.
- o. Reconnect connectors J39, J40 and J41 cables.
- p. Perform communications check in accordance with TM 11-5820-10-1 or TM 11-5820-10-3.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN  
*General, United States Army*  
*Chief of Staff*

Official:

  
MILTON H. HAMILTON  
*Administrative Assistant to the*  
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PUBLICATION DATE  
 23 Jan 74

PUBLICATION TITLE  
 Radar Set AN/PRC-76

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
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2-25

2-28

3-10

3-3

3-1

5-6

5-8

FO3

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

CATFOLD LINE

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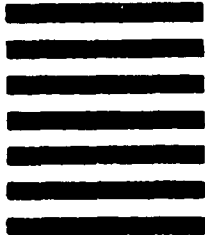
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