

# SITE TECHNICAL BULLETIN

**DATE:**

**NUMBER:** STB-RIT-003

**SYSTEM/TYPE:** EnRoute Radar Intelligent Tool (ERIT)

**SUBJECT:** ERIT System Rack / Interface Cable Engineering Change Order

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**1. PURPOSE.** This Site Technical Bulletin (STB) distributes the ERIT cables Engineering Change Order (ECO), the associated change kit, and the parts and materials to neatly connect the ERIT cables to the ERIT system.

**2. DISTRIBUTION.** The Host (CCCH) distribution list.

**3. REFERENCES.** Not applicable.

**4. DESCRIPTION OF PROBLEM.** Numerous ERIT Interface Cables were shipped to each ARTCC site prior to the fielding of the ERIT system. These cables are wired incorrectly and must be changed by field personnel. This STB includes the ECO (Attachment 1) which describes the necessary procedures that must be followed to correct cable wiring, the Rev A drawing (Attachment 2) which describes the cables before the ECO is performed, the Rev B drawing (Attachment 3) which describes the cables after the ECO has been completed, and a kit (Attachment 5) comprising pin removal tools and wire markers marked "REV B". All cables delivered must be upgraded to Rev B except those already marked "REV B".

In order to neatly install the cables and dress them, a number of blank cable labels, cable ties, wire tie mounts, and 3M Velcro hook/loop strips are provided in Attachment 6. Attachment 4, drawing 9003.1 Rev. A3, ERIT Recorder provides guidance on the use of these items.

**5. SITE APPLICATION.** All ARTCC sites, selected TRACON sites and the FAA Academy at the Mike Monroney Aeronautical Center.

**6. CONTENTS.**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1	Attachment 1, Engineering Change Order (ECO) 8014.2-L	1 ea.
2	Attachment 2, Drawing, ERIT System Cable Assembly (Before ECO Implementation)	1 ea.
3	Attachment 3, Drawing, ERIT System Cable Assembly (After ECO Implementation)	1 ea.
4	Attachment 4, Drawing, ERIT Recorder	1 ea.
5	ECO Change Kit	1 ea.
6	Cable Mounting and Dressing Hardware	As required

**7. RECOMMENDED SOLUTION.** Follow the directions provided in Attachment 1 and depicted in Attachments 2 and 3. Attachment 4 provides guidance for using the velcro, cable ties, and wire tie mounts.

**8. HARDWARE IMPACT/SOFTWARE IMPACT.** Not applicable to existing NAS systems.

**9. CLARIFICATION OR COMMENTS.** For further information or comments, please contact the National Data Communications System Engineering Division, AOS-500 at (609) 485-HELP.

George W. Terrell

Program Director for Operational Support

6 Attachments

# **Attachment 1**

**Engineering Change Order 8014.2-L**

STB-RIT-003  
EnRoute Radar Intelligent Tool (ERIT)  
ERIT System Rack / Interface Cable Engineering Change Order

# ENGINEERING CHANGE ORDER

US DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
ADS-500

TITLE: ERJT SYSTEM CABLE ASSEMBLY DWG NO: 8014.2-L REV **A** TO **B**

ORIGINATOR KEN CARLSON DATE OCT 20, 1995

REASON The 'Rev A' ERIT cables which were shipped to the field were pinned incorrectly. This is because the cables are standard RS232 pinout. An RS232 cable normally connects a DCE (Data Communications Equip) to DTE (Data Terminal Equipment). However, both the modem splitters and the RDI system emulate a DCE (Data Communications Equipment). That is, they both transmit data on pin 3 and they both transmit clock on pin 17. Also, they both receive data on pin 2 and they both receive clock on pin 24. Therefore, one end of the cable will have to be repinned. Pins 2 and 3 will have to be swapped and pins 17 and 24 will have to be swapped.

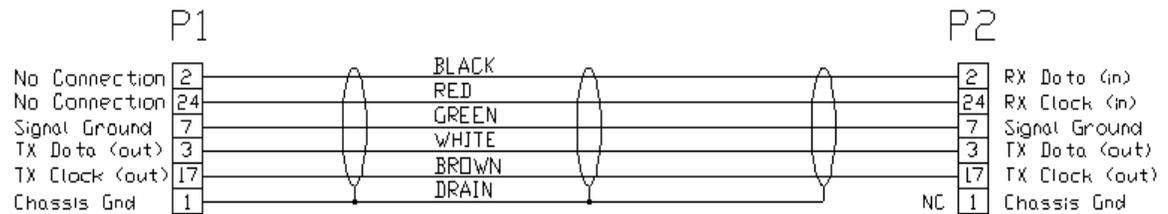
## DOCUMENTATION AFFECTED

On drawing 8014.2-L REV A at coordinates A4 thru A8, change

TO J6 MODEM SPLITTER

FROM:

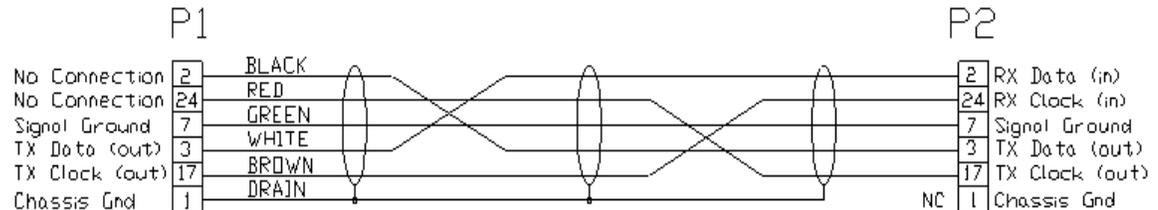
TO RDI ADAPTER BOX



TO J6 MODEM SPLITTER

TO:

TO RDI ADAPTER BOX



CONTRACT NO.		US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ADS-500	
APPROVALS	DATE	TITLE: ERIT SYSTEM CABLE ASSEMBLY	
ENGINEERING K. Carlson	3-25 1996		
		DWG NO. 8014.2-L	
		REV	A TO B SHEET 1 OF 3

# ENGINEERING CHANGE ORDER

US DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
AOS-500

TITLE: ERIT SYSTEM CABLE ASSY DWG NO: 8014.2-"L" REV A TO B

## REWORK INSTRUCTIONS

### A) Tools required:

- 1) Screwdriver, #4 slotted.
- 2) Amp 91067-2 pin extractor

### B) Time required: approx. 10 minutes.

### Instructions:

- 1) Locate P2, the connector end which does not have pin 1 (chassis gnd) connected (pin 1 is vacant). This is the RJ Adapter box end of the cable. (The end which connects to the RJ Adapter Box.)
- 2) Using the screwdriver from A1 above, remove the backshell (2 screws).
- 3) Slide the pin extractor (from A2 above) over the black wire from the back of the connector. This is pin 2. Keep sliding and gently twisting the tool back and forth until it slides over the pin (inside the shell).
- 4) Using a small blunt faced object (like the screwdriver from A1 above) gently push on the pin from the front side of the connector while twisting the pin extractor tool back and forth from the back side. The pin should push free of the housing.
- 5) Remove pin 3 (the white wire) in a similar manner (as in steps 3 @ 4).
- 6) Swap pins 2 and 3 and reinsert the pins back into the connector housing such that the white wire is now connected to pin 2 and the black to pin 3. Make sure the pins snap back into place in the connector housing. Reference the drawings on sheet 3.
- 7) In a similar manner, swap pins 17 and 24 such that the brown wire is now connected to pin 24 and the red wire is connected to pin 17.
- 8) Do not move the green (ground) wire. It remains unchanged.
- 9) Using the Rev. B. labels provided, mark this cable complete by installing the label to the cable at the Adapter box end. (This is the end we're working on). It is referenced as P2 in the print. (unreferenced on physical cable)
- 10) Prior to reinstalling the backshell, recheck the wiring to make sure it is right. The white wire should be going to pin 2, the black to pin 3, the red to pin 17, and the brown to pin 24. Green, unchanged, is still pin 7. Reference the drawings on sheet 3.
- 11) Reinstall the backshell. The cable upgrade is now complete. No changes are necessary to the P1 end of the cable.

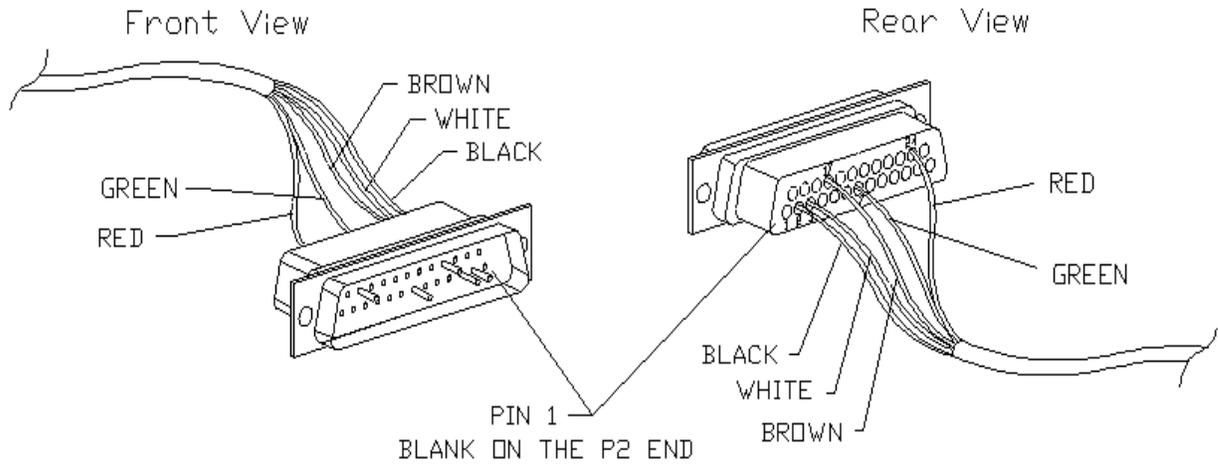
SHEET 2 OF 3

# ENGINEERING CHANGE ORDER

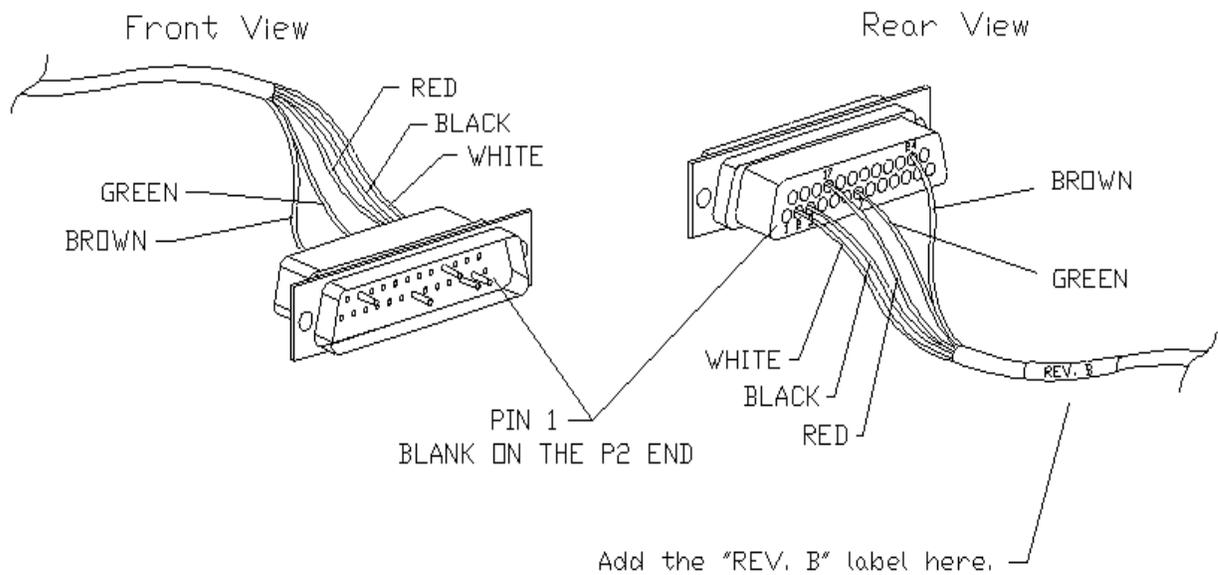
US DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
AOS-500

TITLE: ERIT SYSTEM CABLE ASSY DWG NO: 8014.2-"L" REV **A** TO **B**

## Change From:



## Change To:



SHEET 3 OF 3

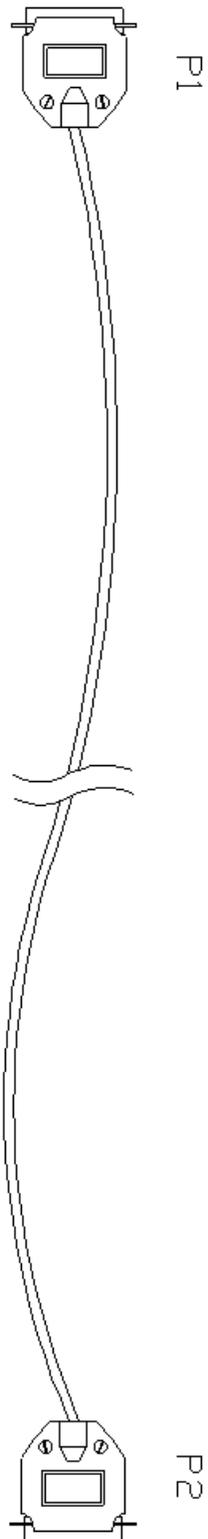
# **Attachment 2**

## **ERIT System Cable Assembly**

**(Before ECO Implementation)**

STB-RIT-003  
EnRoute Radar Intelligent Tool (ERIT)  
ERIT System Rack / Interface Cable Engineering Change Order

# ERIT SYSTEM CABLE ASSEMBLY



## PARTS LIST

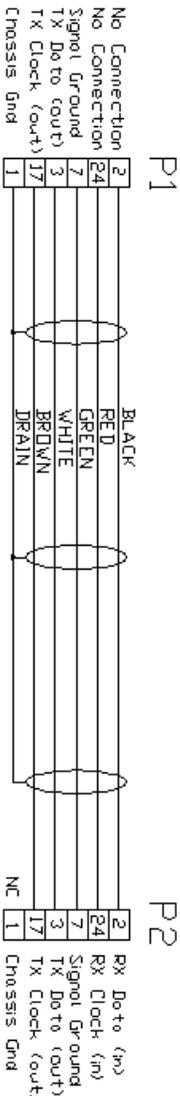
Item	Qty	Part Number	Description	Source	Ref
1	AP0	252029	5 CONDUCTOR SHIELDED PLENUM CABLE	BERK-TEK	P1, P2
2		4009-25	25 POSITION D-SUB CONNECTOR, MALE	REGAL ELECT	P1, P2
3	11	2-66506-5	MALE PINS	AMP	P1, P2
4	2	C98321004	BACKSHELL	NORTHERN TECH	P1, P2

NOTE:  
 THIS CABLE MAY  
 BE PURCHASED  
 FROM:  
 RAM Electronic  
 1980 National Highway  
 Pennsauken, N.J. 08110  
 609-488-0601  
 as part # 942691001-"L"

TO J6 MODEM SPLITTER

## SCHEMATIC DIAGRAM

TO RDI ADAPTER BOX



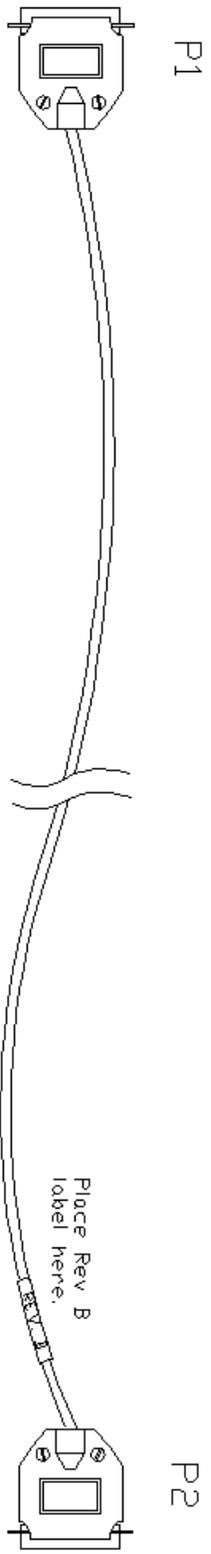
CONTRACT NO. DITFA03-89-C-00053		US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ADS-520	
APPROVALS	DATE	TITLE	REV
ENGINEER	8/25	ERIT SYSTEM	A
M. GREENBURG	1995	CABLE ASSY	
DRAFTSMAN	8/25		
K. CARLSON	1995		
APPROVED	8/25	SIZE	DWG NO.
L. JONES	1995	B	8014.2 -"L"
		SCALE	UNIT WEIGHT
		N/A	SHEET 1 OF 1

# **Attachment 3**

## **ERIT System Cable Assembly (After ECO Implementation)**

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# ERIT SYSTEM CABLE ASSEMBLY



## PARTS LIST

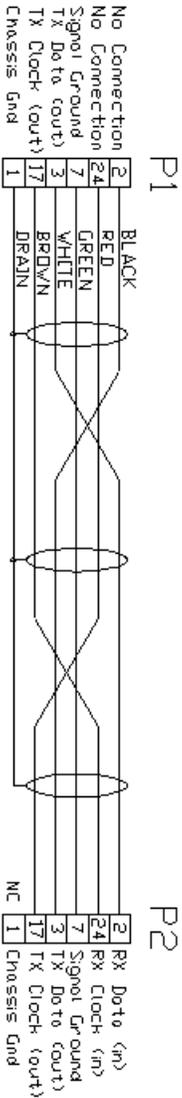
Item Qty	Part Number	Description	Source	Ref
1	ARQ 252029	5 CONDUCTOR SHIELDED PLENUM CABLE	BERK-TEK	See Note Below
2	4009-25	25 POSITION D-SUB CONNECTOR, MALE	REGAL ELECT	P1, P2
3	2-66506-5	MALE PINS	AMP	P1, P2
4	2	C88321004	BACKSHELL	P1, P2
5	1	Lobel marked REV B.	NORTHERN TECH	P1, P2

Note: For cable lengths exceeding 100 ft., use low cap cable (<15 pf/ft).

TO J6 MODEM SPLITTER

## SCHEMATIC DIAGRAM

TO R01 ADAPTER BOX



Twist Pair RX Data with TX Data  
Twist Pair RX Clock with TX Clock.  
Signal Gnd stands alone (not twisted).

CONTRACT NO.		US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ADS-520	
APPROVALS	DATE	TITLE:	SIZE
ENGINEER	5-7	ERIT SYSTEM	DWG NO.
M. GREENBURG	1996	CABLE ASSY	8014.2-"L" B1
DRAFTSMAN	5-7	SCALE	UNIT WEIGHT
K. CARLSON	1996	N/A	N/A
APPROVED	5-7	SHEET	REV
L. JONES	1996	1 OF 1	B1

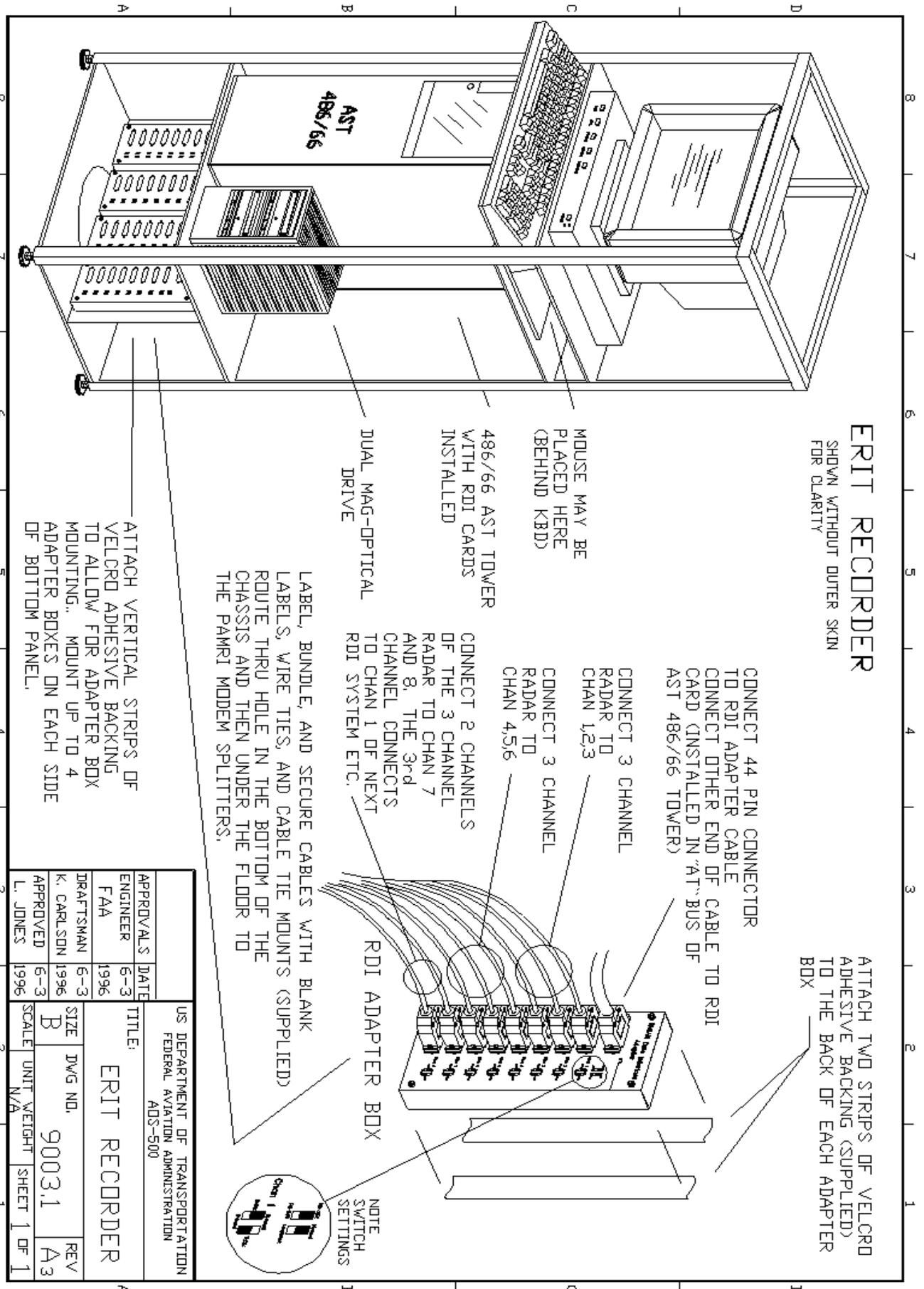
# **Attachment 4**

## **ERIT Recorder**

STB-RIT-003  
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ERIT System Rack / Interface Cable Engineering Change Order

# ERIT RECORDER

SHOWN WITHOUT OUTER SKIN  
FOR CLARITY



LABEL, BUNDLE, AND SECURE CABLES WITH BLANK LABELS, WIRE TIES, AND CABLE TIE MOUNTS (SUPPLIED) ROUTE THRU HOLE IN THE BOTTOM OF THE CHASSIS AND THEN UNDER THE FLOOR TO THE PAMRI MODEM SPLITTERS.

US DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ADS-500		TITLE: <b>ERIT RECORDER</b>	
APPROVAL'S DATE	ENGINEER	DATE	ENGINEER
1996	FAA	6-3	1996
1996	DRAFTSMAN	6-3	1996
1996	K. CARLSON	6-3	1996
1996	L. JONES	6-3	1996
SIZE: <b>B</b>		DWG NO.: <b>9003.1</b>	
SCALE: <b>N/A</b>		UNIT WEIGHT: <b>1</b> OF <b>1</b>	
REV: <b>A3</b>		REV: <b>A3</b>	