

SECTION 8 - MISCELLANEOUS

8.1 TSEC/KY-8 SPEECH SECURITY SYSTEM - GENERAL DESCRIPTION

The TSEC/KY-8 interim broadband speech security system is a half duplex broadband UHF/VHF speech security system. It provides a secure communication capability to accompany and parallel existing uncovered voice communication.

8.2 REFERENCE DATA

- a. Table of Technical Publications - Table 8-1
- b. Primary Power Requirements - Table 8-2
- c. Heat Dissipation - Table 8-3
- d. Unit Weight - Table 8-3

8.3 INSTALLATION REQUIREMENTS

a. Arrangement

(1) KYB-6/TSEC and HYP-2/TSEC may be installed on a radio operating desk (Lop Table) or similar flat surface of adequate strength. See Figure 8-1 for typical foundation details.

(2) The J-2698/UR (Black interconnecting box) and J-2697/UR (Red interconnecting box) may be installed on the bulkhead by welding bolts or studs to the bulkhead to secure units or may be mounted on same foundation with KYB-6/TSEC and HYP-2/TSEC. The J-2698/UR (Black) and J-2697/UR (Red) must be mounted as close as possible to KYB-6/TSEC and HYP-2/TSEC units. See Figure 8-11 for furnished cable data.

(3) The C-1138/UR may be installed on a bulkhead by welding bolts or studs to the bulkhead. This unit may also be mounted on a shelf or placed on a fiddle board. See Figure 8-2 for typical foundation details.

(4) The LS-474/U speaker and AM-3729/SR amplifier should be installed in the same general area as the C-1138/UR on the bulkhead, overhead, shelf foundation or fiddle board. See Figure 8-2 for typical foundation details.

(5) The SA-1499/UR transceiver switching unit should be mounted as close as possible to the transceiver. See Figure 8-11 for furnished cable data.

SECTION 8 - MISCELLANEOUS (Continued)

8.3 INSTALLATION REQUIREMENTS

b. Outline and Mounting Dimension:

- (1) TSEC/KY-8 Figure 8-3
- (2) J-2698/UR Figure 8-4
- (3) J-2697/UR Figure 8-5
- (4) SA-1499/UR Figure 8-6
- (5) AM-3729/SR Figure 8-7
- (6) C-1138/UR Figure 8-8
- (7) LS-474/U Figure 8-9
- (8) AN/VRC-46 See Section 2
- (9) AN/SRC-20/21 See Section 2

c. Grounding Specifications - All bonding and grounding to be in accordance with Table 8-1 Item No. 5.

8.4 CABLE DIAGRAM AND CONNECTION DETAILS

- a. Elementary Connections - Figure 8-10
- b. Electronics Installation and Maintenance Standards - To be in accordance with Table 8-1 Item No. 8.
- c. Security Requirements - Consult Type Commander.

8.5 FIELD CHANGE REQUIREMENTS - See Table 8-1 Item No. 8.

ORIGINAL

ITEM NO.	NAVSHIPS NO. DRAWING NO. MIL. STD. NO.	TITLE
1	NAVSHIPS 0967-190-3020	Interim Systems Manual for TSEC/KY-8
2	NAVSHIPS 0967-105-8010	Technical Manual for Audio Frequency Amplifier AM-3729/SR
3	0967-191-5010	Technical Manual for Radio Set Control C-1138A/UR
4	0280-538-2000	Instruction Sheet for NT-51007A
5	Mil. Std. 1310A (NAVY)	Shipboard Bonding and Grounding Methods for Electromagnetic Compatibility
6	*FSC 02227-10D-1421	Interim KY-8 Installation Plan (NSEF)
7	0981-052-8090	Data Pertaining to Electrical Shipboard Cable
8	0967-000-0000	Electronics Installation and Maintenance Books.

*These plans are not essential for installation but if available use as reference.

TABLE OF TECHNICAL PUBLICATIONS
TABLE 8-1

MISCELLANEOUS

NAVSHIPS 0967-306-1010

TABLE 8-1

MISCELLANEOUS

EQUIPMENT	VOLTAGE	CURRENT	POWER	REMARKS
HYP-2/TSEC	115 VAC (RED) 60 Hz, Single Phase	1.11 AMPS	130 Watts	
AM-3729/SR	115 VAC (RED) 60 Hz, Single Phase		30 Watts	

TABLE OF PRIMARY POWER REQUIREMENTS
TABLE 8-2

NAVSHIPS 0967-306-1010

EQUIPMENT	HEAT DISSIPATION	UNIT WEIGHT	REMARKS
KYB-6/TSEC	80.8 Watts	36 Lbs.	
HYP-2/TSEC	130 Watts	24.75 Lbs.	
KYB-13/TSEC		18 Lbs.	
AM-3729/SR Audio Amplifier	30 Watts	11 $\frac{1}{4}$ Lbs.	
C-1138/UR Radio Set Control		13 Lbs.	
LS-474/U Speaker		Approx. 5 Lbs.	
J-2698/UR Interconnecting Box (Black)		Approx. 2 Lbs.	
J-2697/UR Interconnecting Box (Red)		Approx. 2 Lbs.	
SA-1499/UR Transceiver Switching Unit		Approx. 2 Lbs.	
NT-51007A Handset			

TABLE OF MISCELLANEOUS DATA
TABLE 8-3

TABLE 8-2/8-3

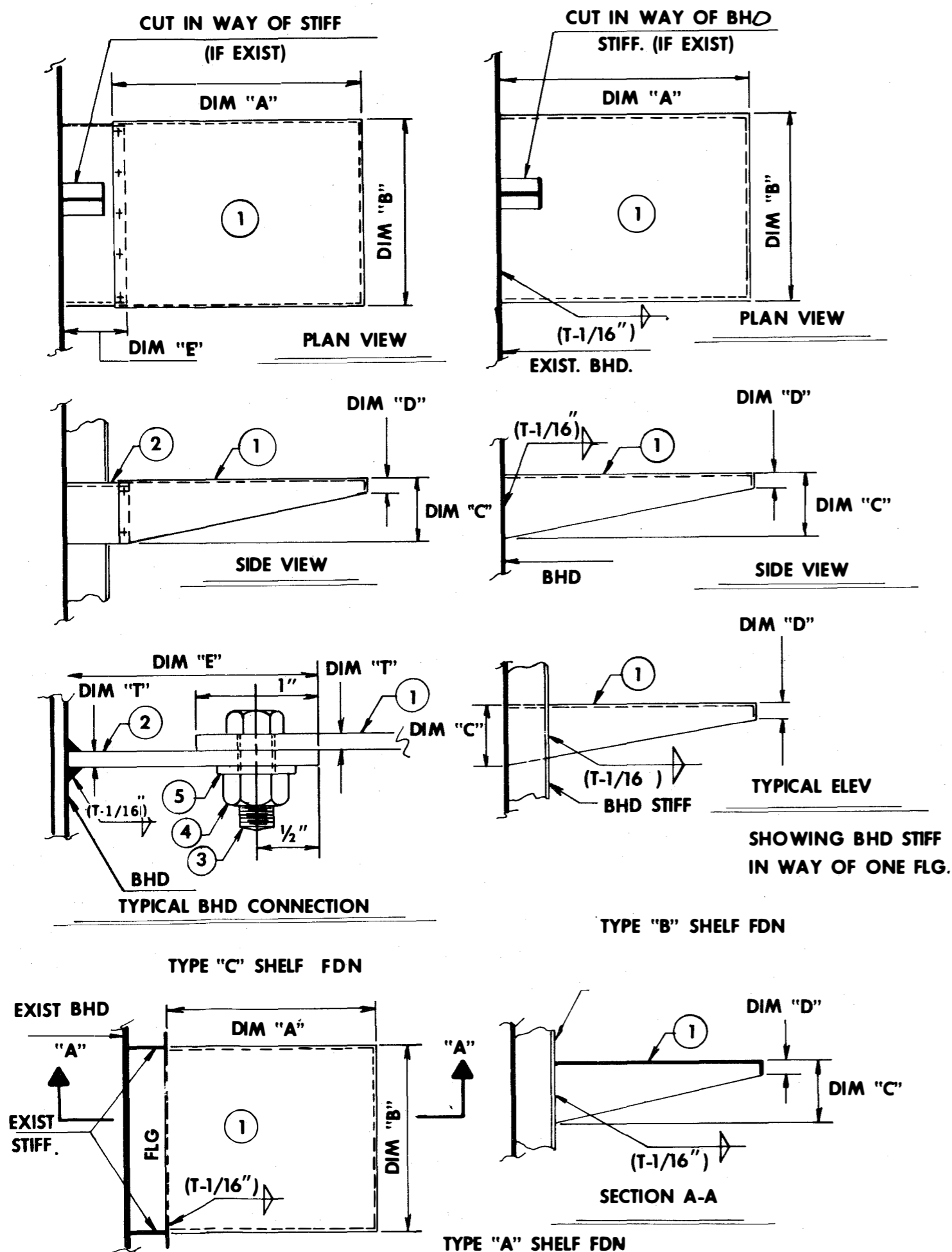
ORIGINAL

8-4

LIST OF MATERIAL QUANTITIES FOR ONE FDN					
PC NO.	NAME	NO.	MATERIAL	MTL SPEC.	REMARKS
1	PLT (SEE NOTE #2)	1	MED. STL.	MIL-S-16113	TYPE "A"
1	PLT (SEE NOTE #2)	1	MED. STL	MIL-S-16113	TYPE "B"
1	PLT (SEE NOTE #2)	1	AL-61S-T6	QQ-A-327	
2	PLT (SEE NOTE #2)	1	MED STL	MIL-S-16113	
3	1/4" HEX H.D. BOLT	AS REQ'D	C.R.S.	MIL-B-857	TYPE "C"
4	1/4" HEX NUT			MIL-B-857	
5	1/4" DIA-FLAT WASHER			MIL-S-854	

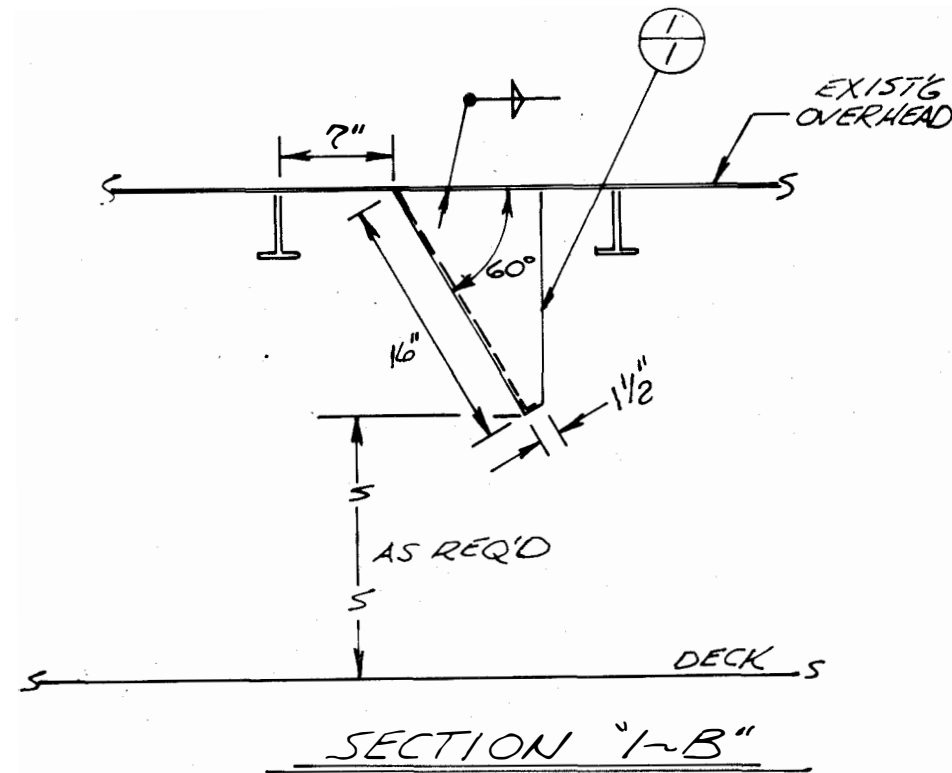
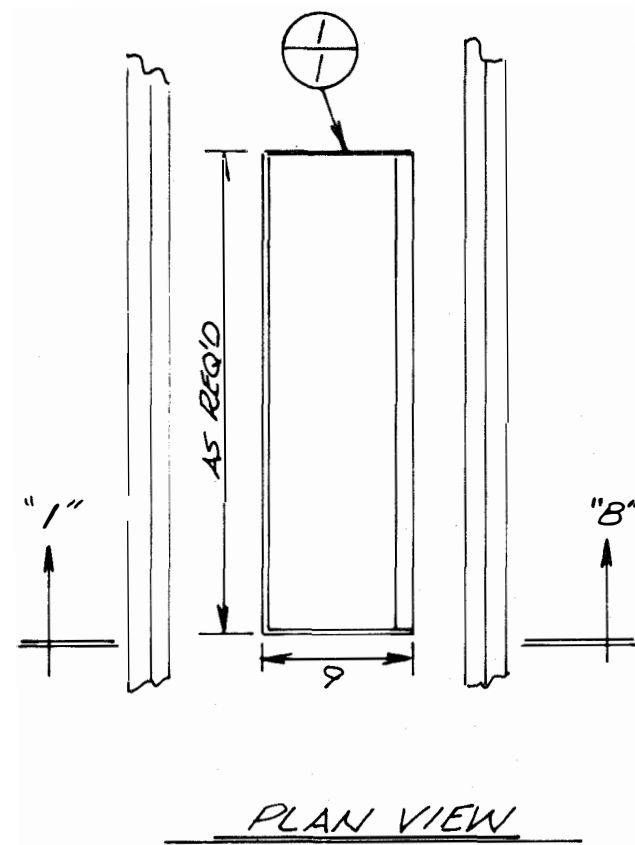
NOTES:

1. Thickness (Dim. "T") of material to be furnished on location.
2. All variable dimensions and type of foundation to be specified on location.
3. Foundation for KYB-6/TSEC and HYP-2/TSEC to be as follows:
 - a. Plating (7.65 #Plt. steel), 1/4" thick aluminum
 - b. Type "B" shelf foundation
 - c. For installation with stiffener in way of unit: Dimension "A" = 20" + depth of stiffener, dimension "B" = 26", dimension "C" = 9", dimension "D" = 2"
 - d. For installation with no stiffener interference: dimension "A" = 20", dimension "B" = 26", dimension "C" = 9", dimension "D" = 2".
4. Size and location of mounting bolts to be taken from equipment.



KYB-6/TSEC AND HYP-2/TSEC
TYPICAL FOUNDATION DETAILS

FIGURE 8-1



LIST OF MATERIAL - QUANTITIES FOR ONE FOUNDATION						
Pc. No.	Name	No. Reqd.	Material	Mt'l. Spec.	Federal Stk. No.	Remarks
1	7.65 #Plt.	1	M. Stl.		9515-237-5333	

NOTES:

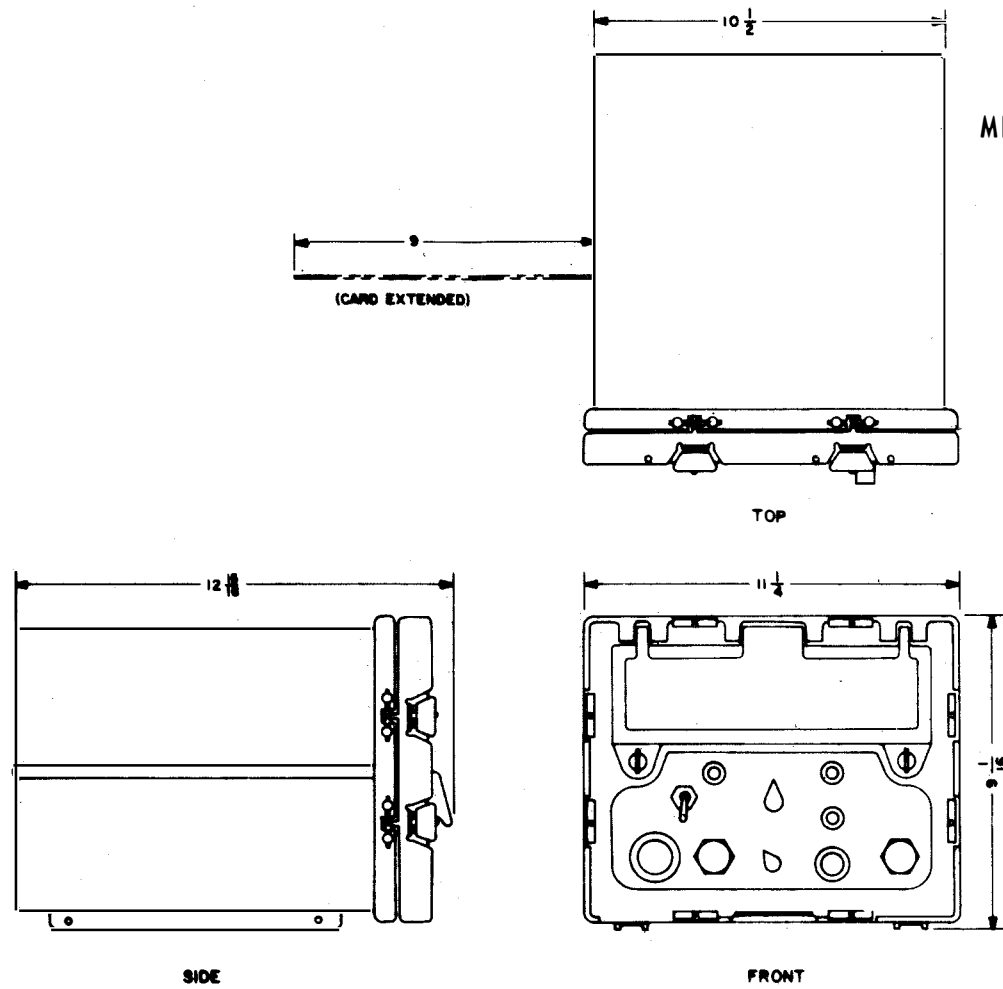
1. Template all work from ship as required.
2. Material may be substituted to suit installation.
3. Size and location of mounting bolts to be taken from equipment.

**C-1138/UR, LS-474/U AND AM-3729/SR
TYPICAL FOUNDATION DETAILS
FIGURE 8-2**

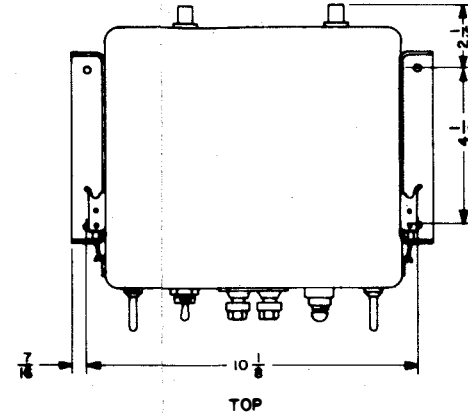
MISCELLANEOUS

NAVSHIPS 0967- 306- 1010

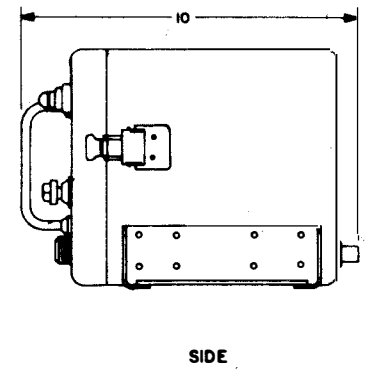
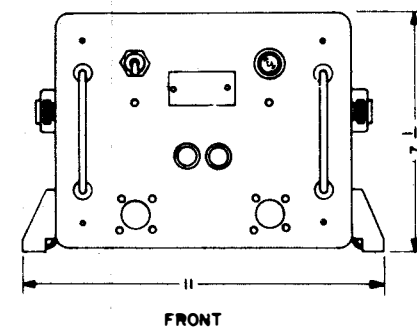
FIGURE 8- 3



KYB-6/TSEC



HYP-2/TSEC
ANCILLARY POWER SUPPLY

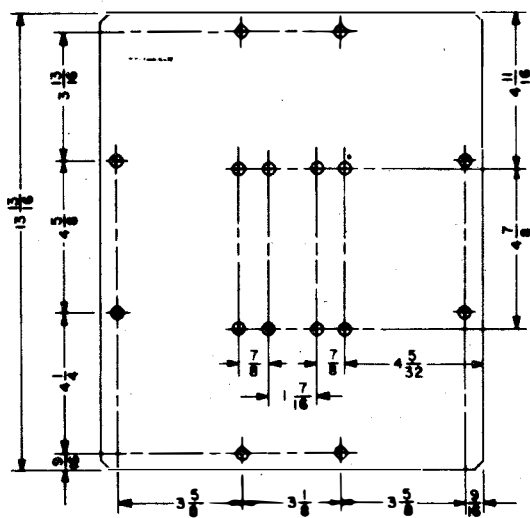


TSEC/KY-8

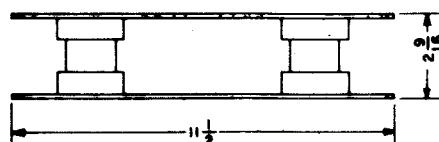
OUTLINE AND MOUNTING DIMENSIONS

FIGURE 8-3

NOTE: ALL HOLES $\frac{1}{16}$ DIA

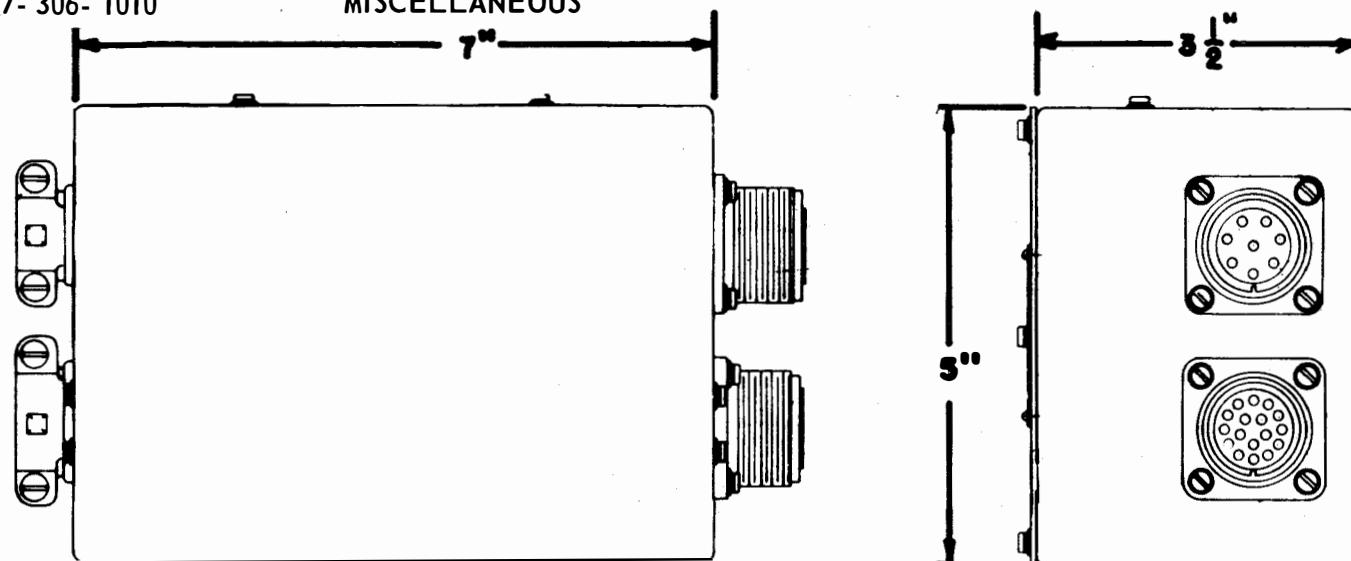


SHOCK MOUNTING BASE KYB-13/TSEC

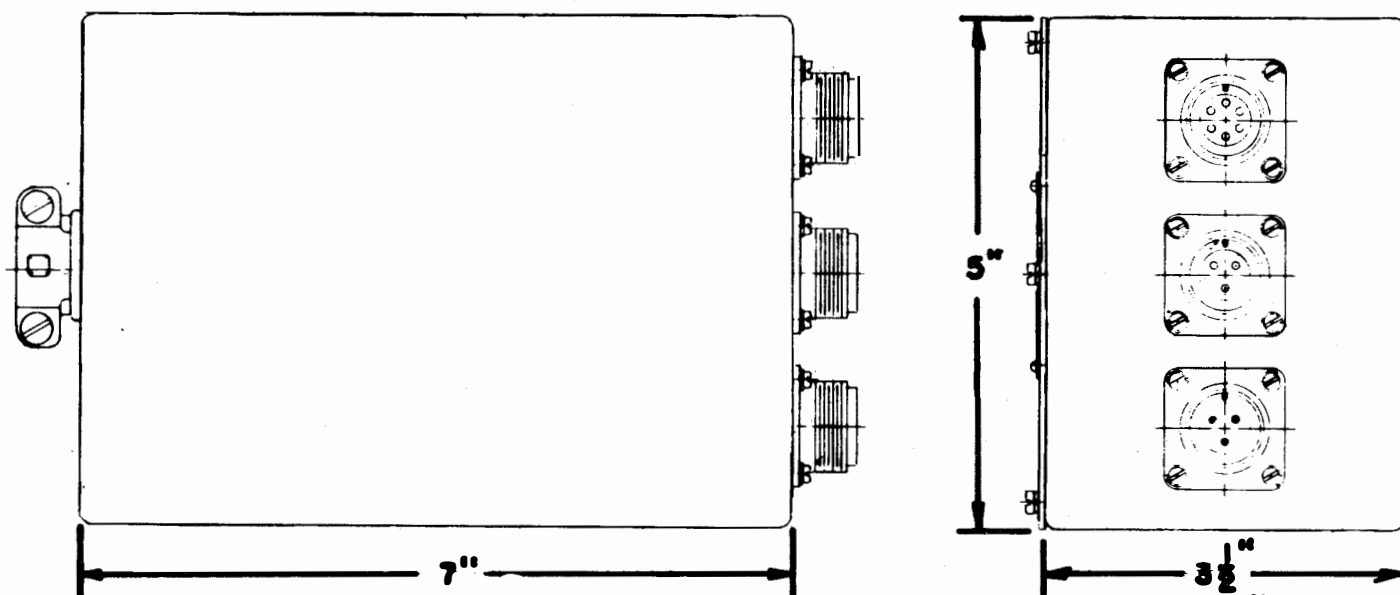


ORIGINAL

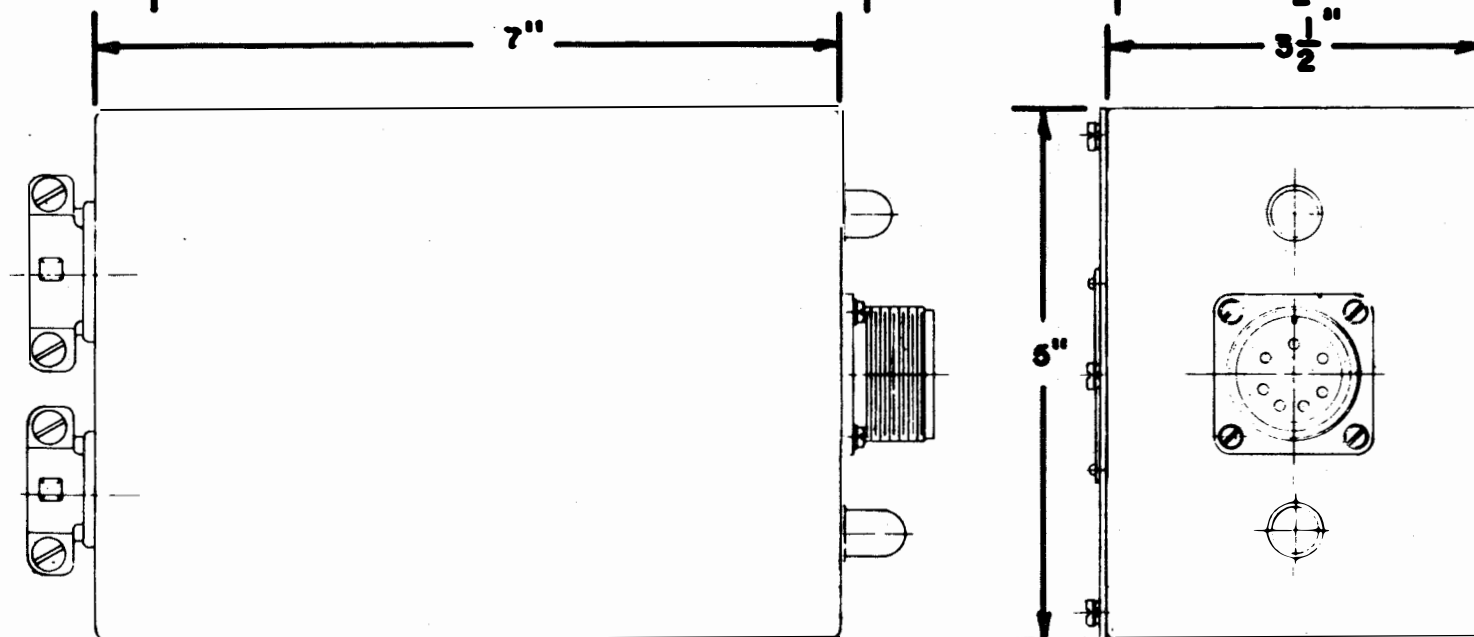
**SA-1499/UR TRANSCEIVER
SWITCHING UNIT
OUTLINE AND MOUNTING
DIMENSIONS
FIGURE 8-6**

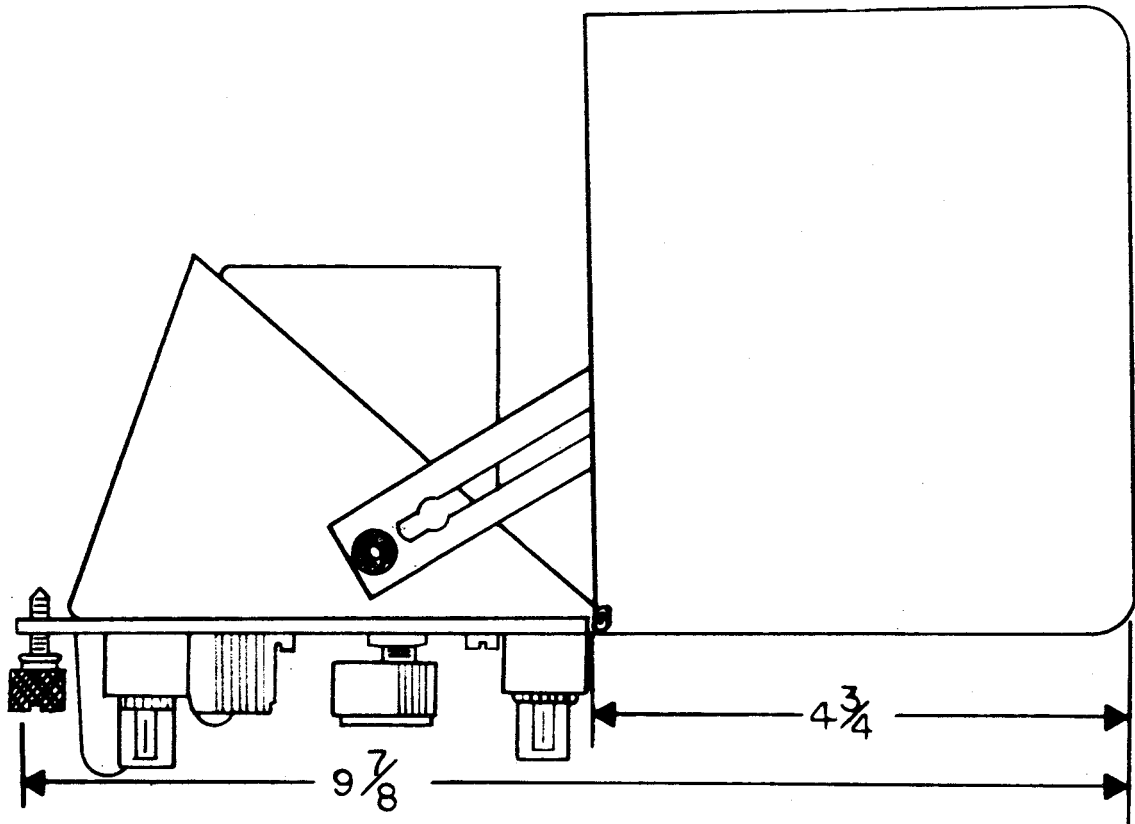
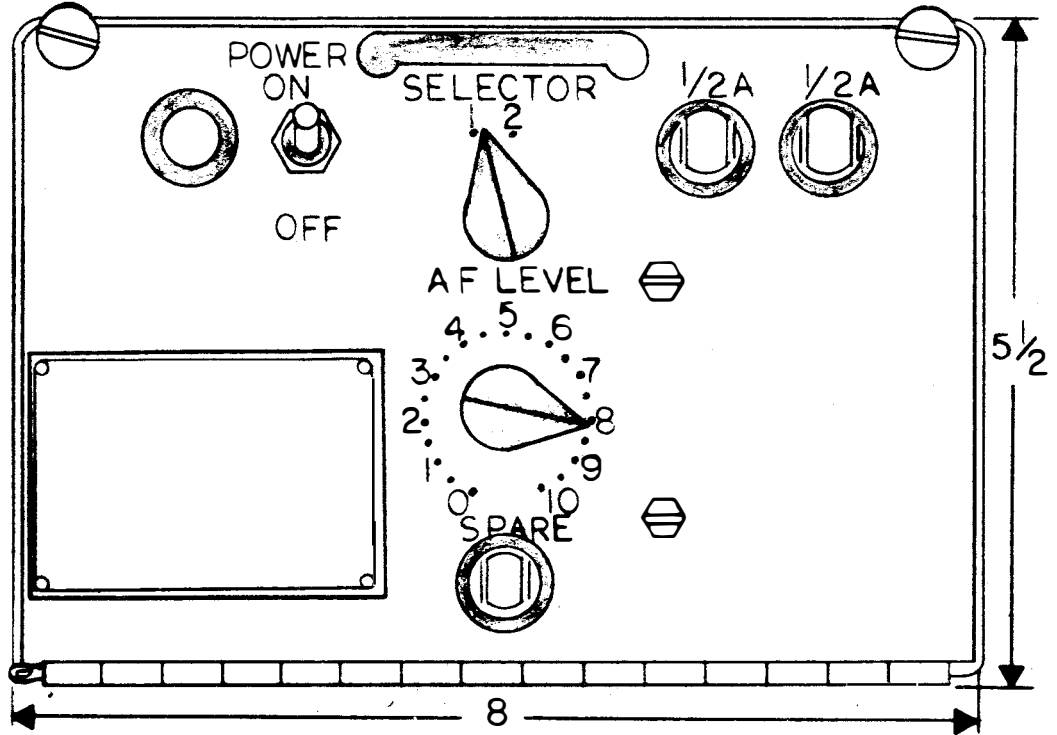


**J-2697/UR
INTERCONNECTING
BOX (RED)
OUTLINE AND MOUNTING
DIMENSIONS
FIGURE 8-5**



**J-2698/UR
INTERCONNECTING
BOX (BLACK)
OUTLINE AND MOUNTING
DIMENSIONS
FIGURE 8-4**

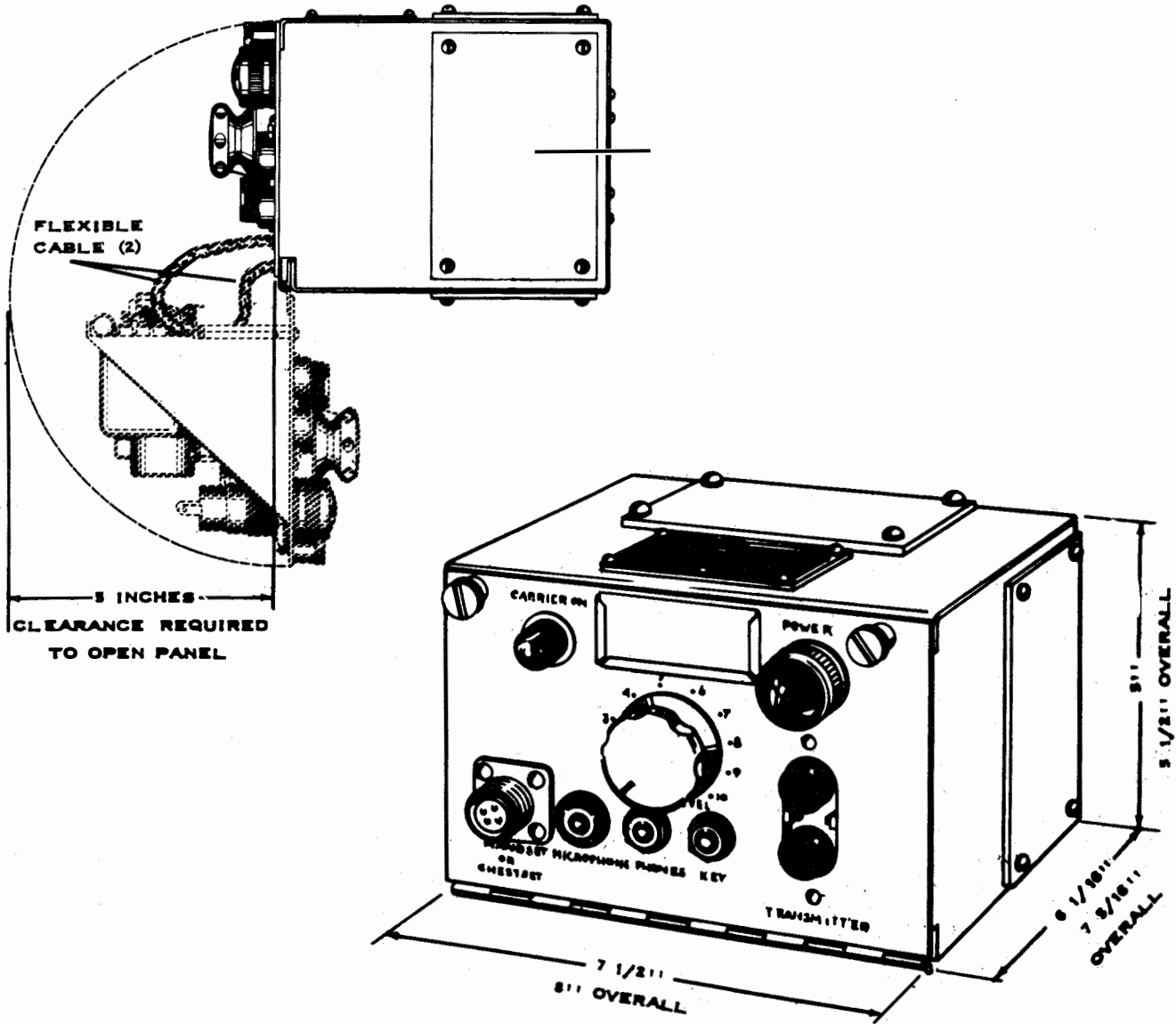




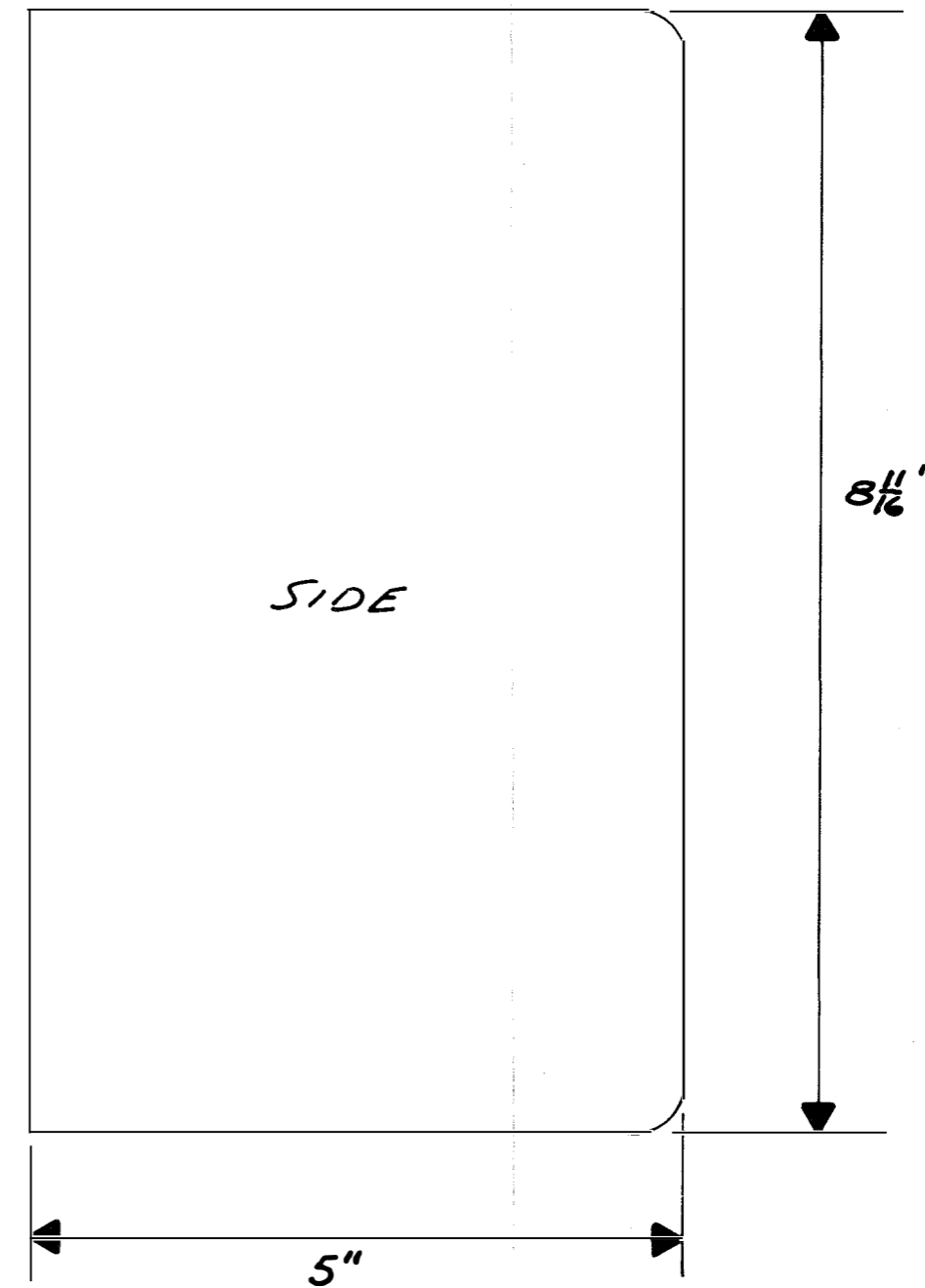
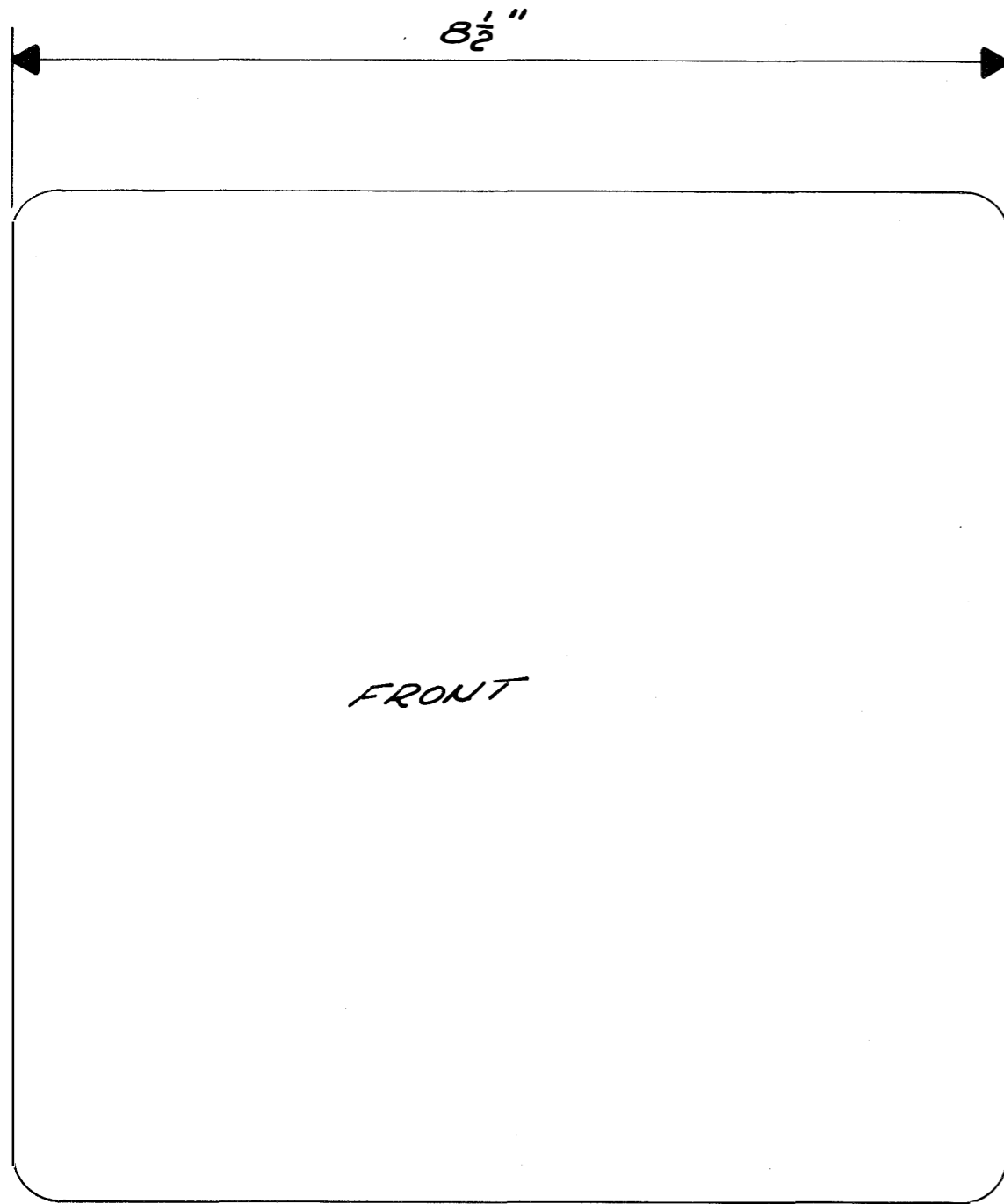
AM-3729/SR

OUTLINE AND MOUNTING DIMENSIONS

FIGURE 8-7



C-1138/UR
OUTLINE AND MOUNTING DIMENSIONS
FIGURE 8-8



**LS-474/U SPEAKER
OUTLINE AND MOUNTING DIMENSIONS
FIGURE 8-9**

CAUTION NOTE:

Particular attention must be directed to audio lines with one side at ground. Make sure the ground side follows through and is not connected as a short circuit line.

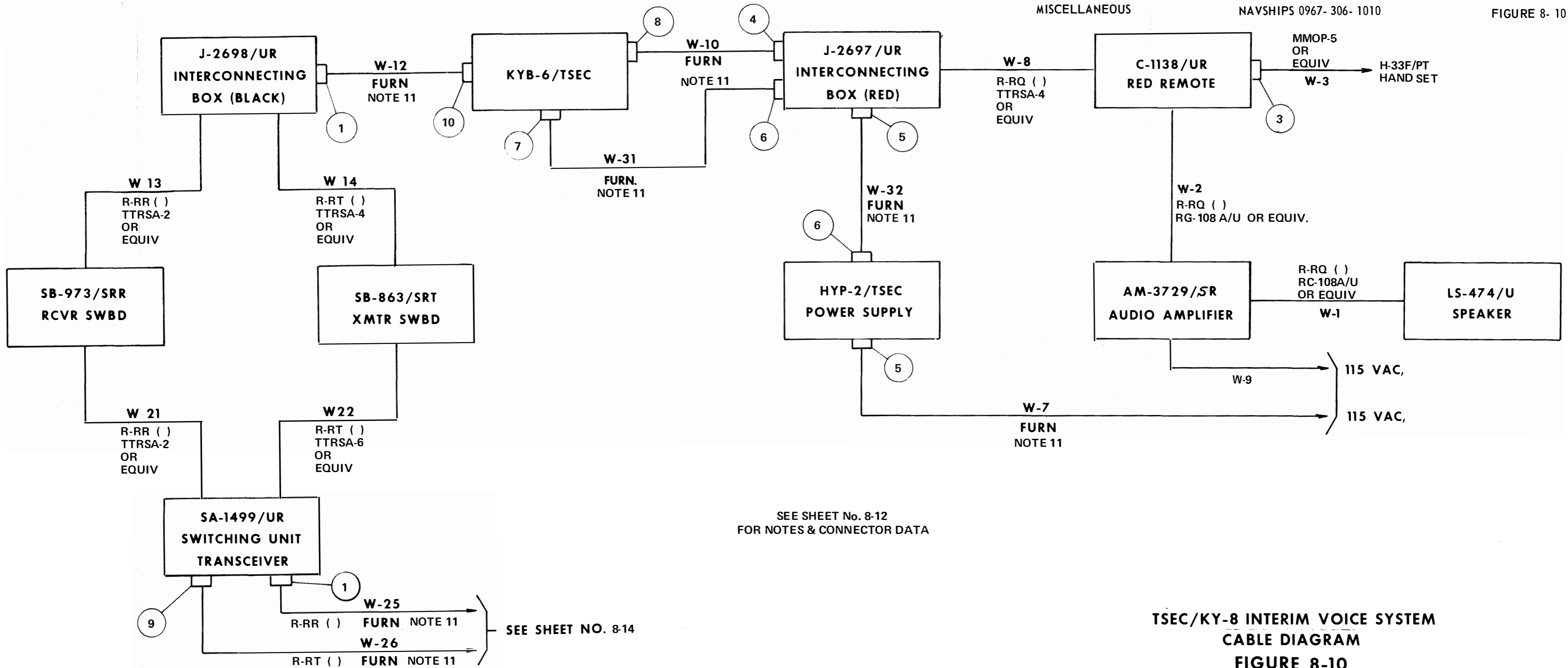
NOTES:

1. MCW Lines disconnected with respect to transceiver equipment being used with KY-8.
2. Spare switchboard may be added to expand service capability or if no spare switch is available.
3. All wires not indicated are taped back stored.
4. Cables W-25, W-26, W-27, and W-28 are terminated with terminal lugs.
5. Cables W-25 and W-26 terminated in connector.
6. Place broadband switch S-1401 in broadband position.
7. Cable W-25 is terminated in connector.
8. Cable W-26 is terminated with terminal lugs.
9. Includes transceiver mounting rack MT-1029/VRC (includes junction box).
10. Place X-mode switch S-4001 in X-mode position.
11. Normally these cables are furnished, but if not, installing activity will furnish and fabricate cables and connectors as shown in Figure 8-11.

**NOTES AND CONNECTOR DATA
FOR FIGURE 8-10**

CONNECTOR DATA

ASSY. NO.	RECEPTACLE	PLUG	CLAMP
1	MS3102A-20-7S	MS3106A-20-7P	AN-3057-12A
2	MS3102A-18-1S	MS3106A-18-1P	AN-3057-10A
3	MS102R-14S-5S	MS3106R-14S-5P	AN-3057-6A
4	MS3102A-14S-6S	MS3106A-14S-6P	AN-3057-6A
5	MS3102R-14S-7S	MS3106R-14S-7P	AN-3057-6A
6	MS3102R-14S-7SC	MS3106R-14S-7PC	AN-3057-6A
7	164-101-1P(AMPH) (CS-2020-(1)(P))	164-201-1S(13)(AMPH) (CS-1320-(1)(S))	
8	164-7J(U-79/U)(AMPH)	164-28(U-77/U)(AMPH)	
9	MS-3102R-20-29S	MS-3106R-20-29P	AN-3057-12A
10	MS-3112F-14-19S	MS-3116F-14-19P (PT06A-14-19P)BENDIX	
11	MS3112E-12-10S	MS3116E(SR)-12-10P	
12	MS3102R-24-7SY(C)	MS3108E-24-7PY	AN-3057-16A

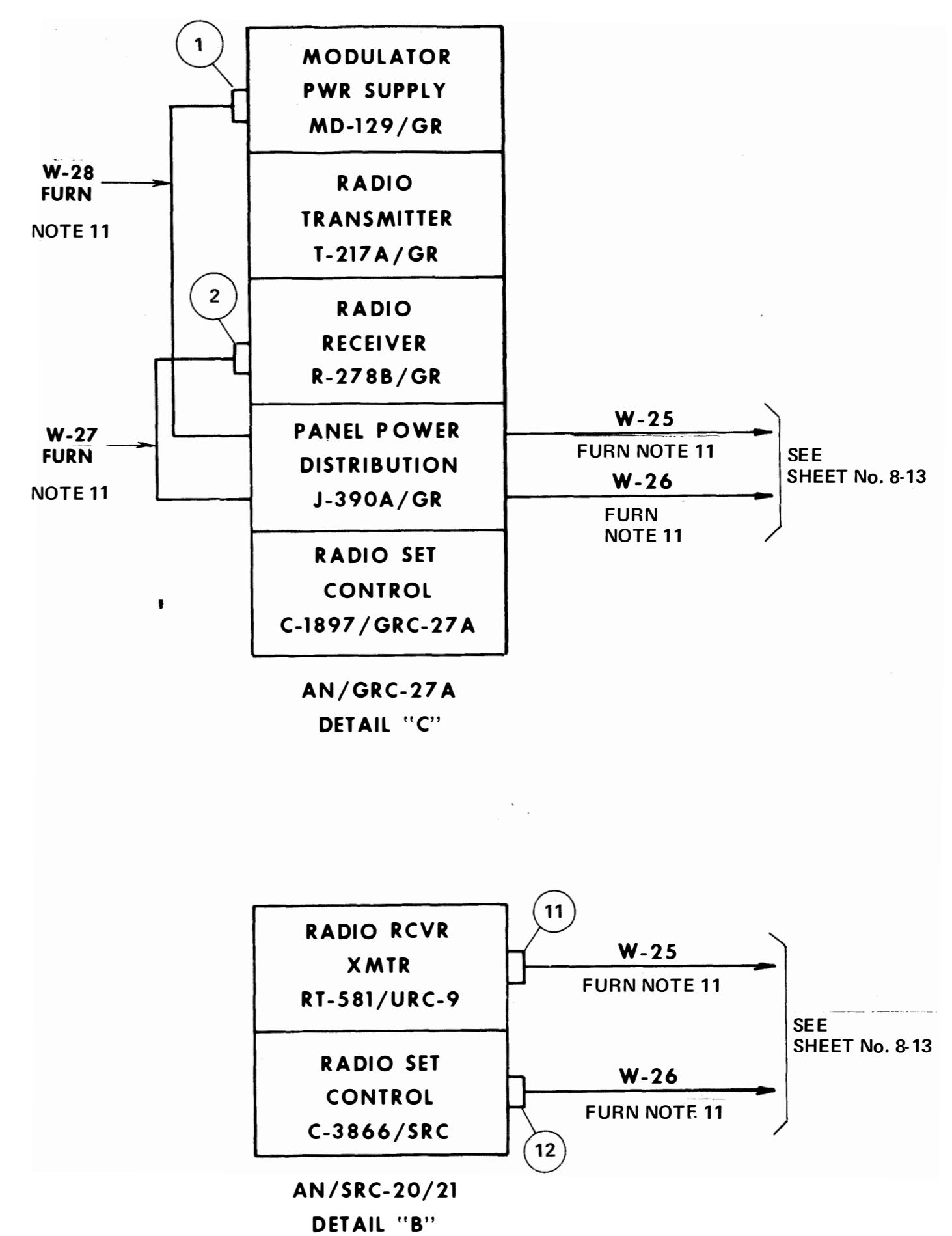
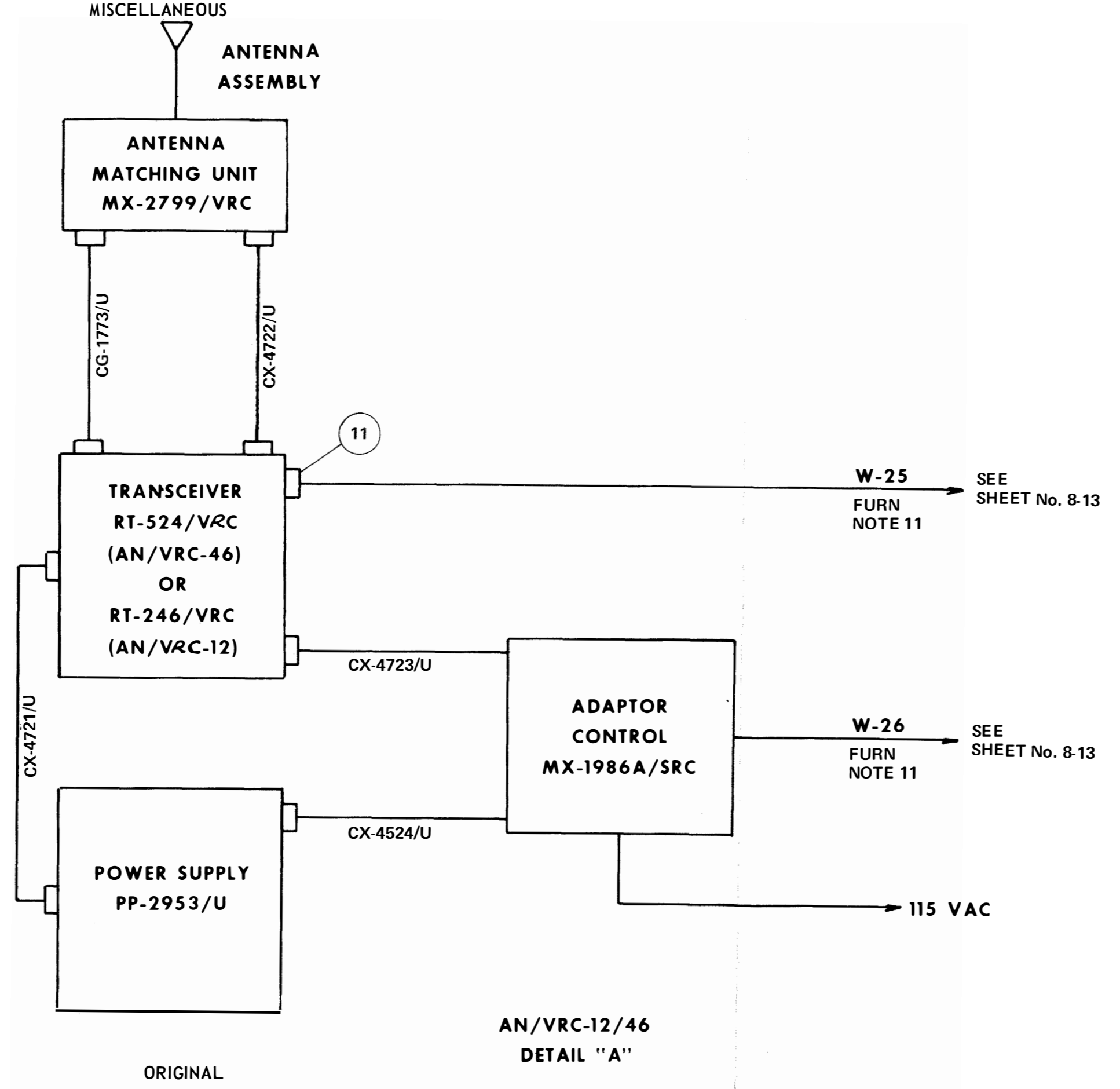


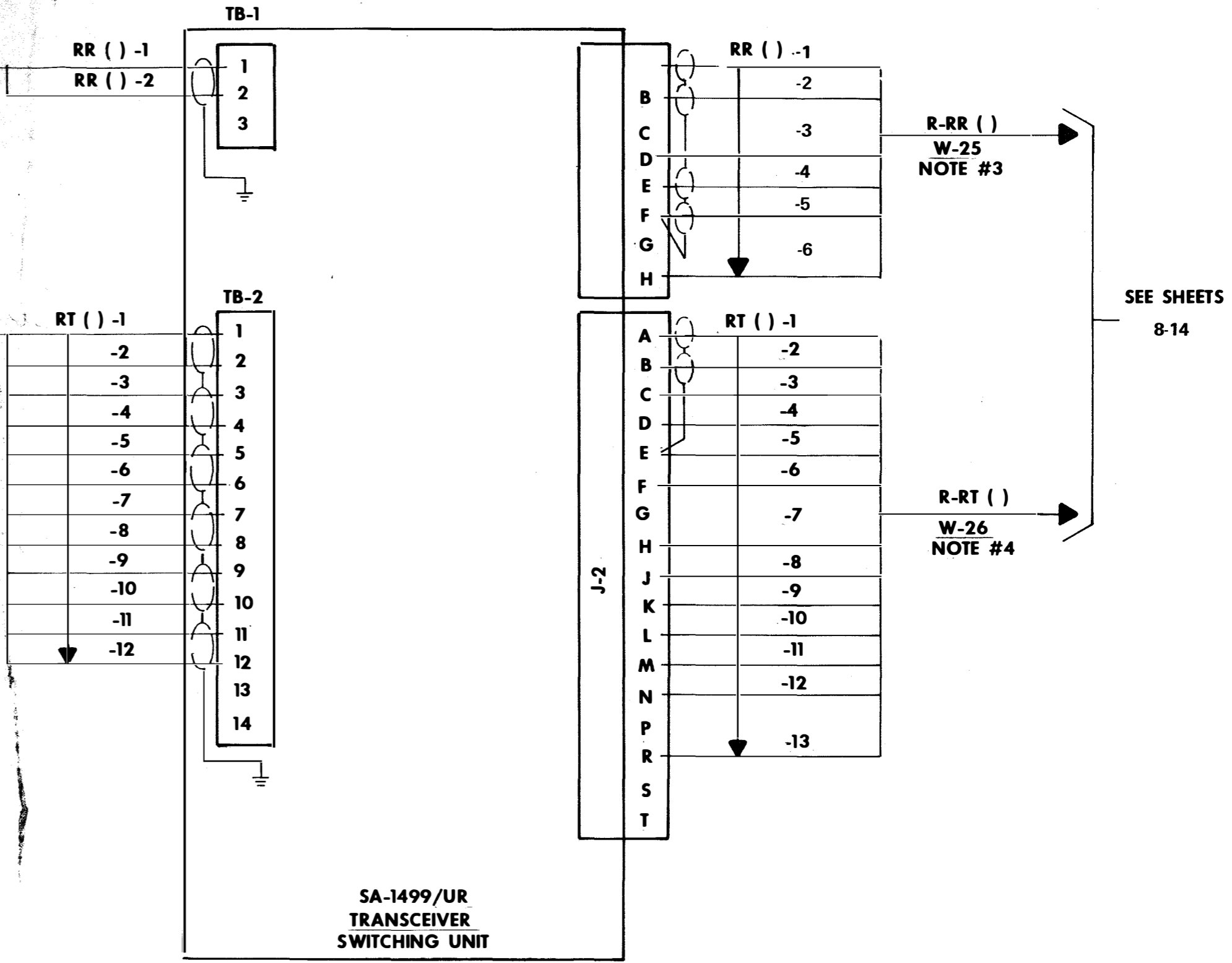
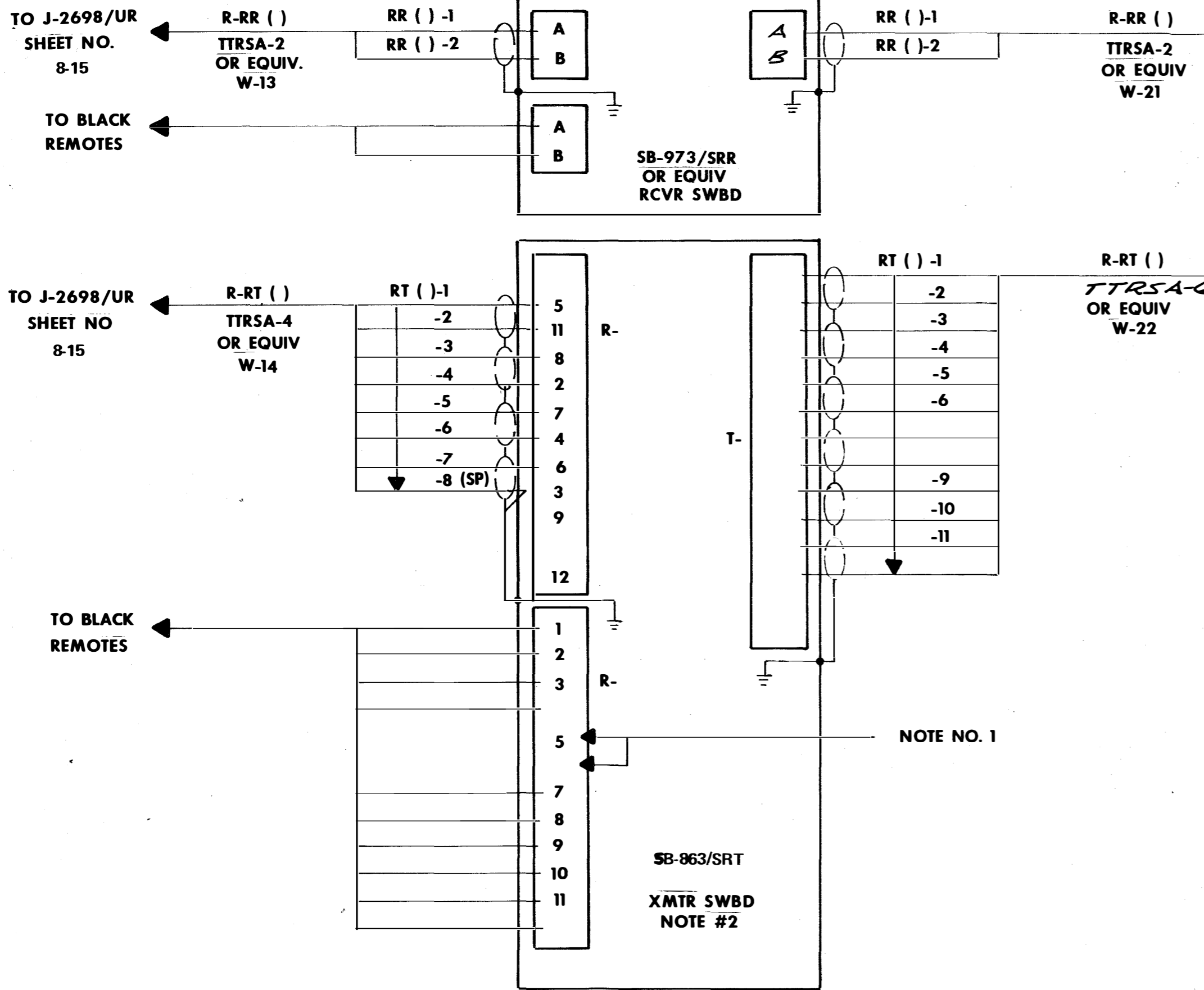
SEE SHEET No. 8-12 FOR NOTES & CONNECTOR DATA

SEE SHEET NO. 8-14

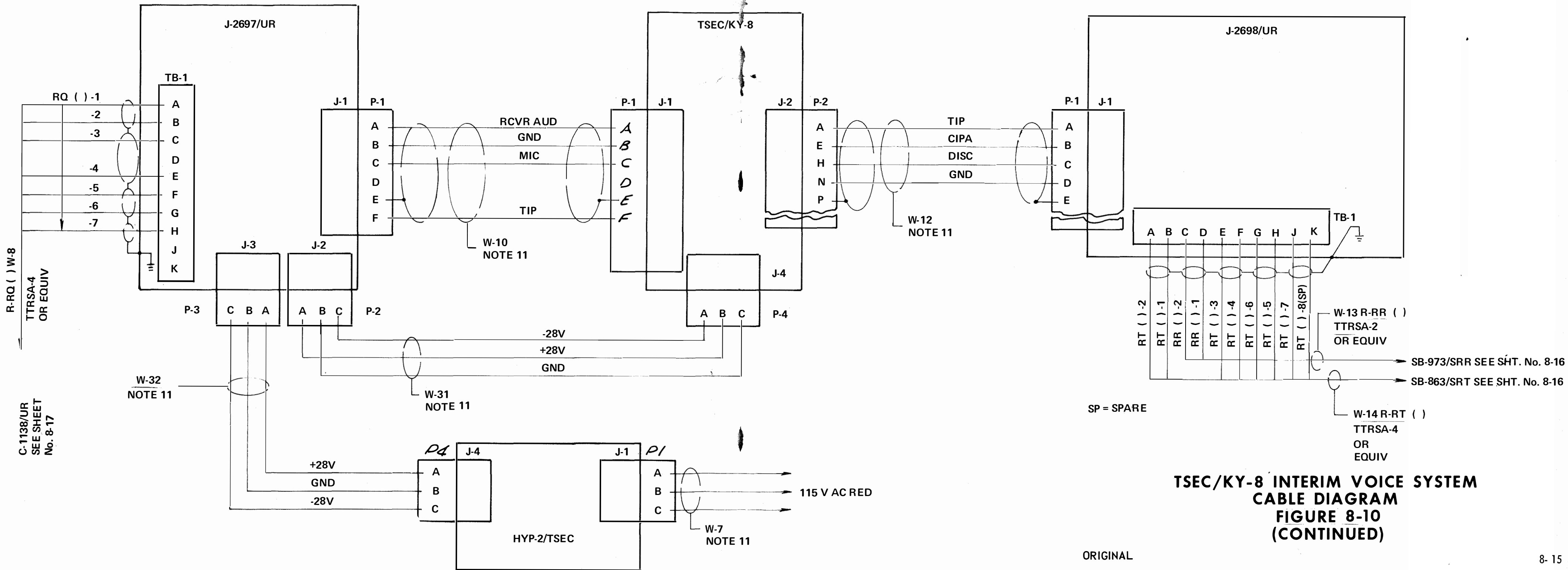
TSEC/KY-8 INTERIM VOICE SYSTEM CABLE DIAGRAM FIGURE 8-10 CONTINUED

TSEC/KY-8 INTERIM VOICE SYSTEM
CABLE DIAGRAM
FIGURE 8-10
CONTINUED



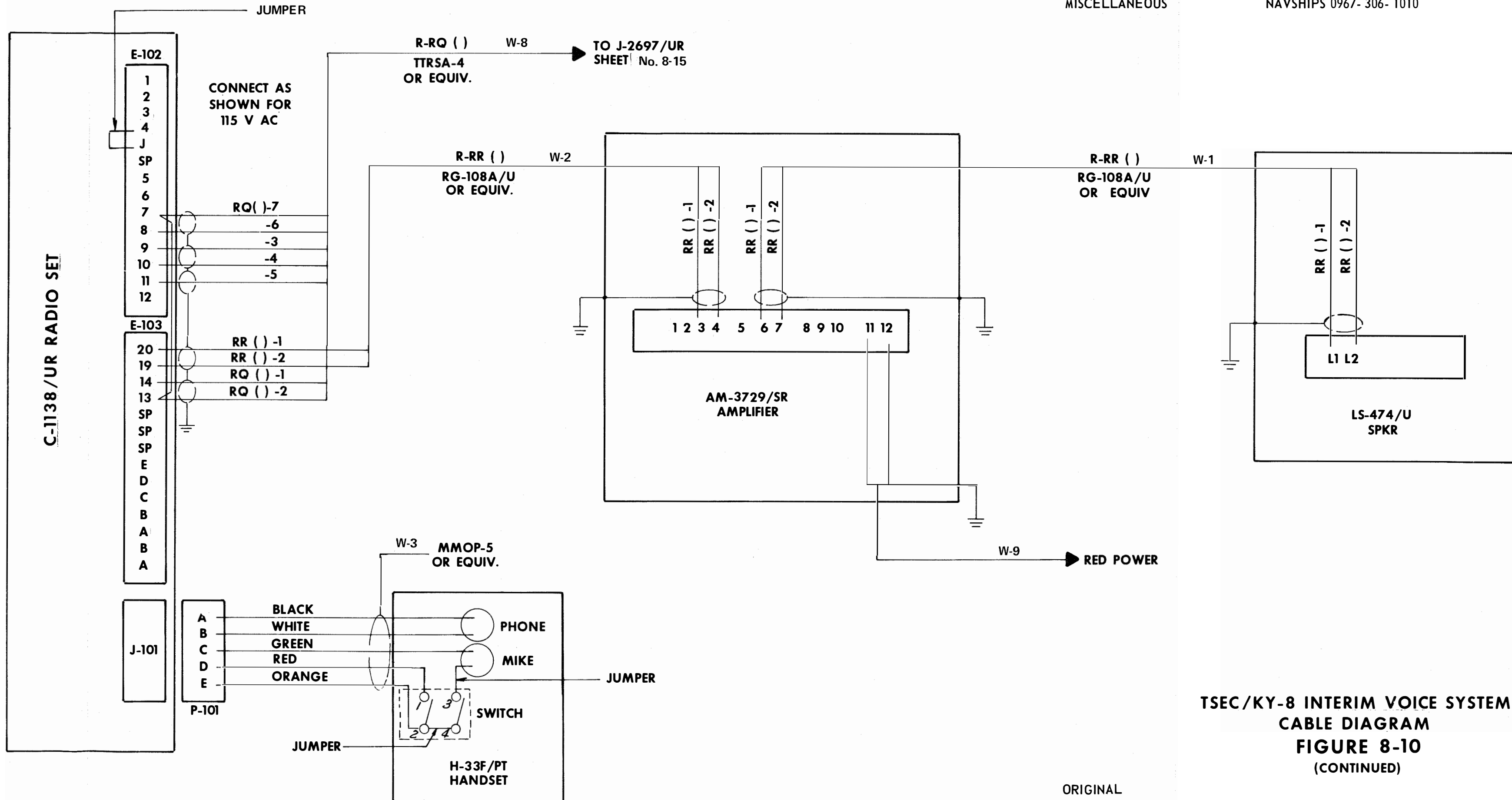


TSEC/KY-8 INTERIM VOICE SYSTEM
 CABLE DIAGRAM
 FIGURE 8-10
 (CONTINUED)



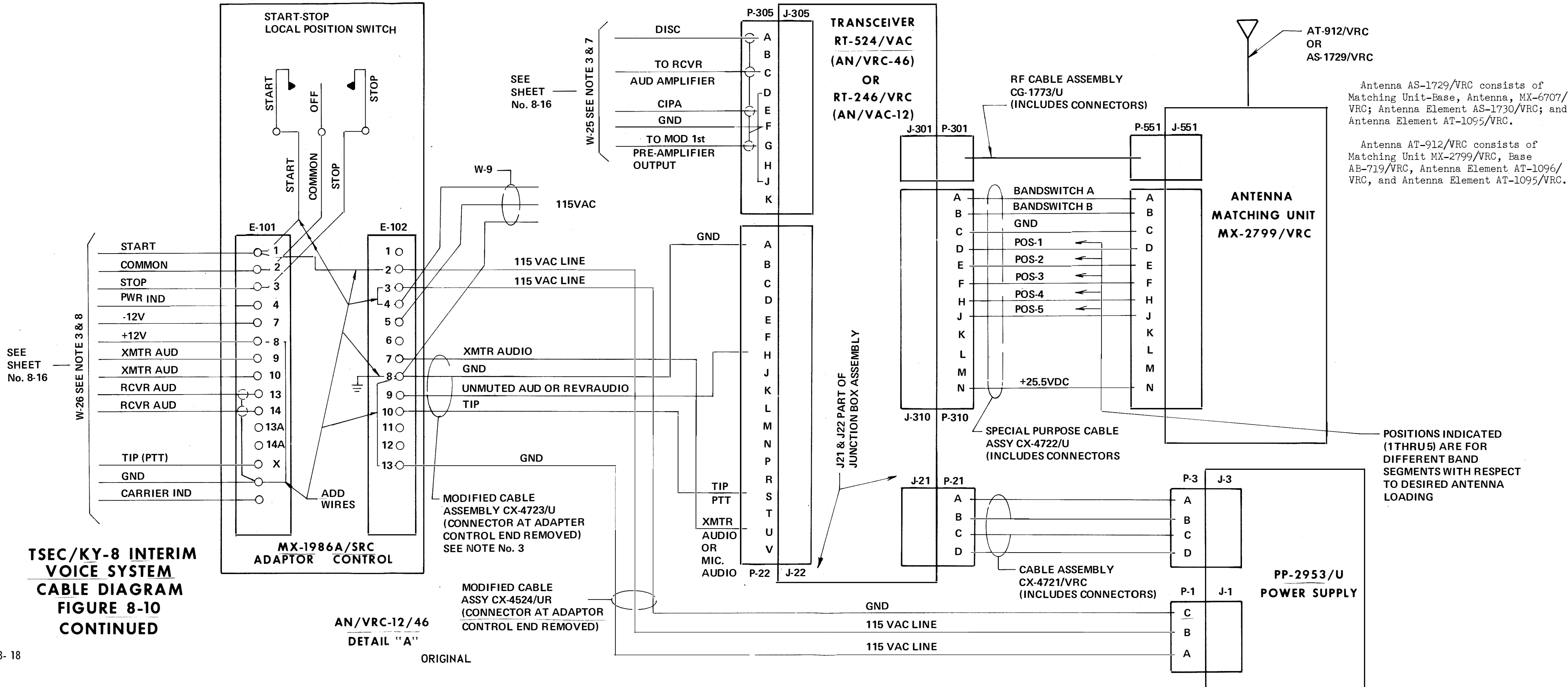
**TSEC/KY-8 INTERIM VOICE SYSTEM
CABLE DIAGRAM
FIGURE 8-10
(CONTINUED)**

ORIGINAL



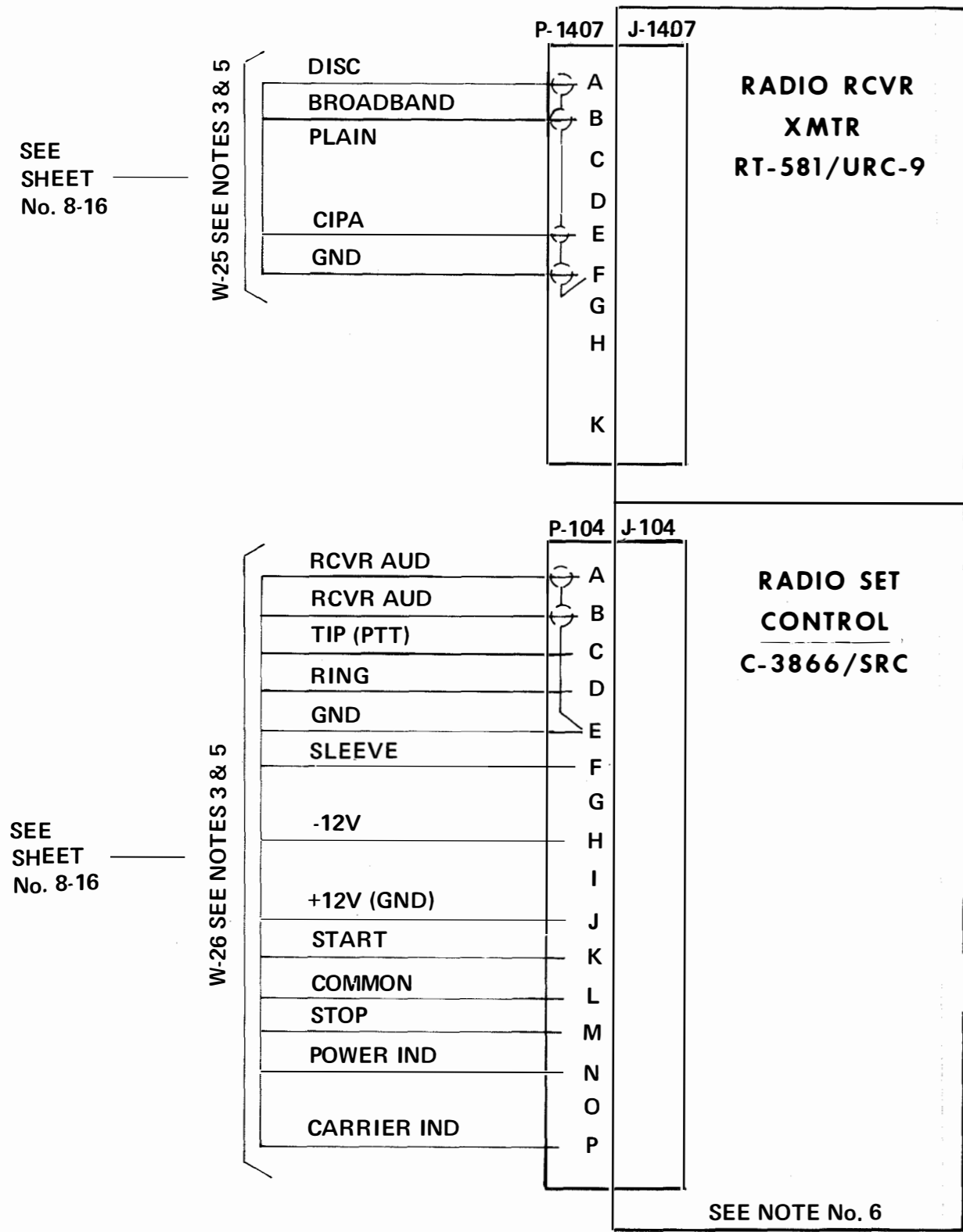
TSEC/KY-8 INTERIM VOICE SYSTEM
 CABLE DIAGRAM
 FIGURE 8-10
 (CONTINUED)

ORIGINAL

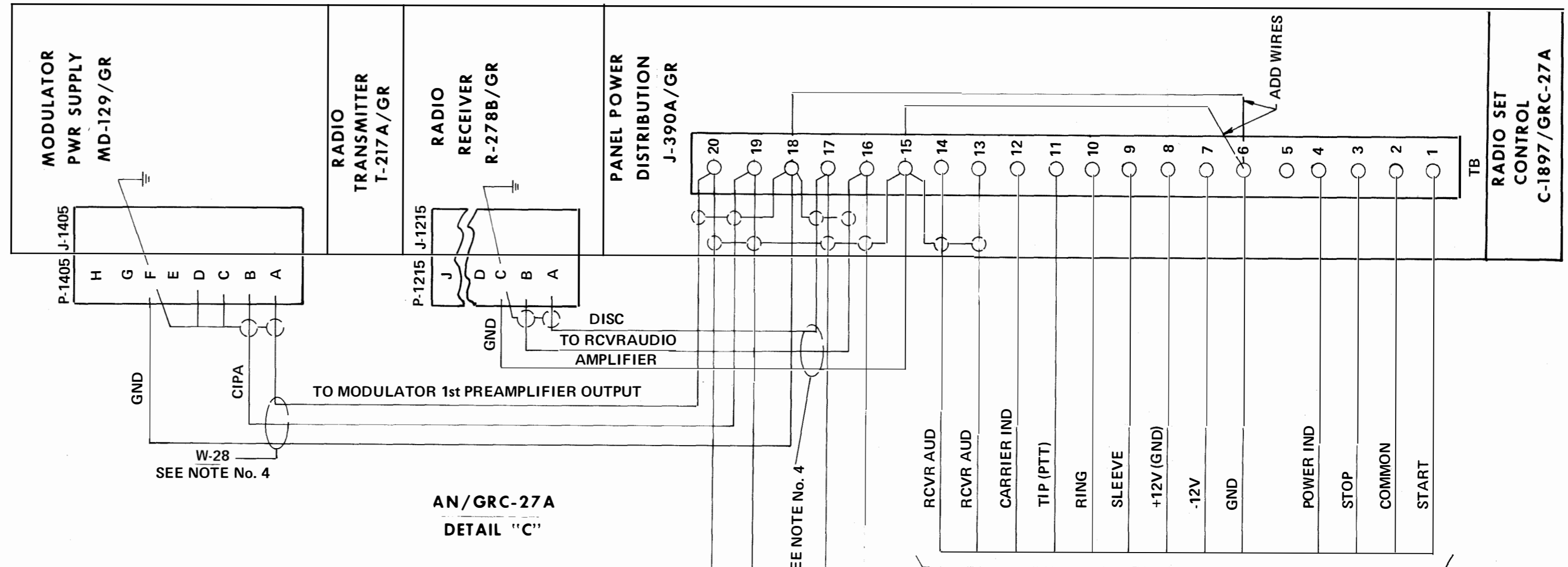


TSEC/KY-8 INTERIM VOICE SYSTEM CABLE DIAGRAM FIGURE 8-10 CONTINUED

AN/VRC-12/46 DETAIL "A"

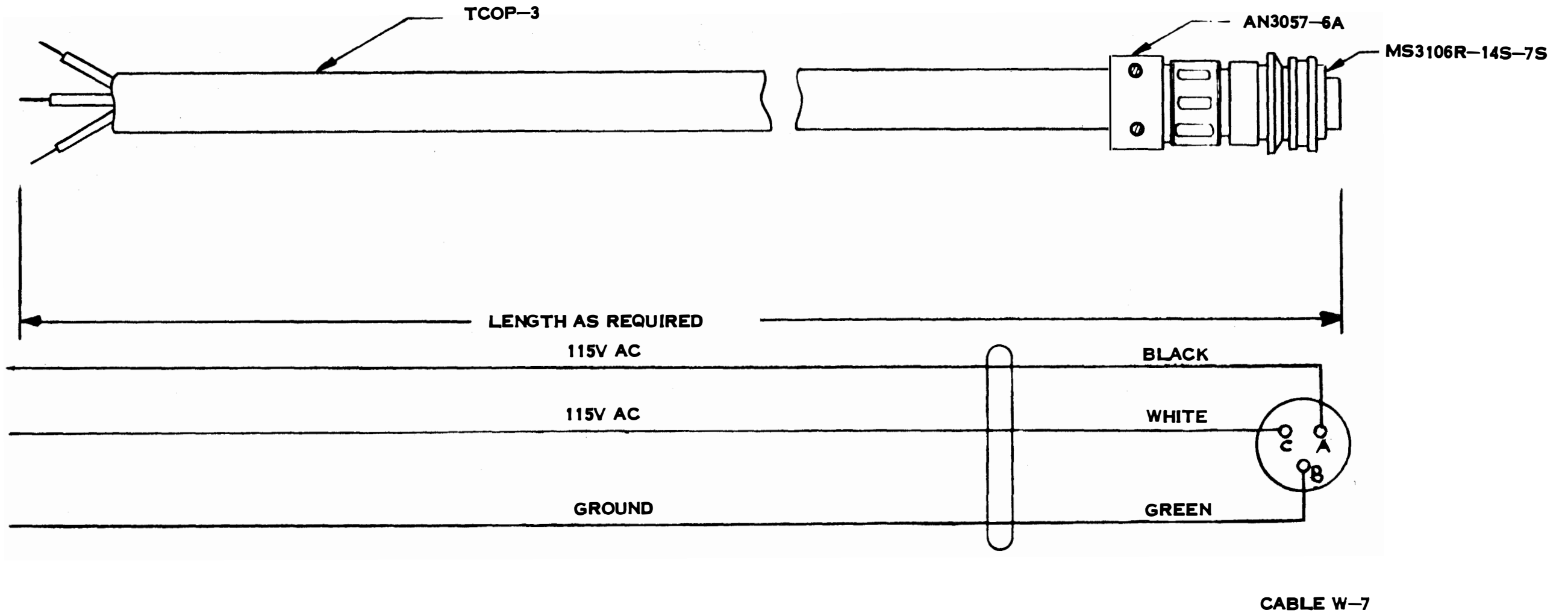


AN/SRC-20/21
DETAIL "B"

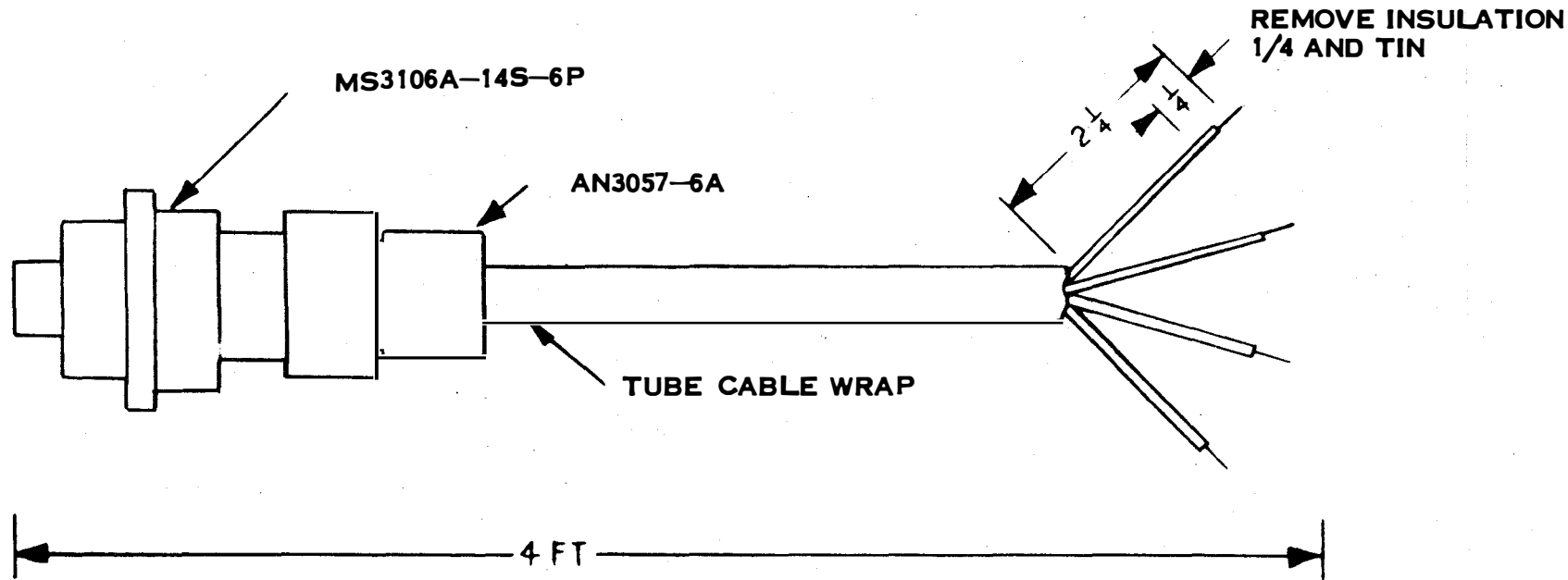


TSEC/KY-8 INTERIM
VOICE SYSTEM
CABLE DIAGRAM
FIGURE 8-10

ORIGINAL



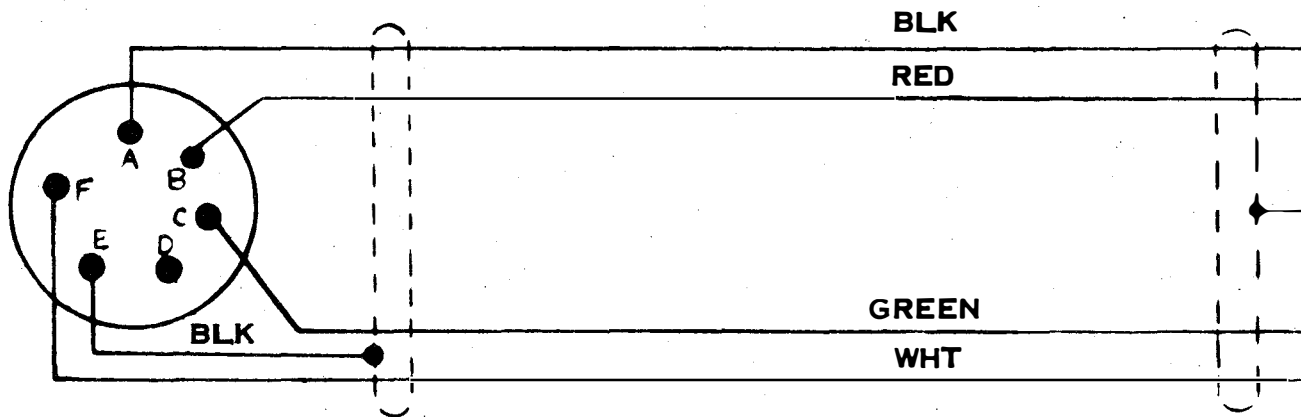
TSEC/KY-8
W-7
CABLE FABRICATION DETAILS
FIGURE 8-11
(CONTINUED)



ALPHA 1252 (OR EQUAL)

4 CON. 20 GA

BLK
WHT
RED
GRN



CABLE W-10

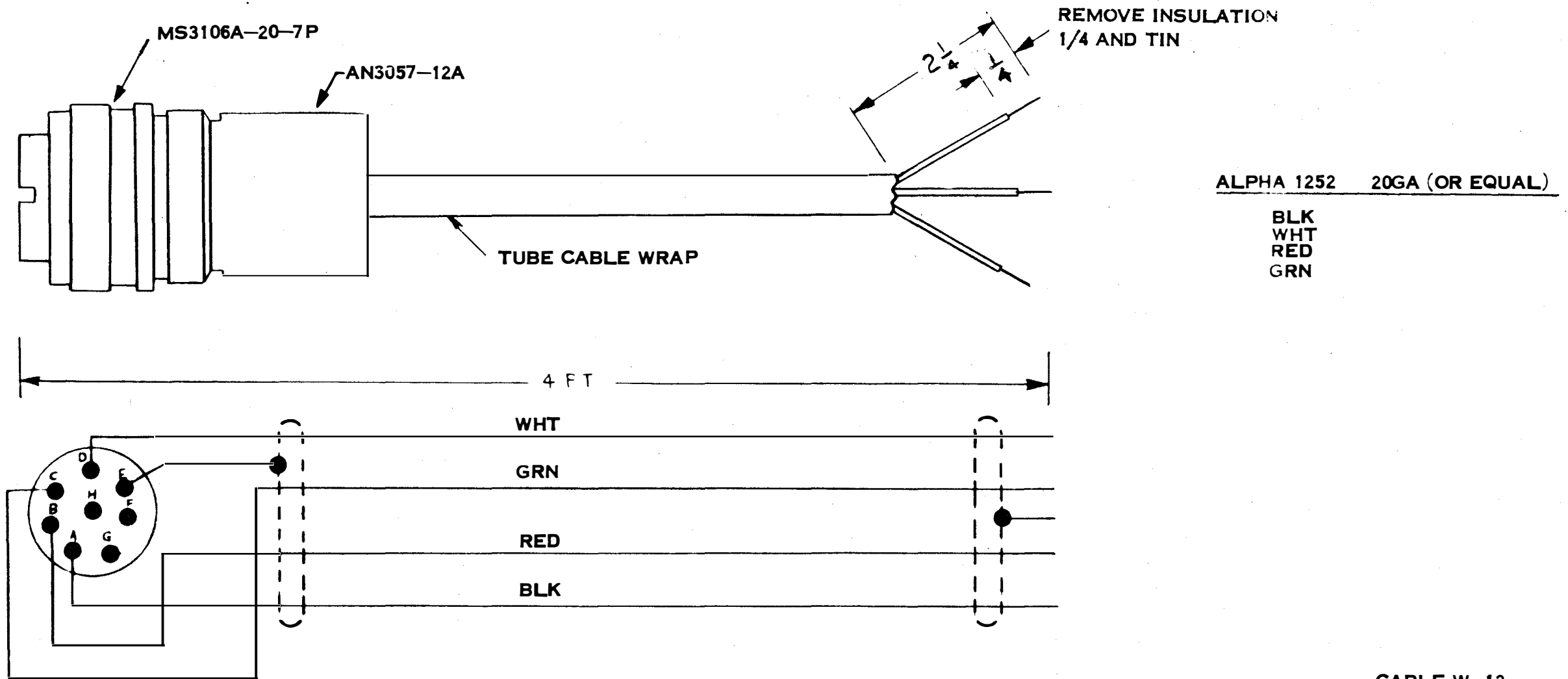
TSEC/KY-8

W-10

CABLE FABRICATION DETAILS

FIGURE 8-11

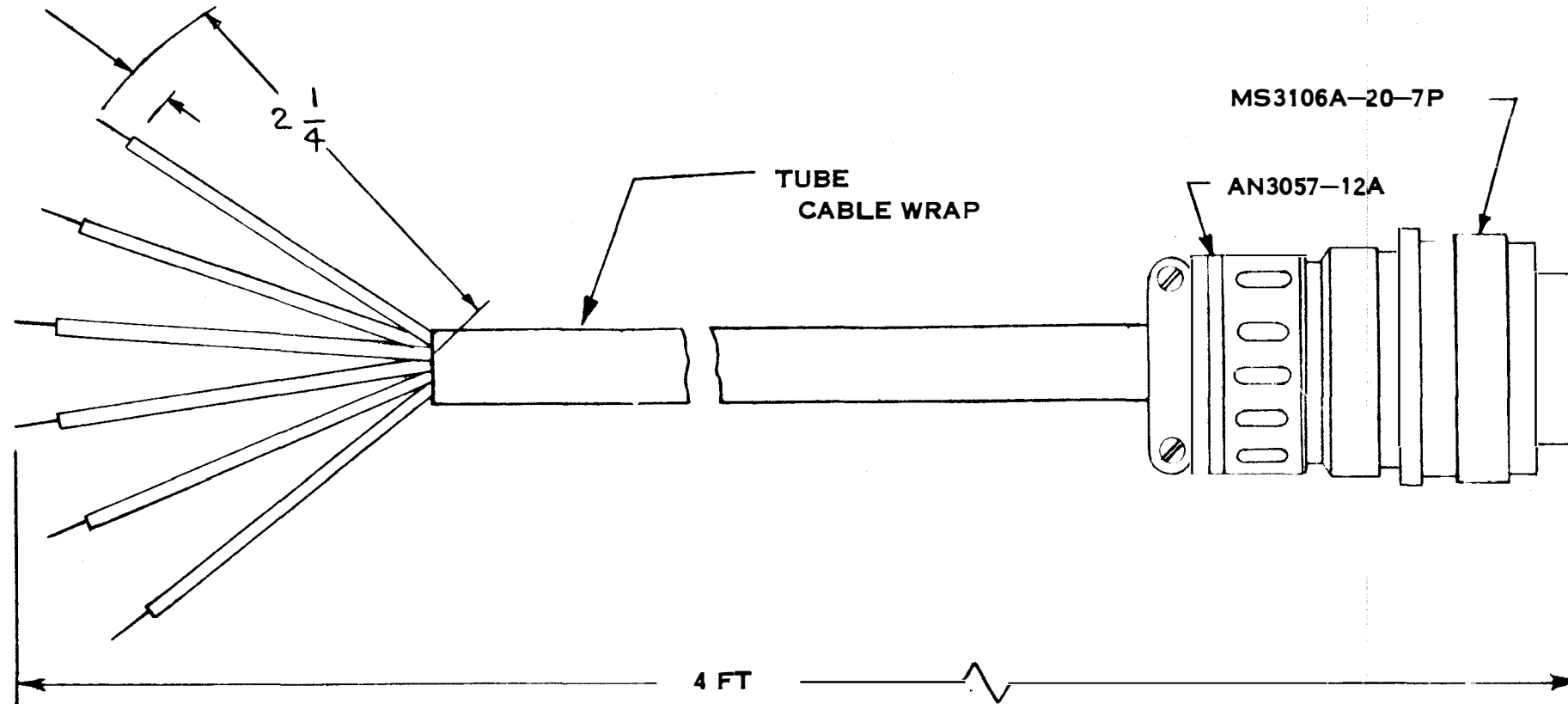
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CABLE W-12

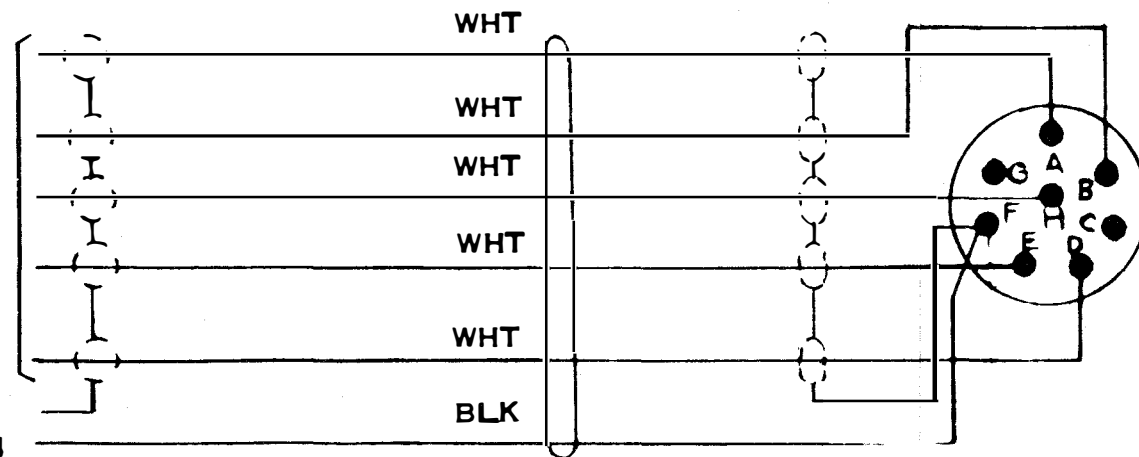
TSEC/KY-8
W-12
CABLE FABRICATION DETAILS
FIGURE 8-11
(CONTINUED)

REMOVE INSULATION
1/4 AND TIN



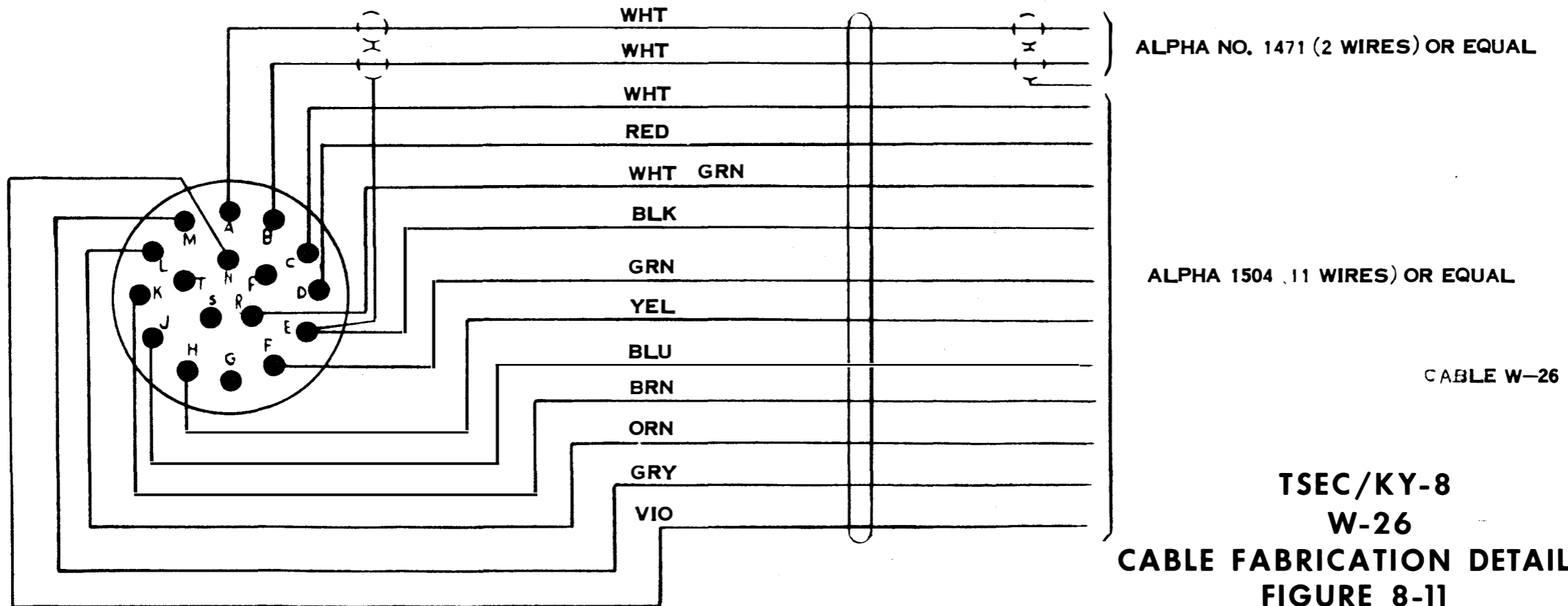
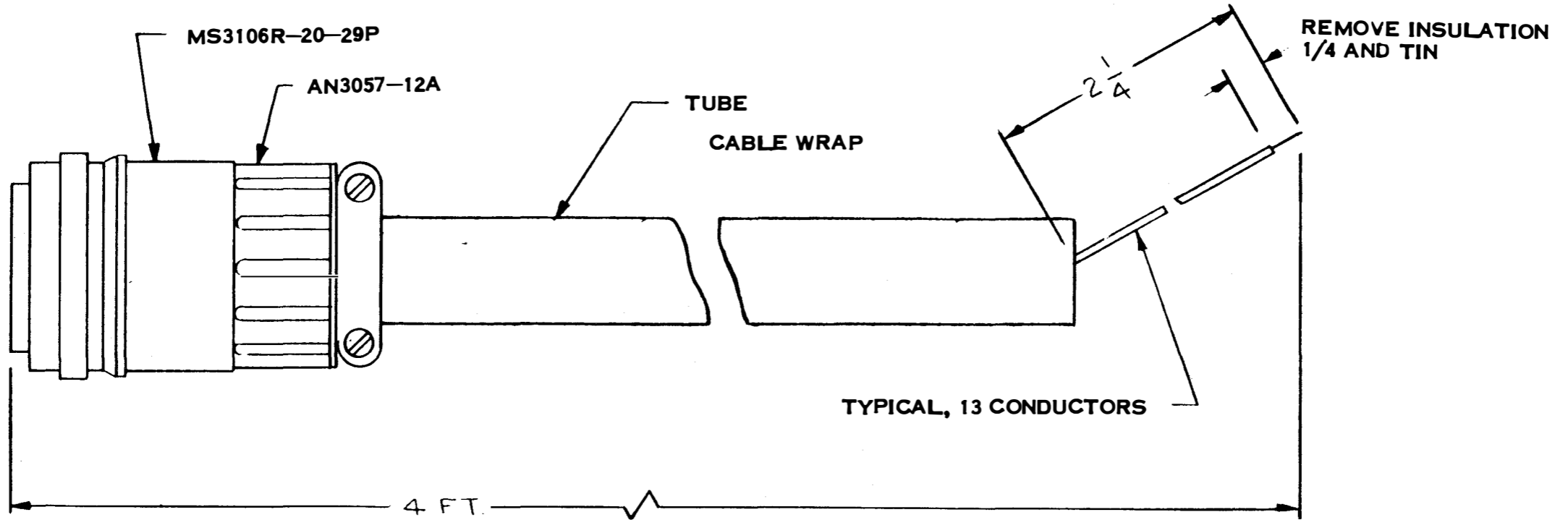
ALPHA NO. 1471 (5 WIRES)
(OR EQUAL)

ALPHA NO. 1504
(OR EQUAL)

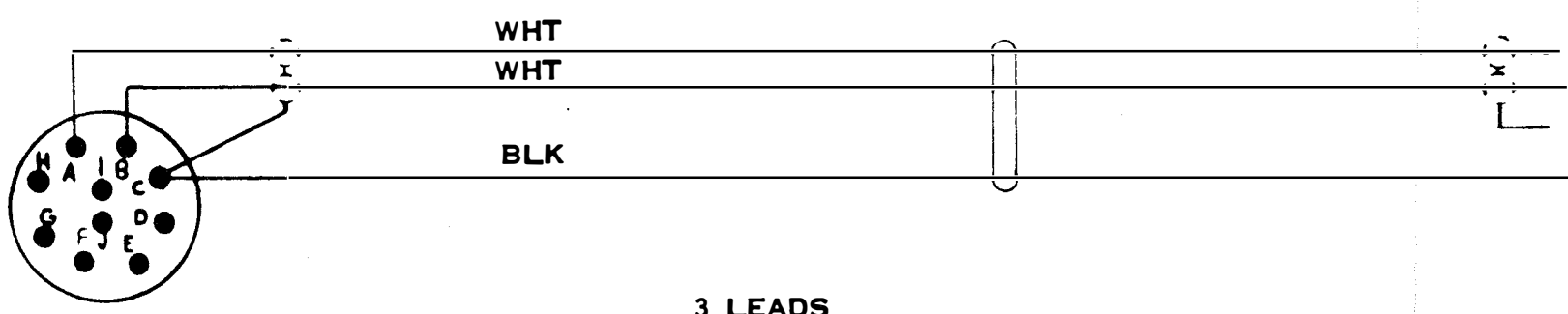
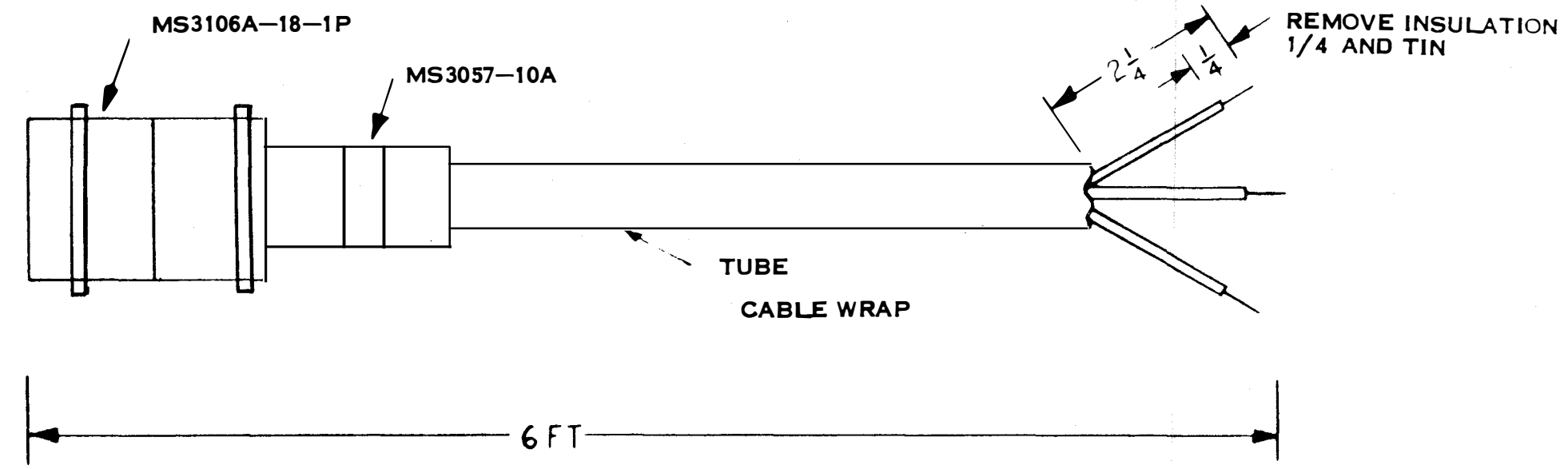


CABLE W-25

TSEC/KY-8
W-25
CABLE FABRICATION DETAILS
FIGURE 8-11
(CONTINUED)



TSEC/KY-8
 W-26
 CABLE FABRICATION DETAILS
 FIGURE 8-11
 (CONTINUED)



3 LEADS

ALPHA-2 SHIELDED 1471 WHT (OR EQUAL)

ALPHA-1 BLK 1504

TSEC/KY-8

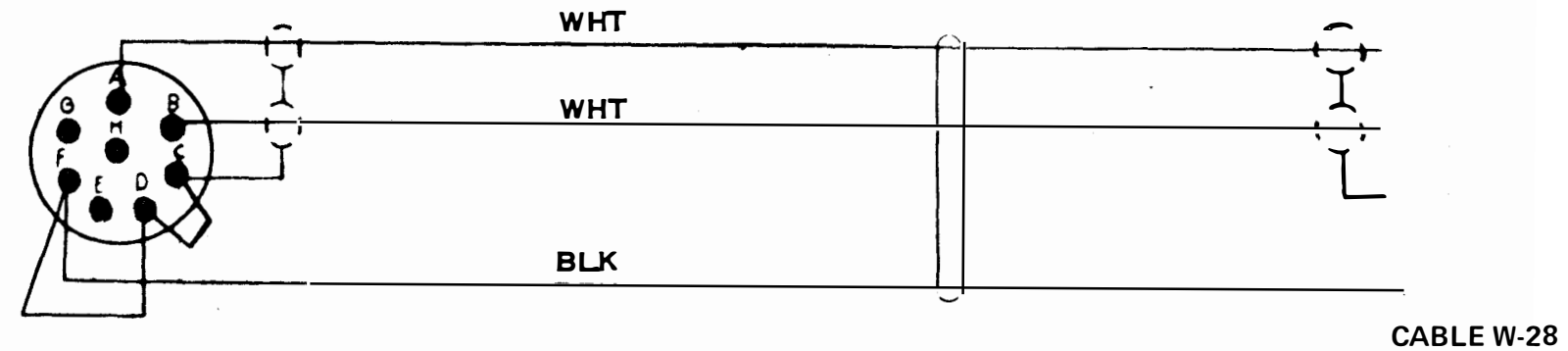
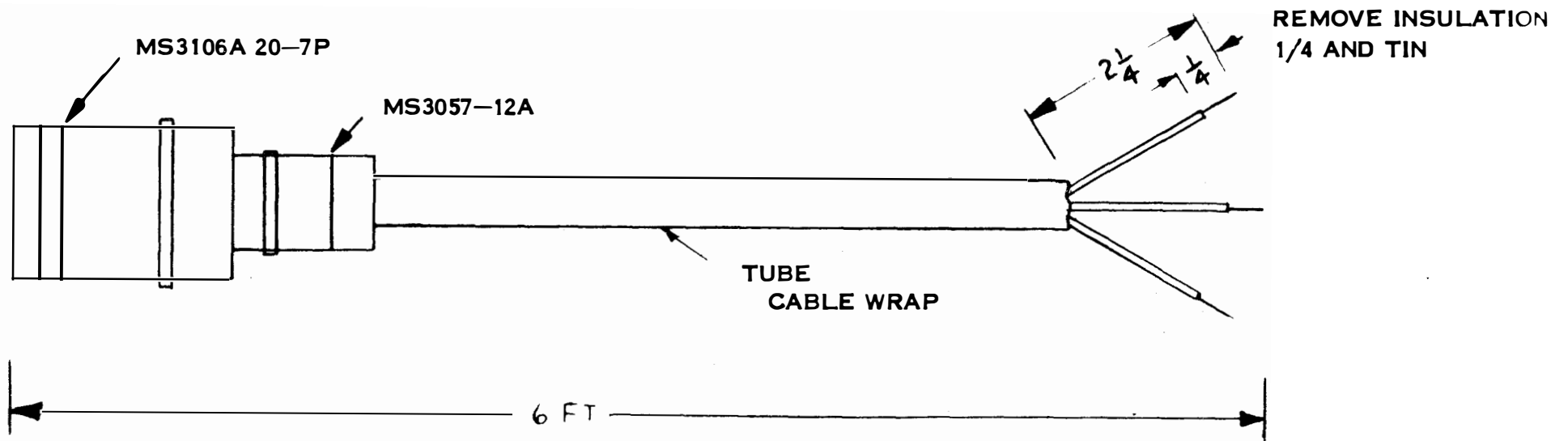
W-27

CABLE FABRICATION DETAILS

FIGURE 8-11

(CONTINUED)

CABLE W-27



TSEC/KY-8

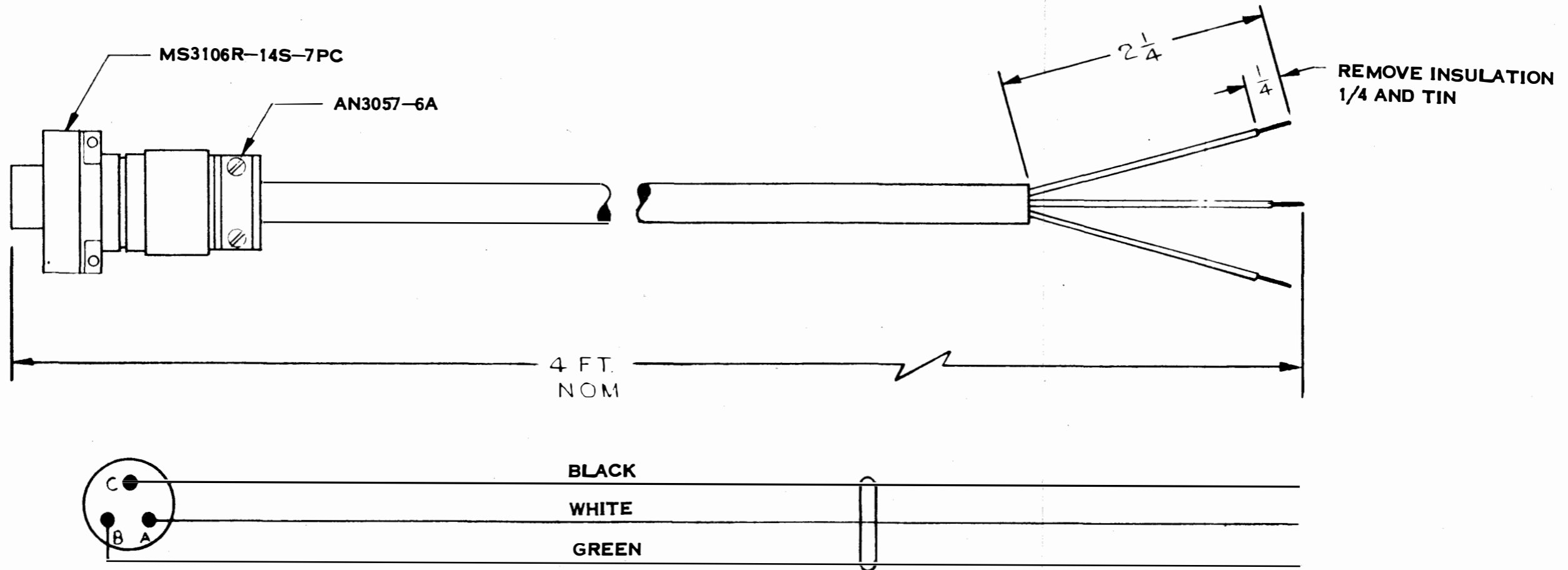
W-28

CABLE FABRICATION DETAILS

FIGURE 8-11
(CONTINUED)

3 LEADS

ALPHA-2-SHIELDED	1471	WHT	(OR EQUAL)
ALPHA-1-BLK	1504		



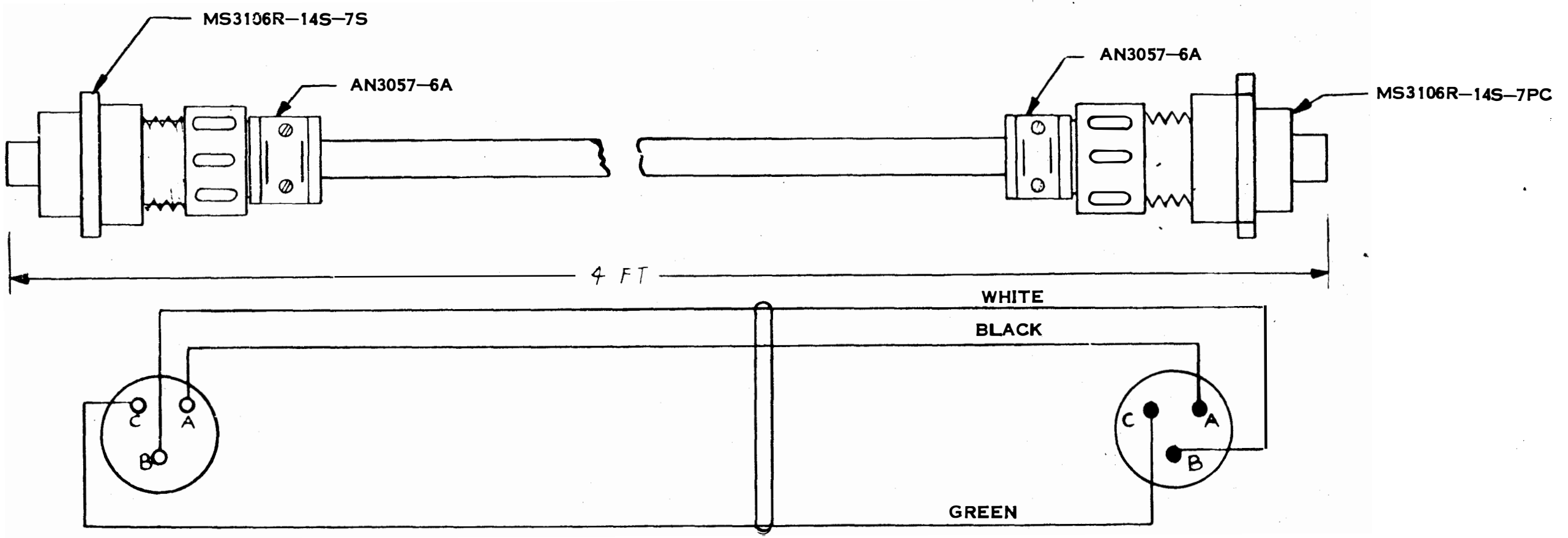
BELDEN CABLE 8453
18 AWG
(OR EQUAL)

TSEC/KY-8
W-31

CABLE W-31

CABLE FABRICATION DETAILS
FIGURE 8-11
CONTINUED

ORIGINAL



BELDEN CABLE 8453
18 AWG
(OR EQUAL)

CABLE W-32

TSEC/KY-8
W-32
CABLE FABRICATION DETAILS
FIGURE 8-11