
J1T92 CE-01 Bay Installation and Power Up

Installation Method – 65-4902

August 31, 2001

Pkgid: 0000007

PROPRIETARY INFORMATION: The information contained in this document is the property of Nortel Networks. Except as specifically authorized in writing, the holder of this document shall keep all information contained herein confidential and shall protect same in whole or in part from disclosure and dissemination to third parties.

© Nortel Networks 2001
All Rights Reserved

**NORTEL
NETWORKS™**

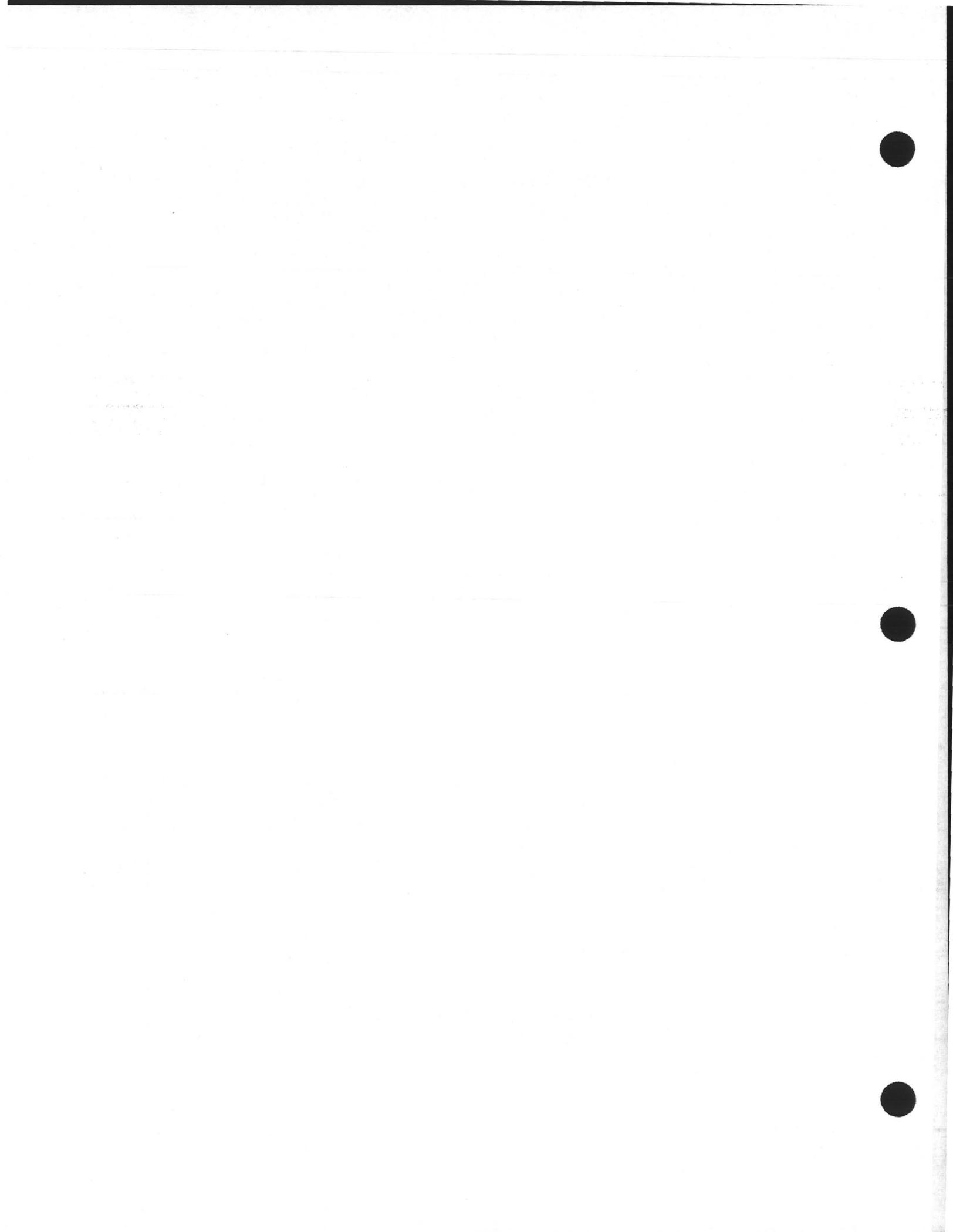


Table of Contents

.0 General Information	3
1.1 Description	3
1.2 Sequence	3
1.3 Reason for Reissue	3
2.0 Material Requirements	4
2.1 Required Documents	4
2.2 Tools	4
2.3 Software	4
3.0 Precautions and Preparations	5
3.1 Precautions	5
3.2 Preparations	6
4.0 Procedure	7
4.1 Overview	7
4.2 Planning	8
4.3 Floor Preparation	8
4.4 Move and Position Equipment	8
4.5 Level, Align, and Secure Equipment	8
4.6 Install Cable Plates	9
4.7 Grounding	13
4.8 Personal Hazard Ground Cables	14
4.9 Logic Ground Cables	16
4.10 PGND Cables	18
4.11 Battery and Battery Return Cables	19
4.12 I/O Bus Extender Cables	21
4.13 Verify Inter CPU Cable and Paddleboards	22
4.14 Multiplex and DS-30 Loop Cables	23
4.15 J1T65A-1 MPU Shelf Cabling	28
4.16 Serial Data Interface Cables	31
4.17 Synchronous Clock Cables	32
4.18 Ethernet Cabling	33
4.19 I/O Drive Cable	33
4.20 Interbay Alarm Cable	34
4.21 Miscellaneous Trim	34
4.22 Install 400 Series Expanded Rear Covers	35
4.23 Install 300 Series Expanded Rear Covers	37
4.24 J1T92 CE-01 Bay Power Up	39
Procedure 1 – J1T92 CE-01 Bay Power Up	39
5.0 References	42
Appendix A – Multiplex Loop Cable Connection Details	43
Appendix B – ED0T12-06 BITS-CNI Sync Clock Clock Cable Wiring	48
Last Page	48

Illustrations

Figure 1 – Tools	4
Figure 2 – NT8T5093 Cable Plate for a J1T92A-1 CE-01 Bay	11
Figure 3 – NT8T5023 Cable Plate for a J1T92B-1 CE-01 Bay	12
Figure 4 – Routing of the Personal Hazard Ground Cable	15
Figure 5 – Hardware Stacking for Logic Grounds	17
Figure 6 – Logic Ground Bar Assembly (J1T92A/B)	18
Figure 7 – Battery and Battery Return Cables	20
Figure 8 – ED0T25 60 I/O Bus Cables	22
Figure 9 – Peripheral Loop Cable Form	26
Figure 10 – Multiplex Loop Cable Form	27
Figure 11 – ED1T68-01 and ED1T94-01 Cable Configuration for a single MPU shelf	29
Figure 12 – ED1T68-01 and ED1T94-01 Cables for two MPU Shelves	30
Figure 13 – 400 Series Expanded Rear Covers	36
Figure 14 – J1T92B-1 Expanded Rear Covers	38
Table 1 – Multiplex Loop Cable Connection Details	43

1.0 General Information

1.1 Description

Purpose: This method provides information required to install the J1T92A-1 or J1T92B-01 CE-01 Bay.

Equipment: CPU/Network Interface (CNI) Bay.

Application: This method is to be used for initials and extensions

Service Impact: None

1.2 Sequence

This method is to be performed after the following methods have been completed.

Method 03-4201 "Floor Preparation DMS-10 Physical Handbook."

Method 03-4202 "Floor Preparation DMS-10 Physical Handbook."

Method 03-4203 "Move and Position Equipment DMS-10 Physical Handbook."

Method 03-4204 "Level, Align, and Secure Equipment DMS-10 Physical Handbook."

1.3 Reason for Reissue

Updated to add information for typical Multiplex Loop Cable arrangements on PE Shelves, DCM Shelves, and OCM Shelves.

Closes Alert(s): None

Closes GIS(s): None

Replaces Installation Method 04-65-4902 dated April 27, 2001

2.0 Material Requirements

2.1 Required Documents

Installation Safety Manual (ISM/IM0) - can be requested from the Regional Tool Facility.

Method 03-4200 DMS-10 Physical Handbook

Method 03-4201, "Event 01 - Planning - DMS-10 Physical Handbook"

Method 03-4202, "Event 02 - Floor Preparation - DMS-10 Physical Handbook"

Method 03-4203, "Event 03 - Move and Position Equipment - DMS-10 Physical Handbook"

Method 03-4207, "Event 07 - General Cabling and Torque Requirements DMS-10 Physical Handbook"

Method 03-4210, "Event 10 - Miscellaneous Trim and Designations - DMS-10 Physical Handbook"

2.2 Tools

The tools listed in Figure 1 are required to perform this method.

Figure 1 – Tools		
U.S. Tools	Canadian Tools	Description
Tool Kit	K000740	Field Technician Tool Kit
T0155	T0155	Frame Dolly

2.3 Software

Generic 502.10 equipped with Patch Bundle 9, or later is required for the 500 Series DMS-10 Expanded Network switch.

No other materials are required to perform this method.

3.0 Precautions and Preparations

3.1 Precautions

Observe the general safety precautions against personal injury and equipment damage outlined in the ISM/IM0 at all times.

When marking the floor, never use a permanent ink marker pen. Use only non-permanent marker pens.

Safety goggles are required when drilling.

Exercise caution when using steel measuring tape near live equipment.

Floor anchors are always used for DMS-10 application.

Isolation shims are always used in DMS-10 applications. Leveling feet are not used and should be removed if present.

Factory insulated tools must be used when working on live equipment power connections.

All metallic objects within reach of the tool should be temporarily insulated with Nomex Aramid Paper, when performing power connections.

A protective equipment cover should always be used directly beneath the work area to catch fallen tools and parts.

All jewelry should be removed when performing the procedures in this event.

Remove metal frame eye glasses and wear plastic frame safety glasses.

Locate an FX line and determine the appropriate rescue and medical personnel to be notified in the event of an accident.

Observe all anti-static handling precautions when performing the procedures in this event. Wear an anti-static wrist grounding strap connected to a wrist strap grounding point when handling circuit packs, connecting cables or working on inservice DMS equipment.

Observe all Electrostatic Discharge (ESD) precautions as outlined in the DMS-10 Physical Handbook

3.2 Preparations

This method provides information that is unique to the J1T92A-1 and J1T92B-1 CE-01 Bay. All other installation information that is common to DMS-10 equipment frames is found in the appropriate sections of the DMS-10 Physical Handbook.

If a hotslide will be required to place the new CE-01 frame in the ultimate location, be sure to take this into account when running the required cables. Make sure that there is enough slack in the cables to allow the frame to be moved and that there are no obstacles preventing the cables from moving properly. Refer to method 76-2250 titled, "DMS Hotslide" for additional information.

Prior to starting the operations presented in this method, arrange all materials, tools, and test equipment at the work location so as to minimize fatigue and inconvenience.

Ensure that a vacuum cleaner is available for dust control during the drilling process if required. Before beginning floor preparation procedures, study the office floor plan to determine if there are any discrepancies between the actual office layout and the floor plan document. If any discrepancies are noted, contact the building studies engineer immediately.

If for any reason the floor cannot be marked according to the floor plan drawing, contact the Job Engineer immediately.

The Private Trucking Organization (PTO) is responsible for the off-loading, unpacking, and delivering of equipment to the proper location on the job site. PTO is also responsible for cleaning up all trash and debris associated with the delivery.

The Nortel field representative will observe and ensure that non-Nortel personnel unload the equipment in a safe and proper manner.

Before moving equipment into a building, PTO and Nortel field representative will plan the best and safest method of moving the equipment into the building.

Once the equipment has been moved into the building and placed at the designated location, PTO's responsibility over that equipment ends.

The Nortel field representative must inspect the equipment for any visible damage before taking responsibility for the equipment.

The floor must be free of all objects that would interfere with the rolling of dollies. A screw, nut, or ty-rap could cause the dolly system to damage the tile floor in a Central Office. Sweep the floor before any cabinets or frames are moved to their final location.

The DMS equipment will be verified by the Nortel field representative who will also verify the readiness of the building. If the building is not expected to be ready by "H" date, the Nortel field representative will advise PTO accordingly.

Tape all ground cable ends before handling to prevent injury and equipment damage.

All of the cable rack and cable rack support assemblies must be completely installed prior to cabling.

Floor protection is required when using reels to run cables. A piece of heavy cardboard or masonite is acceptable protection. If reels are being used in a carpeted office, the same floor protection requirements apply.

If cable runs are required in a congested equipment area, masonite may have to be erected to protect adjacent equipment lineups.

4.0 Procedure

4.1 Overview

This method provides the information required to install the J1T92A-1 or J1T92B-1 CE-01 Bay.

This method does not cover the basic physical installation of the frame that is identical to existing installation of standard DMS-10 frames. Common installation information can be found in the appropriate events of the DMS-10 Physical Handbook.

The information presented in this method covers the following topics:

- Cable plate installation
- Grounding
- Personal Hazard Ground
- Logic Grounding
- Protection Ground
- Battery and Return Cabling
- Multiplex Loop Cabling
- Rear Covers

4.2 Planning

- 1 Refer to Method 03-4201 "Planning - DMS-10 Physical Handbook" and perform the required steps.
- 2 For Hotslide applications refer to method 76-2250 titled "DMS Hotslide" for additional information related to Hotslide installation planning. Hotslide applications require special installation and planning considerations.

4.3 Floor Preparation

- 1 Refer to installation method 03-4202 Event - 2 "Floor Preparation DMS-10 Physical Handbook" and perform the appropriate sections for preparing the floor for the bay installation as required.

Note: If a hotslide will be performed, no floor preparation will be required. The new CE-01 Bay will be installed in place of the old CE-01 Bay.

4.4 Move and Position Equipment

- 1 Refer to installation method 03-4203 Event - 3 "Move and Position Equipment DMS-10 Physical Handbook" and perform the appropriate sections for the bay installation as required. For hotslide applications the new CE-01 frame will be placed on a frame dolly until the old CE-01 frame can be removed from the existing lineup.

4.5 Level, Align, and Secure Equipment

- 1 Refer to installation method 03-4204 Event - 4 "Level, Align, and Secure Equipment, DMS-10 Physical Handbook" and perform the appropriate sections for the bay installation as required.

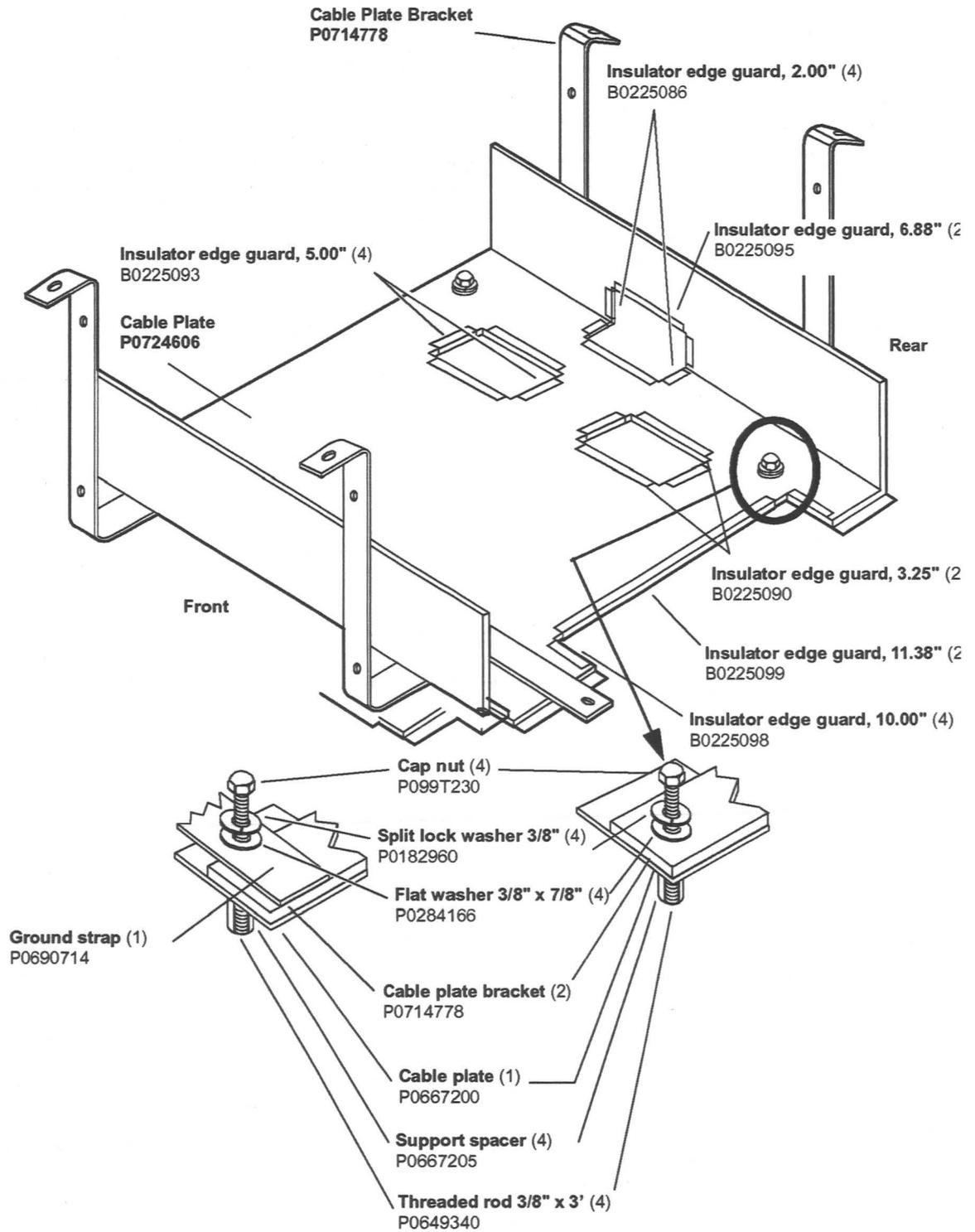
4.6 Install Cable Plates

- 1 This subsection will cover the steps required to install the following types of cable plates:
 - NT8T5093 High Capacity Cable Plate for a J1T92A-1 CE-01 Bay
 - NT8T5023 Cable Plate for a J1T92B-1 CE-01 Bay.
- 2 Obtain the NT8T5093 High Capacity Cable Plate kit for a J1T92A-1 CE-01 Bay. Refer to Figure 2 for piece parts and assembly details to install this kit.
- 3 Obtain the NT8T5023 Cable Plate kit for a J1T92B-1 CE-01 Bay. Refer to Figure 3 for piece parts and assembly details to install this kit.
- 4 The installation sequence is the same for each type of cable plate. The part numbers and the quantity of each part will change for each type of cable plate. If one part is not required, continue with the next paragraph.
- 5 Remove the masking tape that is covering the weld nuts on the front/rear of each bay.
- 6 With abrasive paper, lightly sand the area around the weld nut holes on the front of each bay. Place some type of protection below the area that will be sanded.
- 7 Apply a thin coat of NO-OX-ID "A" compound to the area that was sanded.
- 8 Apply a thin coat of NO-OX-ID "A" compound to both ends of the spacers. Place the spacers on the weld nuts on the front of the bay.
- 9 Install the threaded rods into the weld nuts on the rear of the bay. Install the spacers over the threaded rods.
- 10 Apply a thin coat of NO-OX-ID "A" compound around the 3/8" hole (top and bottom) on the cable plate bracket and the cable plate.
- 11 Install the cable plate brackets and cable plate over the threaded rods and spacers.

- 12 The ground strap spans from one bay to the adjacent bay, overlapping to form an uninterrupted ground path from one end of the line-up to the other.
- 13 For Hotslide applications a temporary ground cable must be installed between the new CE-01 frame and the existing frame lineup or frame ground bar. Refer to the job specification for additional information.

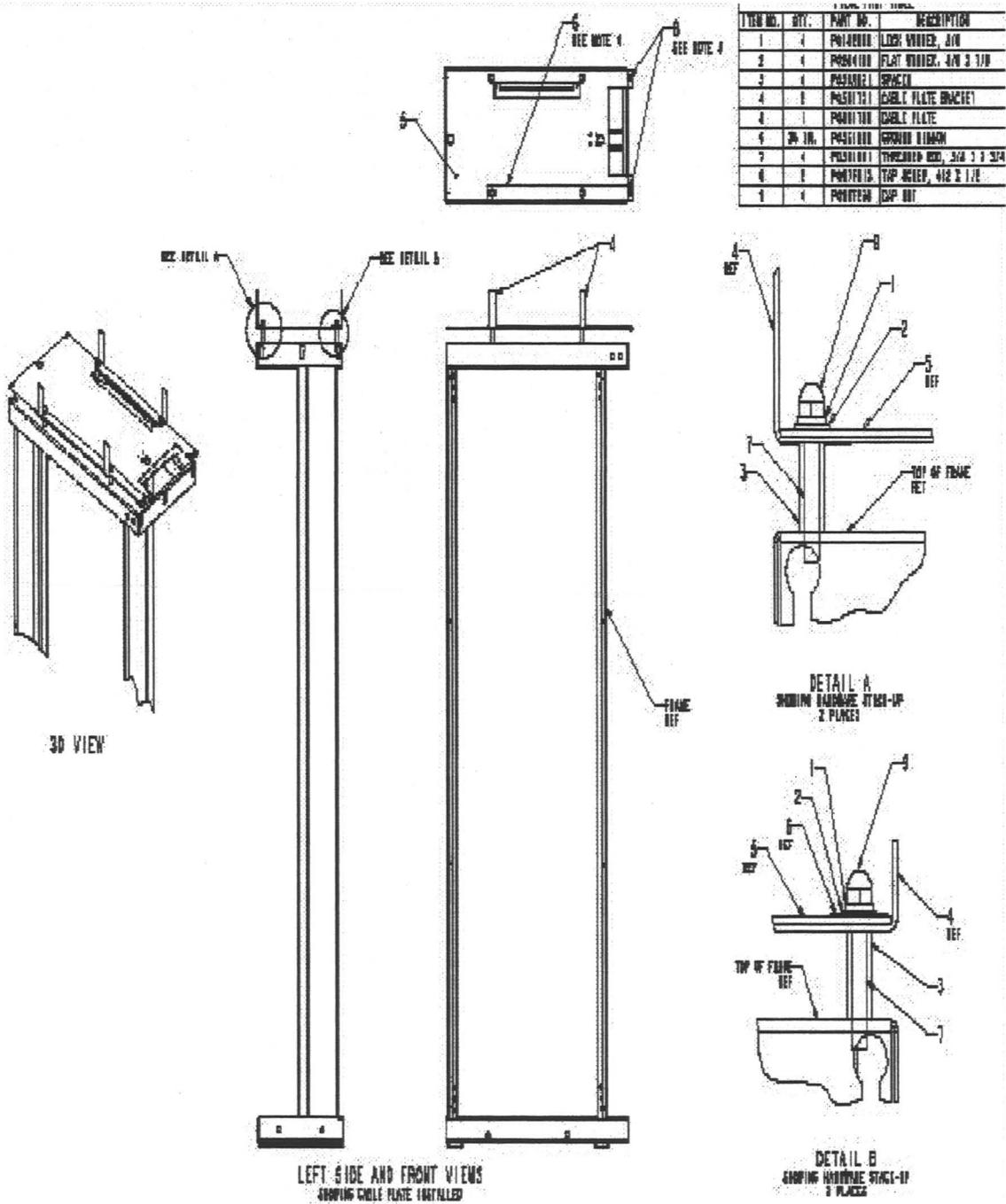
Note: For a J1T92B-1 CE-01 Bay, the ground strap is a long coil of copper ribbon when should be installed from one end of the equipment lineup to the other. A sufficient amount of copper ribbon should be coiled up at the growth end of the lineup for future equipment bays.
- 14 When bays in the same lineup are not mounted adjacent to each other and have either a cable rack or cable duct between them, a 6 AWG cable is required between the two bays in place of the ground strap provided.
- 15 Clean the surface of the ground strap around each hole with a wire brush. Apply a thin coating of NO-OX-ID "A" compound to both sides of the strap around each hole.
- 16 Install the ground strap along the front side, on the top of the bay, with one end being installed over the threaded rod on the bay to the immediate right.
- 17 Install the remaining hardware as shown in the figure. Tighten all hardware.

Figure 2 – NT8T5093 Cable Plate for a J1T92A-1 CE-01 Bay



- 18 If a J1T92B-1 CE-01 Bay is equipped, obtain kit NT8T5023, 300 Series Cable Plate, which contains the piece parts listed in Figure 3.

Figure 3 – NT8T5023 Cable Plate for a J1T92B-1 CE-01 Bay



4.7 Grounding

- 1 For general grounding information and requirements on grounding practices refer to Method 03-4206, "Grounding - DMS-10 Physical Handbook".
- 2 The job specifications will list all power and ground cable runs required for the J1T92 CE-01 Bay.
- 3 Locate the power and ground cable runs listed in the job specifications. The list will give detailed connection information on any cable run. The beginning of a cable run is shown under the *FROM* column, and the other end of the cable run is under the *TO* column.
- 4 Each cable run will have a number assigned under the *NOTE* column. This note number is used to identify the hardware requirements for the cable run. Match the note number to the numbers listed in the Notes section in the back of the CABL specification to determine the lug, bolt, washer, or other requirements for the cable run.
- 5 All hardware requirements for power and ground cable runs will be listed in the Notes description. If there are any discrepancies in the job specifications, contact the Engineering Action Center.
- 6 Locate each power and ground cable run, and refer to the pre-labeled adhesive cable tags for corresponding cable runs. Run each ground cable from the origination to the termination location as indicated in the job specification. Tape any exposed ends of the cable with electrical tape.
- 7 There are two identical tags, one for each end of the cable run. These tags are printed beside each other. Before applying the cable tags to each end of the cable run, fold the tags at the perforation. The tags can be removed and applied several times.
- 8 This will be important when the tags are moved up or down the cable while forming, cutting, and crimping. If a tag will no longer stick after much use, a string may be used to tie the tag to the cable.
- 9 If string is used to tie the cable tag, use a slip knot when tagging the end of the cable. This will allow the tag to be loosened whenever the tag needs to be relocated on the cable.
- 10 All ground cables must be run in free open space so that they can be inspected from the floor. Cable tags located at each end of the cable must be visible, and both ends must indicate originate and terminate information.
- 11 Always use double hole lugs where possible when making ground connections.

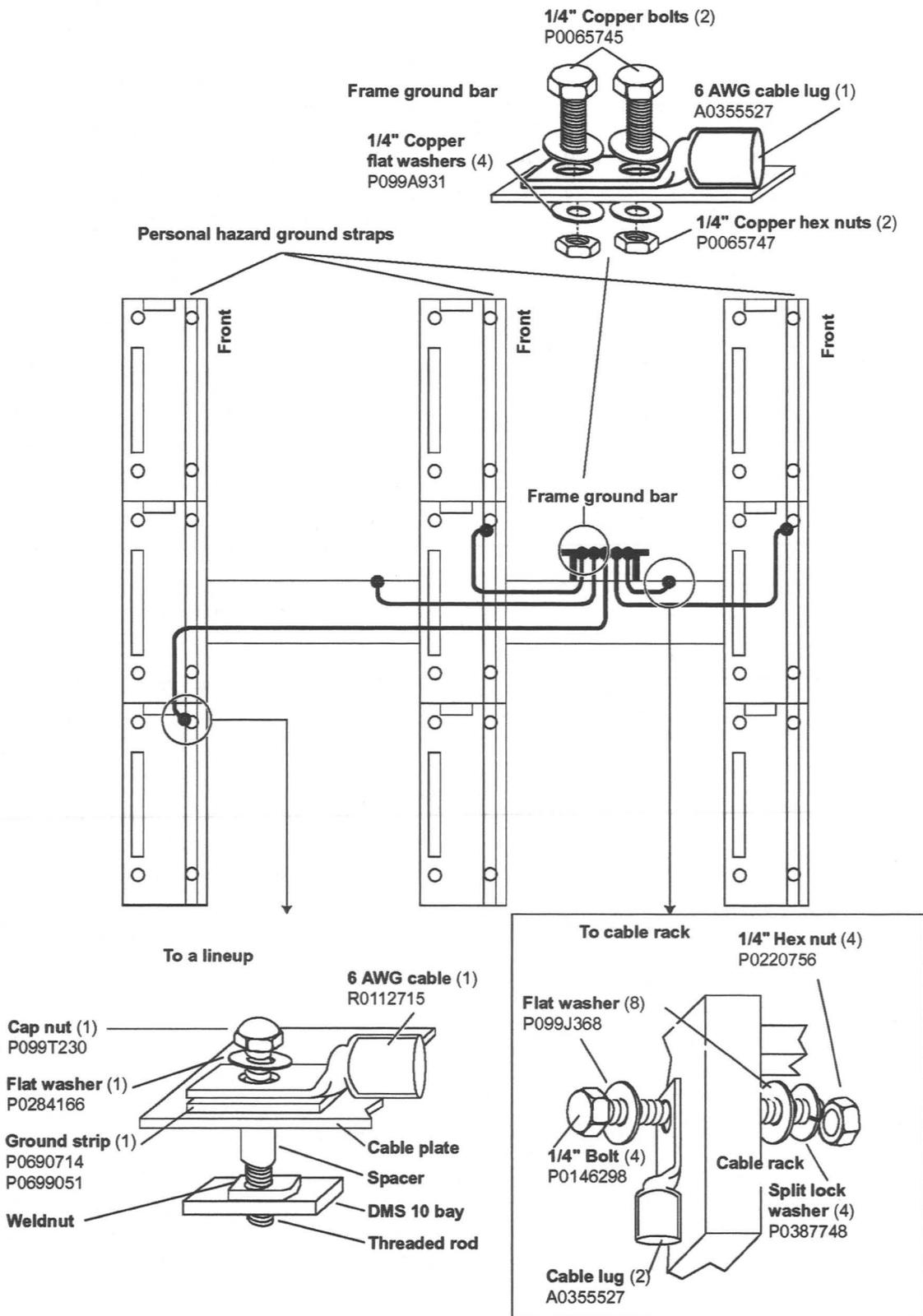
- 12 NO-OX-ID compound is required on all battery, battery return, and ground cable connections in order to prevent oxidation on all terminations between dissimilar metals.
- 13 Do *not* perform any subsection in this procedure while thunderstorms are present in the area.
- 14 For additional information on grounding practices refer to Method 03-4206, "Grounding - DMS-10 Physical Handbook".

4.8 Personal Hazard Ground Cables

- 1 It is extremely important that all personal hazard ground cables are run and connected before applying power to any part of the DMS-10 system. Failure to do so may result in a safety hazard.
- 2 When terminating personal hazard ground cables, apply a thin coat of NO-OX-ID compound to both sides of the cable lug.
- 3 When crossing an aisle with a bar type cable rack, a support bracket will mount on top of the personal hazard ground ribbon.
- 4 Do *not* secure the #6 AWG wire on top of a cable rack support bracket. The personal hazard ground cable should be of sufficient length to reach the next mounting position.
- 5 For earthquake jobs, the personal hazard ground cable should be left long enough for any bay oscillation.
- 6 For an example drawing that shows the routing and termination of the personal hazard ground cable, refer to Figure 4.
- 7 For an example of terminating the personal hazard ground cable on top of a DMS-10 lineup, refer to Figure 4.
- 8 For an example of terminating the personal hazard ground cable to the frame ground bar, refer to Figure 4.
- 9 **For upgrade applications only:** Run a temporary Personal Hazard ground from the top of the new CE-01 bay (in its temporary location) to the Frame Ground bar as indicated in the Job Specifications. Terminate the cable on a convenient open terminal on the frame ground bar. Terminate the remaining end on the top of the new CE-01 frame using the hardware and lugs provided. Do not use the terminal that will be needed to terminate the permanent cable later in the installation. This cable **will be identified** as temporary and **will be removed** after the hotslide of the CE-01 Bay is completed.

When the new frame is moved into the permanent location, the frame ground will be provided by the frame ground ribbon that runs across the entire frame line up.

Figure 4 – Routing of the Personal Hazard Ground Cable



4.9 Logic Ground Cables

- 1 If the logic ground cables are not properly connected, damage may result when power is applied to the CE-01 bays.
- 2 There are logic ground bar assemblies installed on the rear of the CE-01, bay. All logic ground cables to shelves within the CE-01 should have been connected on both ends by the shop.
- 3 Refer to the job specification to determine the required cable runs for the logic grounds.
- 4 Refer to the job specification and run a logic ground cable from the J0T99A-3 Ground Bar in the CE-03 bay to the J0T99A-3 Ground Bar in the CE-01 frame. Form the cables down the left side of the bays through the cable plate to the ground bar form secure them as required with ty-raps.
- 5 Prepare both ends of the cable as required and crimp the appropriate lugs on the cable. Terminate one end of the cable on terminal 1 of the J0T99A-3 ground bar located in the CE-03 bay. Terminate the other end of the logic ground cable in the CE-01 bay on terminal 1 of the end of the J0T99A-3 ground bar
- 6 Prepare butt and strip both ends of the cable as required for the lugs specified in the job specification.
- 7 Crimp the required lugs on the prepared cables.
- 8 Terminate the logic ground cables on the assigned terminals on the logic ground bar and the ground junction.
- 9 **For upgrade applications only:** Run a temporary logic ground from the J0T99A-3 ground bar in the new CE-01 bay to the ground junction. Prepare the cable and crimp the appropriate lug on each end. Terminate the cable on a convenient open terminal on each ground bar. Do not use the terminal that will be needed to terminate the permanent cable later in the installation. When the new frame is moved into the permanent location install the permanent cable as indicated above.

Identify this cable as a temporary cable to be removed when the hotslide is completed.

- 10 Refer to Method 03-4206 Event 6 "Grounding - DMS-10 Physical Handbook" and Method 03-4207 Event 7- "General Cabling and Torque Requirements- DMS-10 Physical Handbook" for additional information.
- 11 As a guide to install the cables on the shelf studs and the logic ground bar, refer to Figure 5.

Figure 5 – Hardware Stacking for Logic Grounds

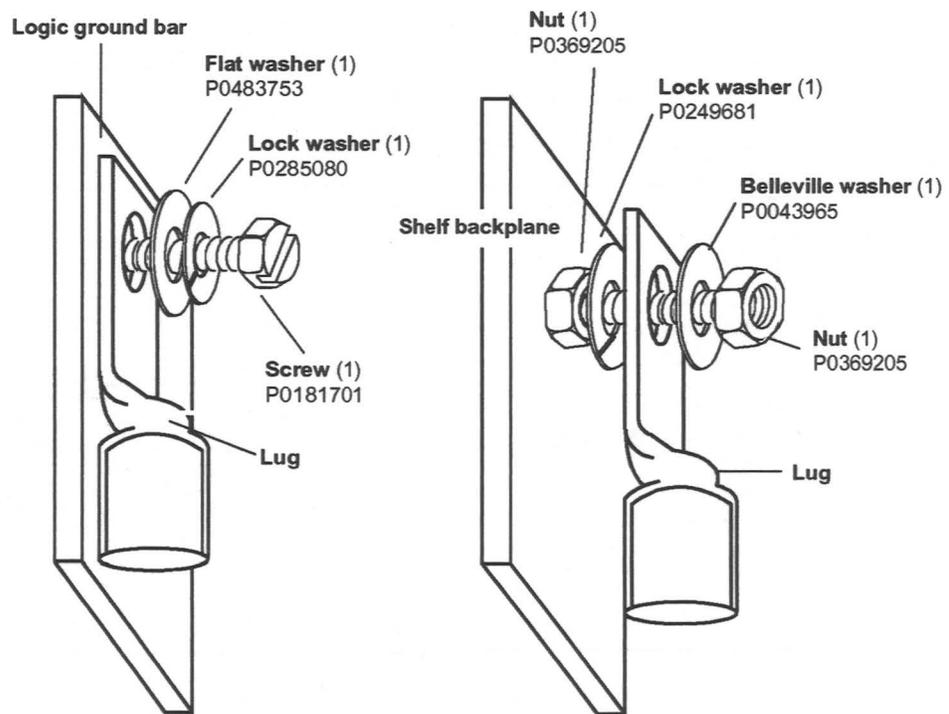
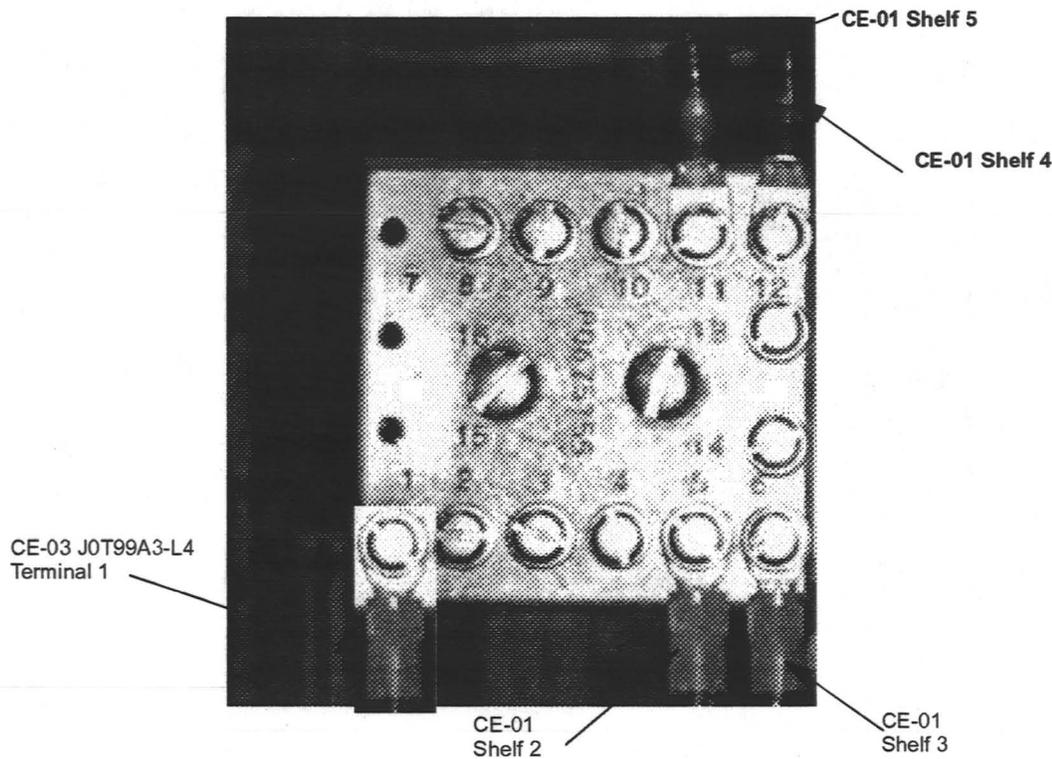


Figure 6 – Logic Ground Bar Assembly (J1T92A/B)



4.10 PGND Cables

- 1 If a J1T80A-2 DCI shelf is provisioned in shelf position 2 of the J1T92A/B CE-01 bay a 6 AWG cable must be installed between the PGND terminal on the rear of the J1T80A-2 DCI shelf and the CE-03 PGND bar.
- 2 Refer to the job specification and run a 6 AWG cable from terminal 5 of the J0T18A-1 ground bar in the CE-03 frame to the PGND stud on the rear of the J1T80A-2 DCI shelf located in shelf 2 of the new CE-01 frame. Run this cable up the left side of the CE-03 frame with the other system cables and down into the CE-01 frame. Form the cable as required to the ground bar and secure with ty-raps.
- 3 Prepare the cable and crimp a the appropriate lug on each end of the cable. Refer to the job specification to determine the required cable and lugs.
- 4 At the J0T18A-1 PGND bar in the CE-03 bay, terminate the 6 AWG cable on terminal 5 as indicated in the job specification.

- 5 At the J1T92A/B CE-01 frame terminate the cable on the PGND stud on the shelf backplane using the appropriate hardware provided.
- 6 Refer to the Method 03-4207, "General Cabling and Torque Requirements DMS-10 Physical Handbook", and torque the nuts to the indicated values.

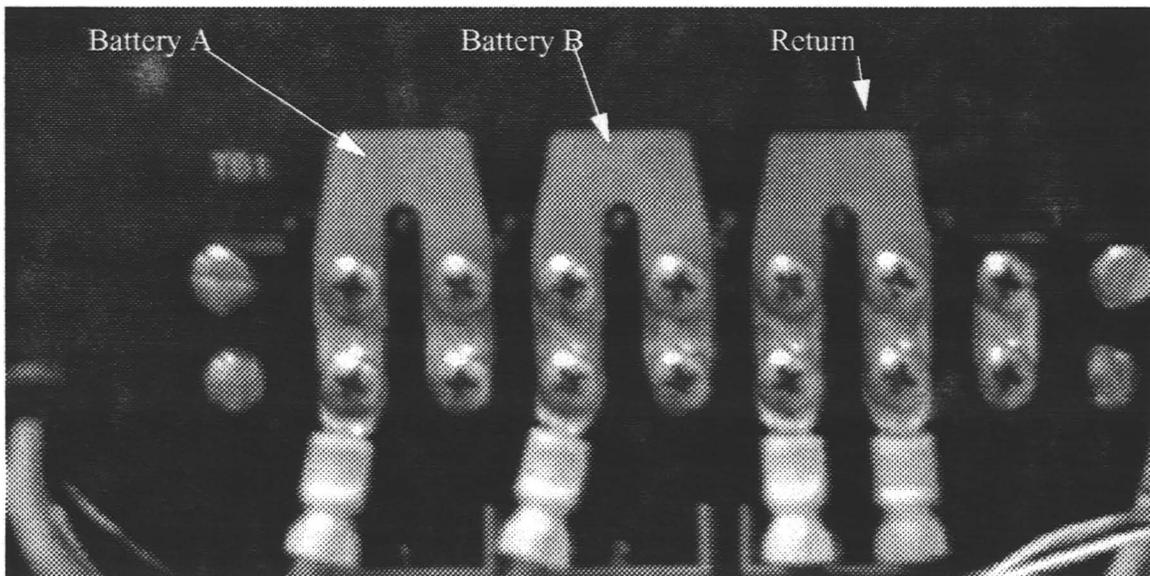
4.11 Battery and Battery Return Cables

- 1 The power cables are listed in the job specifications.
- 2 Refer to the D640 Fuse Assignment drawing in the job specifications for exact origination and termination positions for the power and ground cabling.
- 3 Locate the power cable runs listed in the job specifications. The list will give detailed connection information on any cable run. The beginning of a cable run is shown under the *FROM* column, and the other end of the cable run is under the *TO* column.
- 4 Each cable run will have a number assigned under the *NOTE* column. This note number is used to identify the hardware requirements for the cable run. Match the note number to the numbers listed in the Notes section in the back of the CABL specification to determine the lug, bolt, washer, or other requirements for the cable run.
- 5 All hardware requirements for power cable runs will be listed in the notes description. If there are any discrepancies in the CABL specification, contact the job engineer.
- 6 In the CABL specification, locate each power cable run and refer to the pre-labeled adhesive cable tags for corresponding cable runs.
- 7 There are two identical tags, one for each end of the cable run. These tags are printed beside each other. Before applying the cable tags to each end of the cable run, fold the tags at the perforation. The tags can be removed and reapplied several times.
- 8 This will be important when the tags are moved up or down the cable while forming, cutting, and crimping. If the tag will no longer stick together after much use, a string may be used to tie the tag to the cable.
- 9 If string is used to tie the cable tag, use a slip knot when tagging the end of a cable. This will allow the tag to be loosened whenever the tag needs to be relocated on the cable.
- 10 Refer to the CABL specification and determine the origination and termination points for the Battery and return cabling for the CE-01 bay.

- 11 Route the battery and return cables from the indicated circuit breaker position on the J0T75A-3 power distribution panel and the ground junction to TB-1 located on the rear of the Power and Cooling Module in CE-01.
- 12 The battery and battery return power cables for the J1T92A/B CE-01 bay are terminated to TB-1 on the rear of the power cooling module. Refer to **Figure 7** for information on terminating the power cables to the rear of the J1T92 CE-01 Bay.
- 13 Carefully form and dress the battery and return cables down the left side of the frame to the level of TB-1.
- 14 Butt and strip the cables as required to attach the lugs specified in the job specification.
- 15 Refer to the CABL specification to determine the lugs required to terminate the power and ground cables.
- 16 Terminate the battery and return cables as indicated in the job specification.

Battery A	TB1-1
Battery B	TB 1-2
BRTN A	TB1-3
BRTN B	TB1-3

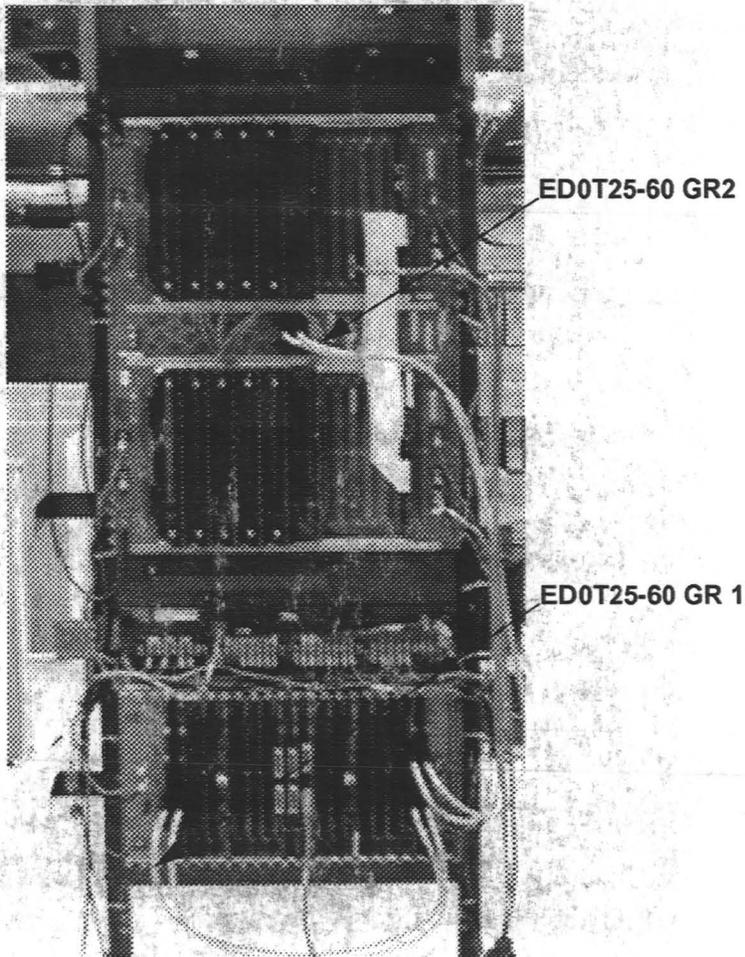
Figure 7 – Battery and Battery Return Cables



4.12 I/O Bus Extender Cables

- 1 I/O Bus Extender cables are secured to the shelf backplane by either paddleboards on the GPIO shelf or direct connections on the rear of the CNI module.
- 2 Locate the I/O bus extender cables in the job specifications to determine the cables required for the job. If an additional GPIO shelf has been provisioned there will be additional I/O Bus Extender cables required.
- 3 The required GPIO shelf provisioned in shelf position 3 of the CE-01 Bay will be connected to the CNI module using the ED0T25-60 cables.
- 4 Refer to the job specification and Figure 8 and run and terminate the ED0T25-60 cables to the indicated locations on the rear of the CNI module and the GPIO shelf.
- 5 Connect one ED0T25-60 GRP 002 cable from connector P43 on the rear of the CNI module shelf position 4 to the paddleboard located in slot 3 on the rear of the GPIO shelf. Terminate the cable on the top connector (P3) on the paddleboard.
- 6 Connect a second ED0T25-60 GRP 002 cable from connector P44 on the rear of the CNI module shelf position 5 to the paddleboard located in slot 2 on the rear of the GPIO shelf. Terminate the cable on the top connector (P3) on the paddleboard.
- 7 Connect a ED0T25-60 GRP 001 cable from the bottom connector (P2) the paddleboard located in slot 3 on the rear of the GPIO shelf to the bottom connector (P2) of the paddleboard located on the rear of the GPIO shelf in slot 20.
- 8 Connect a ED0T25-60 GRP 001 cable from the bottom connector (P2) the paddleboard located in slot 2 on the rear of the GPIO shelf to the bottom connector (P2) of the paddleboard located on the rear of the GPIO shelf in slot 19.
- 9 If any additional GPIO shelves are configured refer to the job specification for additional information on terminating cables for the additional GPIO shelf.

Figure 8 – ED0T25 60 I/O Bus Cables



4.13 Verify Inter CPU Cable and Paddleboards

- 1 Verify that the NT3T84 paddleboards have been installed in shelf 4 and shelf 5 card slot 3 on the rear of the CNI module.
- 2 In the paddleboards have not been previously installed, locate and install them at this time.
- 3 Verify that the Inter CPU Ribbon Cable has been installed between the paddleboards located in card slot 3 of shelf 3 and shelf 4 of the CNI module as indicated in the job specification.
- 4 If the Inter CPU Ribbon cable has not been installed, locate and install it at this time.

4.14 Multiplex and DS-30 Loop Cables

- 1 Loop cables will be run from the Peripheral Loop connectors on the rear of the CNI Module to the peripheral devices. Refer to the MCAB job specification and the D305 Multiplex Loop Assignment drawings for the relationship between the Peripheral Loops on the rear of the CNI Module and the equipped peripheral devices.
- 2 The following is a complete list of Multiplex and DS-30 loop cable types used on the CNI Module:
 - ED1T56-11 - Two Loop MLI Cable
 - ED1T56-12 - Four Loop MLI Cable
 - ED1T57-01 - Two Loop DS-30 Cable
 - ED1T57-03 - Three Loop DS-30 Cable
 - ED1T57-06 - Two Loop MLI/DS-30 Cable
 - ED1T57-08 - Two Loop DS-30 Cable
 - ED1T57-10 - Two Loop DS-30 Cable
 - ED1T60-01 - Eight Loop DS-30 Cable
 - ED1T60-02 - Eight Loop DS-30 Cable
- 3 The applications for the Multiplex and DS-30 Loop cables vary widely. Some cables have one application and some cables have multiple applications. Applications for all DS-30 Loop cables are discussed in method 65-4904 titled, "DMS-10 Peripheral Loop Switch Boxes." Applications for Multiplex Loop cables are discussed in the next step.
- 4 The ED1T56-11 and ED1T56-12 cables are used for J0T29A-1, J0T59A-1, and J0T90A-1 PE shelves, J0T13A-1 DCM shelves, J0T53A-1 OCM shelves, and J0T69A-1 SCM shelves.
- 5 The ED1T56-11 cable has a split between the A and B connectors at the CNI Module end. Each "leg" of the split is about four feet long. The ED1T56-12 cable has a similar split between the A/B and the C/D connectors.
- 6 If standard configuration for the datafill on a peripheral device is employed, the A connector for an ED1T56-11 cable will be attached to a Peripheral Loop on shelf 5 and the B connector will be attached to a Peripheral Loop on shelf 4 of the J1T92 CE-01 Bay. If non-standard configuration has been employed in the datafill for the equipment at the far end of the ED1T56-11 cable, the reverse will be true.
- 7 If standard configuration for the datafill on a peripheral device is employed, the A and B connectors for an ED1T56-12 cable will be attached to Peripheral Loops on shelf 5 and the C and D connectors will be attached to Peripheral Loops on shelf 4 of the J1T92 CE-01 Bay. If non-standard configuration has been employed in the datafill for the equipment at the far end of the ED1T56-12 cable, the reverse will be true.

- 8 Appendix A depicts standard and non-standard configuration for the loop connectors on ED1T56-11 and ED1T56-12 cables on most types of peripheral devices to which they may be attached.
- 9 The loop connectors on ED1T57-01, ED1T57-03, ED1T57-06, ED1T57-08, ED1T57-10, ED1T60-01, and ED1T60-02 cables **will be** attached to Peripheral Loops on the **same shelf** in the CNI Module.
- 10 The loop connectors are labeled in sequential alphabetic (i.e. A, B, C,...) fashion. Typically, the relationship between the loop connectors and the Peripheral Loops assigned to the peripheral device is sequential starting with the lowest numbered loop and continuing until all loops in the cable are attached. **However**, this is not always the case. This is especially true for ED1T60-01 and ED1T60-02 cables.
- 11 The user **will carefully inspect for possible bent pins** on all peripheral loop cable connections on the rear of the CNI Module **before attaching the new loop cables**. All bent pins will be straightened before the loop cables are attached. A flashlight and a magnifying glass may be used for this inspection.
- 12 When terminating loop cables on the rear of the CNI Module, the user will note that the peripheral loop numbers count from 1 to 32 in left-right and top-down sequence.
- 13 Each loop cable connector is stenciled to identify the pin arrangement. Always attach the loop cable connectors with **pin 1 on the upper left** as viewed from the rear of the CNI Module.
- 14 It is required to **verify** that each loop cable is fully seated on the rear of the CNI Module. **More force is required** to fully seat loop cables on the rear of the CNI Module than the force that is required to fully seat loop cables to the rear of a Classic Network switch.
- 15 After each loop connector is attached to the rear of the CNI Module, it is **required to verify** that all pins for the loop are engaged in each cable connector. **Visually inspect each connection and verify that there are NO VISIBLE PINS** on the outside of each loop cable connector hood. A flashlight and a magnifying glass may be used for this effort.
- 16 If a J1T92A-1 CE-01 Bay is equipped, refer to steps 17 through 19 for detailed information related to routing and forming of the loop cables. If a J1T92B-1 CE-01 Bay is equipped, refer to steps 20 through 23 for detailed information related to routing and forming of the loop cables.
- 17 All loop cable types (see step 9) that terminate on shelf 5 only will be run through the cable access holes in the center of the cable plate and through the corresponding holes in the top of the CE-01 Bay to the cable management bracket that is located above the rear of the CNI Module and to their respective termination points.

- 18 All loop cable types (see step 9) that terminate on shelf 4 only will be run through the cable access area at the side of the cable plate and the corresponding hole in the top of the bay, down the left-side (rear view) of the CNI Module to the "L" bracket that is located on the vertical rail between shelves 4 and 5 and continuing to the cable management bracket located just below the CNI Module. The cables will be run along along the bottom of the cable management bracket and up through the bracket to their respective termination points.
- 19 All ED1T56-11 and ED1T56-12 multiplex loop cables will be run through the cable access area at the side of the cable plate and the corresponding hole in the top of the bay, down the left-side (rear view) of the CNI Module to the "L" bracket that is located on the vertical rail between shelves 4 and 5. The "legs" of the cables will be split with the "leg" that goes to shelf 5 being formed in a 180 degree bend up to and over the top of the cable management bracket above the CNI Module and down through the bracket to the respective termination points. The "leg" of the ED1T56-11 or ED1T56-12 cables that go to shelf 4 will be formed down the left side (rear view) of the CNI Module to the cable management bracket located just below the CNI Module. The cables will be run along along the bottom of the cable management bracket and up through the bracket to their respective termination points.
- 20 All loop cable types (see step 2) will be run through the cable access area at the side of the cable plate and corresponding hole in the top of the bay.

Note: The small rectangular hole at the back of the cable plate on the top of a J1T92B-1 CE-01 Bay **will not be used** for routing loop cables.
- 21 All loop cable types (see step 9) that terminate on shelf 5 only will be run to the top of the cable management bracket that is located above the rear of the CNI Module and down through the bracket to their respective termination points.
- 22 All loop cable types (see step 9) that terminate on shelf 4 only will be run down the left-side (rear view) of the CNI Module to the "L" bracket that is located on the vertical rail between shelves 4 and 5 and continuing to the cable management bracket located just below the CNI Module. The cables will be run along along the bottom of the cable management bracket and up through the bracket to their respective termination points.

- 23 All ED1T56-11 and ED1T56-12 multiplex loop cables will be run to the "L" bracket that is located on the vertical rail between shelves 4 and 5. The "legs" of the cables will be split with the "leg" that goes to shelf 5 being formed in a 180 degree bend up to and over the top of the cable management bracket above the CNI Module and down through the bracket to the respective termination points. The "leg" that goes to shelf 4 will be formed down the left side (rear view) of the CNI Module to the cable management bracket located just below the CNI Module. The cables will be run along along the bottom of the cable management bracket and up through the bracket to their respective termination points.
- 24 Neatly dress, form, and secure the cables down side of the CNI Module and within the cable management brackets using Ty-Raps as required.
- 25 Refer to Figure 9 or 10 for an example of how the cable form should appear on the back of the CNI Module in a J1T92A-1 CE-01 Bay.

Figure 9 – Peripheral Loop Cable Form

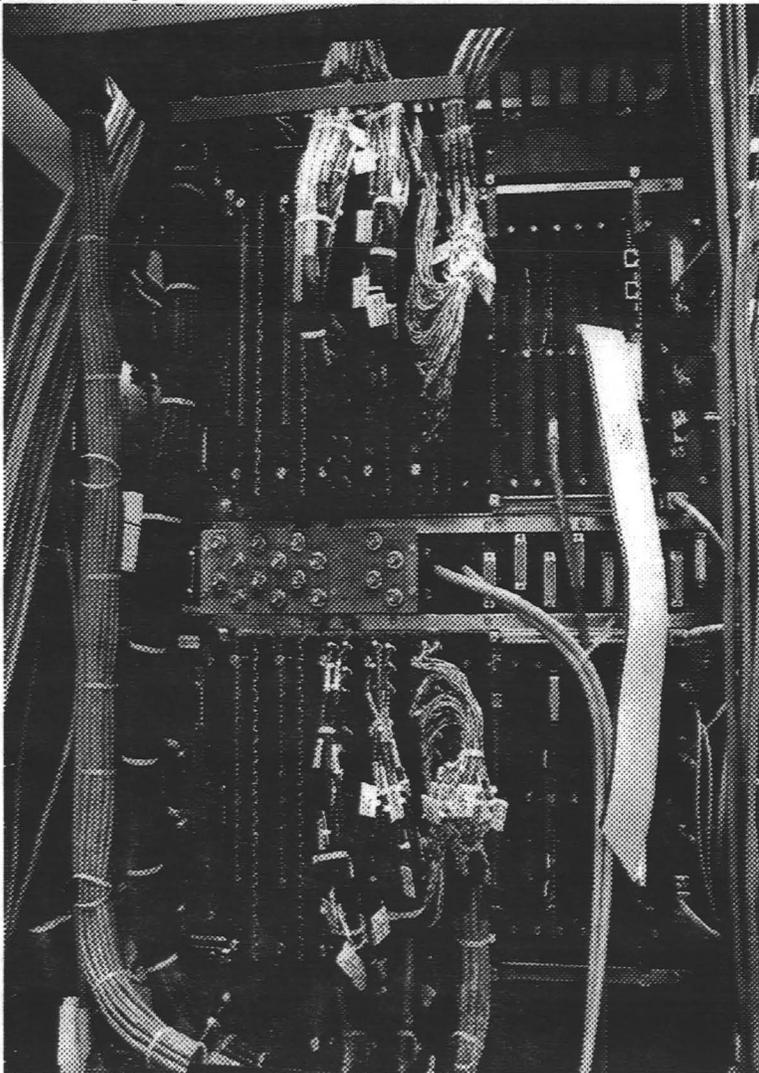
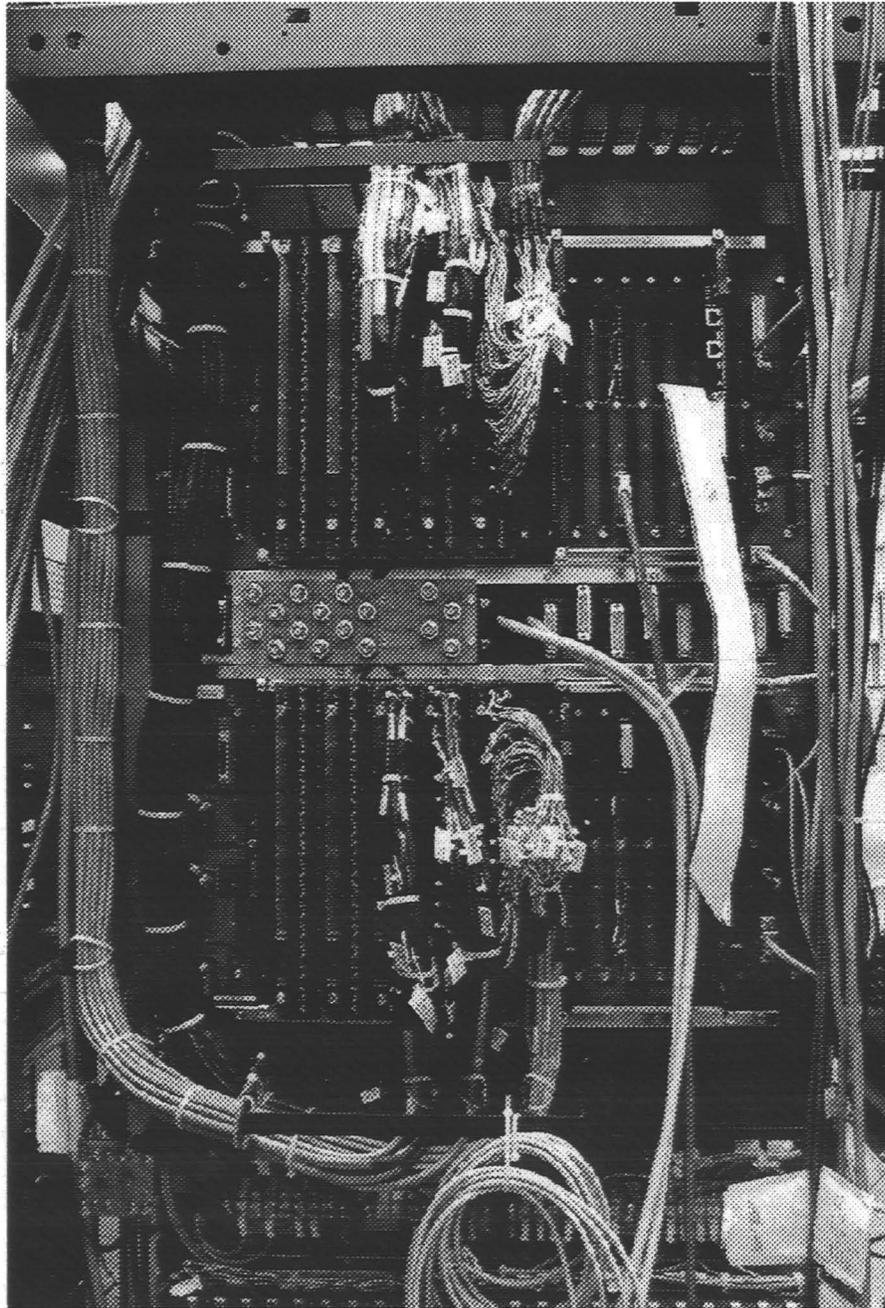


Figure 10 – Multiplex Loop Cable Form



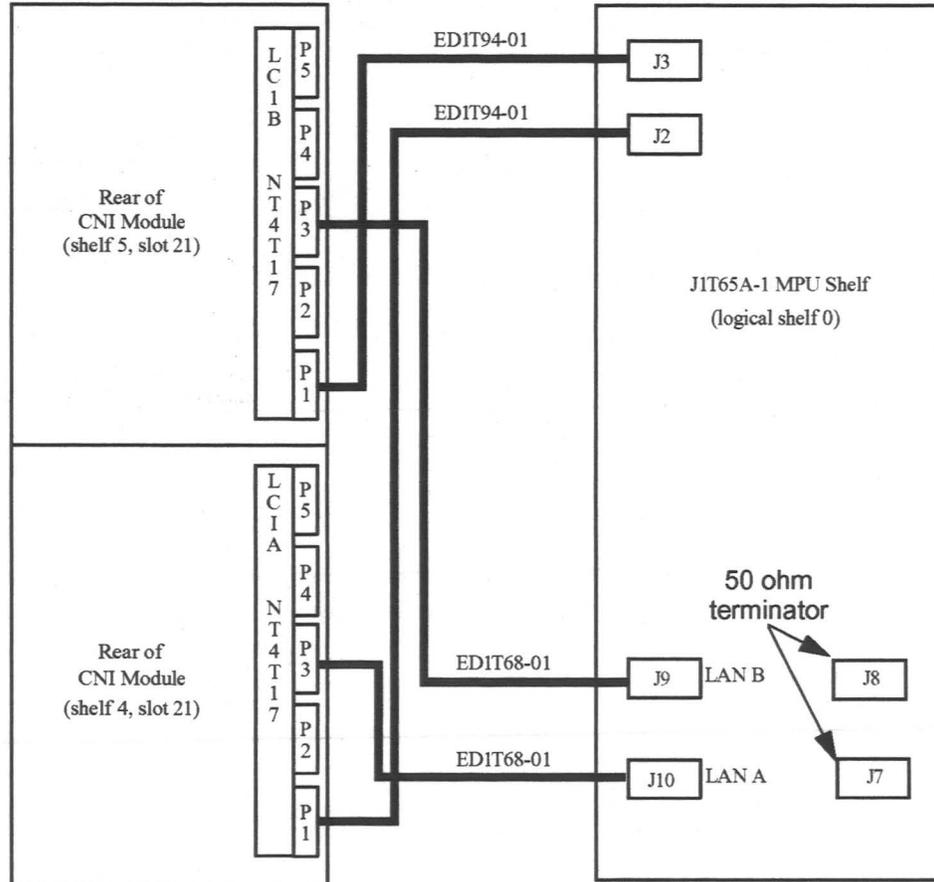
4.15 J1T65A-1 MPU Shelf Cabling

Caution: This subsection only applies to sites equipped with one or two J1T65A-1 MPU shelf(ves) that are currently inservice. The new ED1T68-01 LAN Coax and ED1T94-01 LAN Reset cables will be attached during execution of the upgrade.

- 1 Run the first ED1T68-01 cable through the cable access hole in the cable plate and through the corresponding hole in the top of the bay and down the side of the CNI Module with the Peripheral loop cable form.
- 2 Terminate the connectorized end of the cable on connector P3 of the 4T17 paddleboard in slot 21 on the rear of shelf 4 in the CNI Module.
- 3 Run the other end of this cable to the rear of the first J1T65A-1 MPU shelf near connector J10.
- 4 Run the second ED1T68-01 cable through the cable access hole in the cable plate and through the corresponding hole in the top of the bay and down the side of the CNI Module with the Peripheral loop cables.
- 5 Terminate the connectorized end of the cable on connector P3 of the 4T17 paddleboard in slot 21 on the rear of shelf 5 in the CNI Module.
- 6 Run the other end of this cable to the rear of the first J1T65A-1 MPU shelf near connector J9.
- 7 Run the first ED1T94-01 cable through the cable access hole in the cable plate and through the corresponding hole in the top of the bay and down the side of the CNI Module with the Peripheral loop cables.
- 8 Terminate the connectorized end of the cable on connector P1 of the 4T17 paddleboard in slot 21 on the rear of shelf 4 in the CNI Module.
- 9 Run the other end of this cable to the rear of the first J1T65A-1 MPU shelf near connector J3.
- 10 Run the second ED1T94-01 cable through the cable access hole in the cable plate through the corresponding hole in the top of the bay and down the side of the CNI Module with the Peripheral loop cables.
- 11 Terminate the connectorized end of the cable on connector P1 of the 4T17 paddleboard in slot 21 on the rear of shelf 5 in the CNI Module.
- 12 Run the other end of this cable to the rear of the first J1T65A-1 MPU shelf near connector J2.
- 13 If only one J1T65A-1 MPU Shelf is equipped, verify that 50 ohm terminators are located on J7 and J8 on the rear of the shelf.

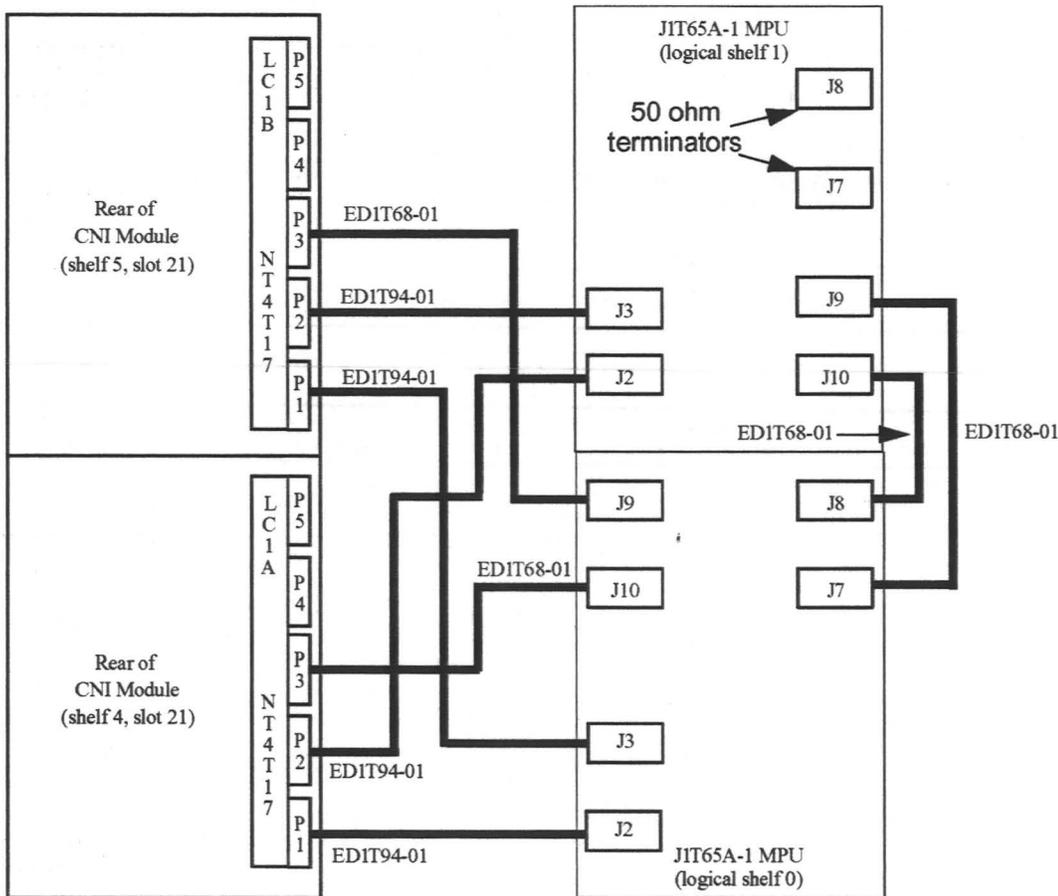
- 14 If the existing J1T65A-1 MPU shelf is located in position 1 of the old CE-01 Bay, the ED1T68-01 and ED1T94-01 cables will be changed during implementation of method 65-4909 titled, Relocate CCS7 Circuit Packs and Cables."
- 15 Refer to Figure 11 for an example of the ED1T68-01 and ED1T94-01 Cables connections for a single J1T65A-1 MPU Shelf application.

Figure 11 – ED1T68-01 and ED1T94-01 Cable Configuration for a single MPU shelf



- 16 If two J1T65A-1 MPU Shelves are equipped, verify that connectors J7 and J8 on the rear of the second shelf are equipped with 50 ohm terminators.
- 17 If one of the J1T65A-1 MPU Shelves is located in position 1 of the old CE-01 Bay, the ED1T68-01 and ED1T94-01 cables will be changed while implementing method 65-4909 titled, "Relocate CCS7 Circuit Packs and Cables."
- 18 Figure 12 portrays the ED1T68-01 and ED1T94-01 cabling configuration for a DMS-10 equipped with two MPU shelves.

Figure 12 – ED1T68-01 and ED1T94-01 Cables for two MPU Shelves



4.16 Serial Data Interface Cables

- 1 It Serial Data Interface (SDI) cables are provisioned, run one end of the cable through the left side opening in the cable plate and form it along with the other cables.
- 2 Terminate the network end of the cable on the appropriate paddleboard on the rear of the GPIO shelf or to the appropriate SDI connector on the CNI Module back plane.

Note: Slots 13 and 19 on both shelves in the CNI Module may be equipped with NT3T80BB Dual Serial Data Interface circuit packs. The NT3T80BB version is the only one that is compatible with the CNI Module. NT3T80AA and NT3T80BA circuit packs **will be** provisioned in the GPIO shelf, **not in** the CNI Module.

- 3 The relationship between slots 13 and 19 in both shelves of the CNI Module and the connectors on the back plane is as follows:

Shelf 4, slot 13, Port 0	Connector P40
Shelf 4, slot 13, Port 1	Connector P38
Shelf 4, slot 19, Port 0	Connector P53
Shelf 4, slot 19, Port 1	Connector P54
Shelf 5, slot 13, Port 0	Connector P39
Shelf 5, slot 13, Port 1	Connector P37
Shelf 5, slot 19, Port 0	Connector P51
Shelf 5, slot 19, Port 1	Connector P52

- 4 NT3T80 circuit packs with any suffix code may be equipped in slots 4 through 9 and slots 12 through 18 of a J1T80A-1 GPIO Shelf.
- 5 A NT3T45Cx Bus terminator is required for slots 11 and 12 on the rear of the GPIO Shelf in every case.
- 6 A NT3T45Dx Paddle Board is used on the back of the GPIO shelf in slots 4 through 9 and slots 13 through 18 when a NT3T80 circuit pack is equipped.
- 7 Extend the other end of the SDI cable to the printer/terminal/modem device as indicated in the job specification.

4.17 Synchronous Clock Cables

Caution: If the J1T92 CE-01 Bay is being added as part of an upgrade from a Classic Network to an Expanded Network, the sync clock cable will be attached to the external clock source during implementation of the upgrade.

- 1 The Dual Inline Position (DIP) switches on the NT3T70BD, or later, System Bus Controller circuit packs in the CNI Modules **will be set for External Clock in all cases.**
- 2 The CNI Module requires one NT3T47 Synchronous Clock circuit pack in each shelf, as well as, an 8 kHz clock source. The 8 kHz clock may be obtained from a J0T13A-1 DCM Shelf, a J1T80A-2 DCI Shelf, or from an external source such as; the Telecom Solutions Digital Clock Distributor.
- 3 An ED0T25-57 cable is used when a J0T13A-1 DCM Shelf provides the clock source, an ED0T25-58 cable is used when a J1T80A-2 DCI Shelf provides the clock source, and an ED0T12-06 cable is used for any other external clock source.
- 4 In all three cases, the cable for the Primary clock source will attach to connector P35 on the back plane of the CNI Module and the cable for the Alternate clock source will attach to connector P36 on the back plane of the CNI Module.
- 5 Run the sync clock cable through the cable access hole in the cable plate and through the corresponding hole in the top of the CE-01 Bay and down the side of the CNI Module with the loop cable form
- 6 Extend the other end of the cable to the clock source as directed in the Job Specifications.
- 7 Wiring instructions for the ED0T12-06 CNI-BITS Sync Clock Cable are presented in Appendix B at the end of this method.

4.18 Ethernet Cabling

- 1 Refer to the job specification to determine the termination locations for the NTRX1675 Ethernet Cables.
- 2 A quantity of 4 NTRX1675 cables will be provisioned for each site. These cables will be run down the left side of the CE-01 bay and formed with the loop cables and routed to the NT3T84 Paddle Boards on the rear of the CNI Module.
- 3 Run the first NTRX1675 Ethernet cable from the location of the data equipment to the CNI module and terminate the first ethernet cable on connector P1 located the NT3T84 Paddle Board in shelf position 4 of the CNI Module.
- 4 Run the second NTRX1675 Ethernet cable from the location of the data equipment to the CNI module and terminate the cable on connector P2 located the NT3T84 Paddle Board in shelf position 4 of the CNI Module.
- 5 Run the third NTRX1675 Ethernet cable from the location of the data equipment to the CNI module and terminate the cable on connector P1 located the NT3T84 Paddle Board in shelf position 5 of the CNI Module.
- 6 Run the fourth NTRX1675 Ethernet cable from the location of the data equipment to the CNI module and terminate the cable on connector P2 located the NT3T84 Paddle Board in shelf position 5 of the CNI Module.
- 7 The other end of the ethernet cables will be terminated later when installing the data equipment. Refer to Method 28-4910 "DMS-10 501 Base Data Solution" for additional information.

4.19 I/O Drive Cable

- 1 Verify that an ED2T97-01 cable is installed from connector P2 on the NT3T87BB Paddle Board located on the rear of the GPIO shelf in slot 10 connector P2 to connector P45 on shelf 5 of the CNI Module back plane.

4.20 Interbay Alarm Cable

- 1 Refer to the job specification and locate the ED0T25-32 interbay alarm cable.
- 2 Run one end of the interbay cable through the cable plate and down the left side of the frame to the Power Cooling module. Do Not run the interbay cable through the cable plate openings for the multiplex loop cables that are located toward the center of the cable plate.
- 3 Terminate the 30 pin connector on the right half of Connector C located on the rear of the power cooling module of the CE-01 bay.
- 4 Extend the free end of the interbay cable to the CE-03 frame power cooling module.
- 5 For upgrade applications, this cable will be terminated at a later time to an alarm extension cable.
- 6 For DMS-10 initial applications terminate the ED0T25-32 cable on the left half of Connector C located on the rear of the power cooling module of the CE-03 bay.

4.21 Miscellaneous Trim

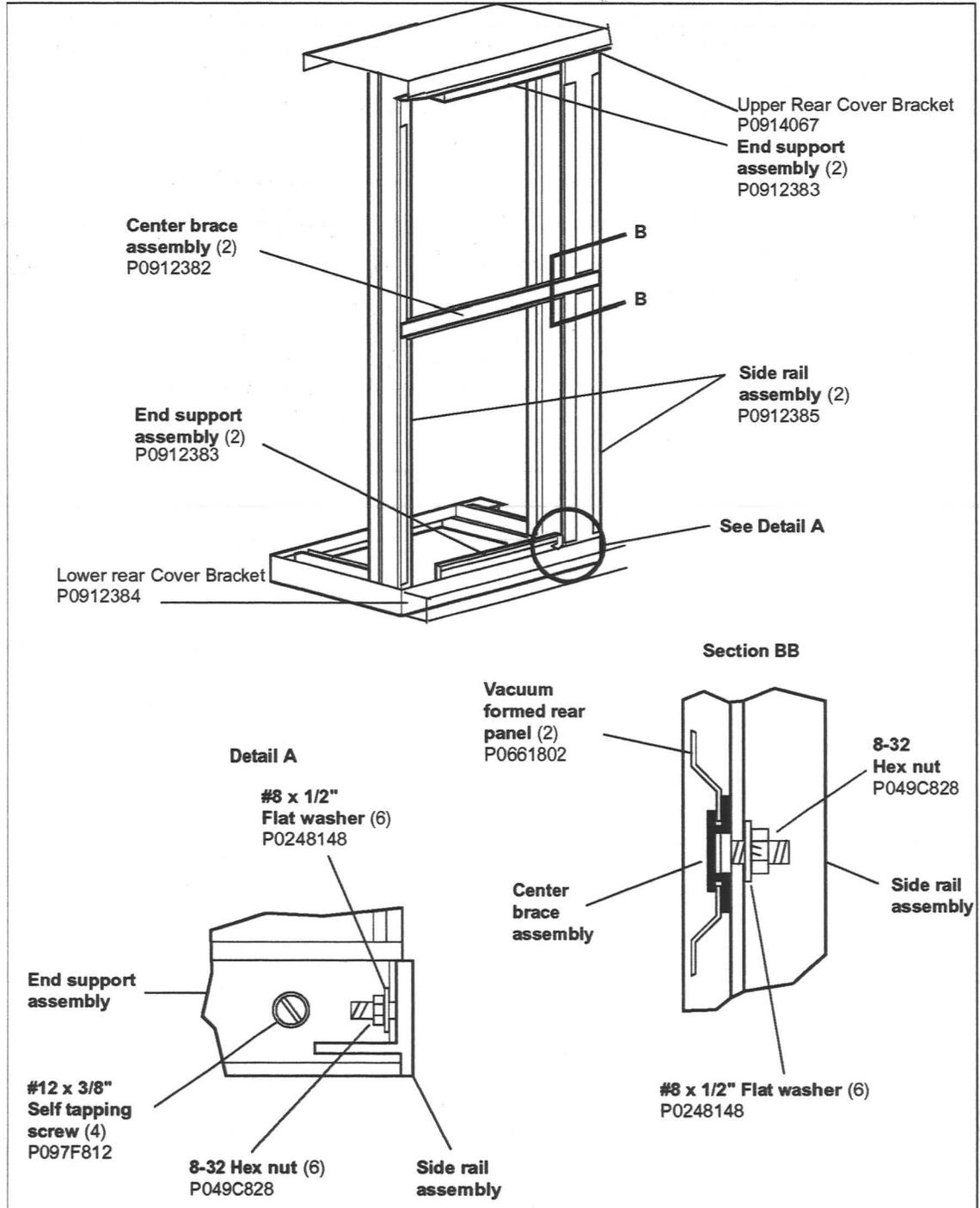
- 1 All of the miscellaneous trim with the exception of the rear cover assemblies is the same as the existing 400 Series DMS-10.
- 2 Refer to Method 03-4210 "Miscellaneous Trim and Designations DMS-10 Physical Handbook" for detail on installing this equipment.
- 3 New rear cover assemblies have been designed for the 500 Series J1T92A/B CE-01 frame. The following steps will provide the information required to install the rear covers.

4.22 Install 400 Series Expanded Rear Covers

- 1 To install the NT8TM30 32" bay rear cover kit for the J1T92A CE-01 bay, obtain and assemble the piece parts shown in Figure 11.
- 2 Do *not* install the rear panels on the 32" bays until all cables have been run and are neatly formed in each bay.
- 3 Install the metal framework for the rear panels on 32" bays after the installation of all other cosmetic trim hardware has been completed.
- 4 Install the upper rear cover mounting bracket (P0914067) on the top rear of the CE-01 bay with two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread into the top of the frame.
- 5 Install the lower rear cover mounting bracket (P0912384) on the bottom rear of the CE-01 bay with two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread into the base of the frame.
- 6 Install one end support assembly on the bottom rear of the CE-01 bay using two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread down into the lower rear cover mounting bracket at the base of the frame. Refer to Figure 11, Detail A.
- 7 Install one end support assembly on the top rear of the CE-01 bay using two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread up into the upper rear cover mounting bracket are the same screws that secure the top panels. Refer to Figure 11, Detail A.
- 8 Install one side rail assembly on the left rear of the bay, using two #8 x 1/2" flat washers and two 8-32 hex nuts. The 8-32 hex nuts should only be finger-tight at this time. Refer to Figure 11, Detail A.
- 9 Install one side rail assembly on the right rear of the bay, using two #8 x 1/2" flat washers and two 8-32 hex nuts. The 8-32 hex nuts should only be finger-tight at this time. Refer to Figure 11, Detail A.
- 10 Install the center brace assembly on the left and right side rail assemblies of the bay using two #8 x 1/2" flat washers and two 8-32 hex nuts. Refer to Figure 11, View BB.
- 11 Obtain two vacuum formed rear panels and install two latch assemblies on each rear panel.

- 12 Install the vacuum formed rear panels, with the latch assemblies in the unlocked position, on the top and bottom rear of the bay. The top and bottom edges of the rear panel will fit in the grooved slots on the center brace assembly and the end support assembly. Twist latch assemblies to the locked position.

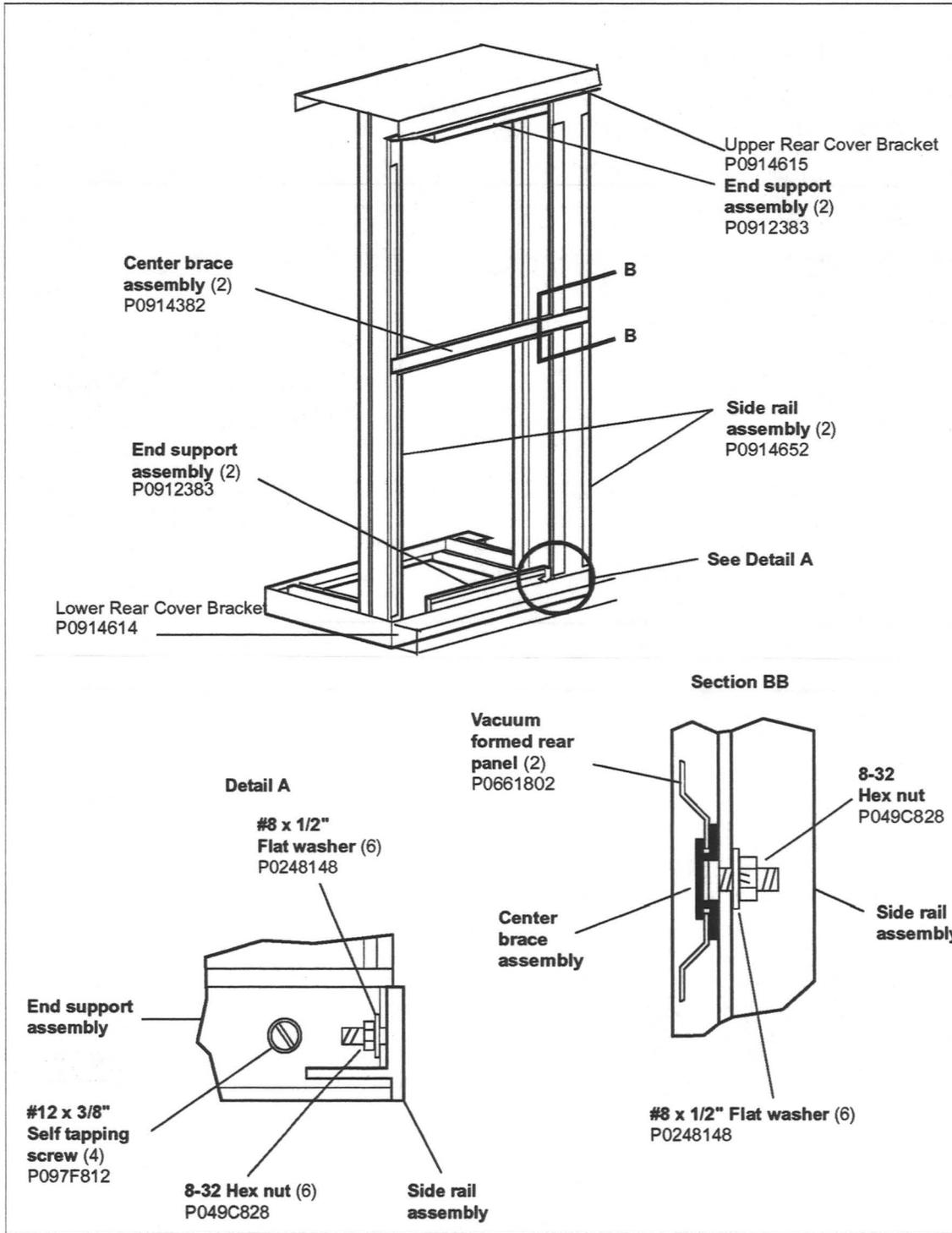
Figure 13 – 400 Series Expanded Rear Covers



4.23 Install 300 Series Expanded Rear Covers

- 1 To install the NT8T8M40 32" bay rear cover kit on the J1T92B CE-01, obtain and assemble the piece parts shown in Figure 12.
- 2 Do *not* install the rear panels on the 32" bays until all cables have been run and are neatly formed in each bay.
- 3 Install the metal framework for the rear panels on 32" bays after the installation of all other cosmetic trim hardware has been completed.
- 4 Install the upper rear cover mounting bracket (P0914067) on the top rear of the CE-01 bay with two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread into the top of the frame.
- 5 Install the lower rear cover mounting bracket (P0912384) on the bottom rear of the CE-01 bay with two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread into the base of the frame.
- 6 Install one end support assembly on the bottom rear of the CE-01 bay using two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread down into the lower rear cover mounting bracket at the base of the frame. Refer to Figure 12, Detail A.
- 7 Install one end support assembly on the top rear of the CE-01 bay using two #12 x 3/8" tap screws. The #12 x 3/8" tap screws thread up into the upper rear cover mounting bracket are the same screws that secure the top panels. Refer to Figure 12, Detail A.
- 8 Install one side rail assembly on the left rear of the bay, using two #8 x 1/2" flat washers and two 8-32 hex nuts. The 8-32 hex nuts should only be finger-tight at this time. Refer to Figure 12, Detail A.
- 9 Install one side rail assembly on the right rear of the bay, using two #8 x 1/2" flat washers and two 8-32 hex nuts. The 8-32 hex nuts should only be finger-tight at this time. Refer to Figure 12, Detail A.
- 10 Install the center brace assembly on the left and right side rail assemblies of the bay using two #8 x 1/2" flat washers and two 8-32 hex nuts. Refer to Figure 12, View BB.
- 11 Obtain two vacuum formed rear panels and install two latch assemblies on each rear panel.
- 12 Install the vacuum formed rear panels, with the latch assemblies in the unlocked position, on the top and bottom rear of the bay. The top and bottom edges of the rear panel will fit in the grooved slots on the center brace assembly and the end support assembly. Twist latch assemblies to the locked position.

Figure 14 – J1T92B-1 Expanded Rear Covers



4.24 J1T92 CE-01 Bay Power Up

Procedure 1 – J1T92 CE-01 Bay Power Up (Page 1 of 4)				
Step	Action	From	To	Observation
1	<p>Verify Personal Hazard Ground cable.</p> <p>Note: Before conducting this test, set the digital meter to measure resistance and touch the ends of the meter probes together. The amount of resistance noted on the digital meter will be subtracted from the value noted in the test.</p> <p>Connect a digital meter, set for measuring resistance, between the ground ribbon above the new CE-01 bay and the Frame Ground Bar and verify the meter indicates a resistance of 1 ohm or less. It may be necessary to extend the length of the meter probes by using jumper wire to reach the location of the Frame Ground Bar. Remember to subtract any resistance noted when testing the meter probes.</p> <p>If the resistance measurement is more than 1 ohm, locate the temporary Personal Hazard Ground cable that was previously installed and correct the problem prior to powering up the new CE-01 frame.</p>			
2	<p>Verify Logic Ground cable.</p> <p>Connect a digital meter, set for measuring dc voltage, between the J0T99A-3 Logic Ground bar in the new CE-01 bay and a convenient source of nominal office battery, such as; TB-1, pin 1 on the rear of the Power Cooling Module in the old CE-01 Bay. Verify that the meter indicates a dc voltage measurement that is similar to the dc voltage (plus or minus 2.0 volts) as measured between the "A" or "B" office battery bus bars and the Ground Junction Assembly.</p> <p>If the voltage measurement is not similar to the nominal office battery, verify the Logic Ground cable from the new CE-01 Bay to the new/existing Logic Ground Bar in the CE-03 Bay is correctly installed and verify the Logic Ground Cable from the J0T99A-3 Ground Bar (old or new) in the CE-03 Bay to the Ground Junction is correctly installed before powering up the new CE-01 Bay.</p>			
3	<p>If the new J1T92B-1 CE-01 Bay is being installed as part of an upgrade from a Classic Network to an Expanded Network, a temporary strap is required on the CNI Module back plane to ensure the Fail Lamp on the NT3T19 Power Converter circuit packs in the CNI Module will illuminate. This temporary strap will be installed from Pin 26A to Pin 27A or from 26B to 27B on slot 1 in shelf 4 of the CNI Module. An A0384362 Line Drawer Cut Over Strap may be used. Two of the A0384362 straps will be added to the NTY615AC Spare Parts Kit in the fourth quarter of 2001. If the A0384362 strap is not available, a 26 AWG wire may be installed with a Modified Wire Wrap Bit.</p> <p>Caution: The temporary strap will be removed after the Fail Lamp on the NT3T19 Power Converter circuit packs in the CNI Module have been verified. Failure to remove the temporary strap is likely to cause the ABSCE Fuse in the ABS Fuse Panel to blow when the alarm cable from the J1T92 CE-01 Bay is attached to the local bay cable in the CE-03 Bay while executing the upgrade.</p>			

Procedure 1 – J1T92 CE-01 Bay Power Up (Page 2 of 4)

Step	Action	From	To	Observation
4	Locate the A circuit breaker for the J1T92 CE-01 Bay and connect the capacitor forming tool to the circuit breaker.	Line side	Load side	The bulb must gradually dim or not illuminate at all. If not, check for shorts.
5	After the capacitor forming tool light dims, operate the A circuit breaker for the CE-01 Bay to the <i>ON</i> position.			
6	On the rear of the Power Cooling Module in the J1T92 CE-01 bay verify that office battery is present.	TB-1, pin 3	TB-1, pin 1	Meter reads -52 Vdc +/- 2V.
7	Locate the B circuit breaker for the J1T92 CE-01 Bay and connect the capacitor forming tool to the circuit breaker.	Line side	Load side	The bulb must gradually dim or not illuminate at all. If not, check for shorts.
8	After the capacitor forming tool light dims, operate the B circuit breaker for the CE-01 Bay to the <i>ON</i> position.			
9	On the rear of the Power Cooling Module in the J1T92 CE-01 bay verify that office battery is present.	TB-1, pin 3	TB-1, pin 2	Meter reads -52 Vdc +/- 2V.
10	Verify that the Enable switches equipped on all circuit packs in the J1T92 CE-01 Bay are in the down or disable position.			
11	Install the Fan fuses in the front of the CE-01 Bay Power Cooling Module.			Verify that the fans in the J1T92 CE-01 Bay start to operate.
12	Operate the circuit breaker on the Power Cooling Module for LEFT SHELF 4 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 4 comes <i>ON</i> .
13	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 1 of shelf 4.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 4 goes <i>OFF</i> and the POWER led comes <i>ON</i> .

Procedure 1 – J1T92 CE-01 Bay Power Up (Page 3 of 4)				
Step	Action	From	To	Observation
14	Operate the circuit breaker on the Power Cooling Module for RIGHT SHELF 4 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 22 of shelf 4 comes <i>ON</i> .
15	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 22 of shelf 4.			Verify the FAIL led on the NT3T19 power converter in slot 22 of shelf 4 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
16	Operate the circuit breaker on the Power Cooling Module for LEFT SHELF 5 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 5 comes <i>ON</i> .
17	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 1 of shelf 5.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 5 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
18	Operate the circuit breaker on the Power Cooling Module for RIGHT SHELF 5 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 22 of shelf 5 comes <i>ON</i> .
19	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 22 of shelf 5.			Verify the FAIL led on the NT3T19 power converter in slot 22 of shelf 5 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
20	Operate the circuit breaker on the Power Cooling Module for LEFT SHELF 3 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 3 comes <i>ON</i> .
21	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 1 of shelf 3.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 3 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
22	Operate the circuit breaker on the Power Cooling Module for RIGHT SHELF 3 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 21 of shelf 3 comes <i>ON</i> .
23	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 21 of shelf 3.			Verify the FAIL led on the NT3T19 power converter in slot 21 of shelf 3 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
24	If position 2 of the J1T92 CE-01 Bay is vacant, go to step 26. Otherwise, go to the next step.			

Procedure 1 – J1T92 CE-01 Bay Power Up (Page 4 of 4)				
Step	Action	From	To	Observation
25	Operate the circuit breaker on the Power Cooling Module for LEFT SHELF 2 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 2 comes <i>ON</i> .
26	Press the RESET button on the face plate of the NT3T19 Power Converter in slot 1 of shelf 2.			Verify the FAIL led on the NT3T19 power converter in slot 1 of shelf 2 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
27	Operate the circuit breaker on the Power Cooling Module for RIGHT SHELF 2 to the <i>ON</i> position.			Verify the FAIL led on the NT3T19 power converter in right-most slot of shelf 2 comes <i>ON</i> .
28	Press the RESET button on the face plate of the NT3T19 Power Converter in the right-most slot of shelf 2.			Verify the FAIL led on the NT3T19 power converter in right-most slot of shelf 2 goes <i>OFF</i> and the POWER led comes <i>ON</i> .
29	Verify the BAY led and FAN led are <i>OFF</i> on the Power Cooling Module in the J1T92 CE-01 Bay			
<p>Caution: The temporary strap installed from pin 26A to 27A or 26B to 27B on shelf 4, slot 1 will be removed at this time. Failure to remove the temporary strap is likely to cause the ABSCE Fuse in the ABS Fuse Panel to blow when the alarm cable from the J1T92 CE-01 Bay is attached to the local bay cable in the CE-03 Bay during the Expanded Network Upgrade.</p>				
30	End of J1T92 CE-01 Bay Power Up.			

5.0 References

Document	Number	Title
IM	03-4200	DMS-10 Physical Handbook
NTP	297-3501-xxx	500 Series DMS-10 Nortel Networks Technical Publications

Appendix A – Multiplex Loop Cable Connection Details

Table 1 – Multiplex Loop Cable Connection Details (Page 1 of 5)		
Step	Action	Observation
1	<p>Standard and Non-Standard connection information for EDIT56-11 Multiplex Loop Cables used when JOT29, JOT59, and/or JOT90 Peripheral Equipment shelves are equipped in "tall" JOT30 PE Bays is presented in steps 5 through 7.</p> <p>Standard and Non-Standard connection information for EDIT56-12 Multiplex Loop Cables used when JOT29, JOT59, and/or JOT90 Peripheral Equipment shelves are equipped in "tall" JOT30 PE Bays is presented in steps 8 through 11.</p> <p>Standard and Non-Standard connection information for EDIT56-11 Multiplex Loop Cables used when JOT59 and/or JOT90 Peripheral Equipment shelves are equipped in "short" JOT30 PE Bays is presented in steps 12 through 16.</p> <p>Standard and Non-Standard connection information for EDIT56-11 Multiplex Loop Cables used on JOT13A-1 DCM Shelves is presented in steps 17 and 18 .</p> <p>Standard and Non-Standard connection information for an EDIT56-12 Multiplex Loop Cables used on a JOT13A-1 DCM Shelves is presented in steps 19 and 20.</p> <p>Standard and Non-Standard connection information for EDIT56-11 Multiplex Loop Cables used on a JOT53A-1 REM Local Shelf is presented in steps 21 through 25.</p> <p>Standard and Non-Standard connection information for an EDIT56-12 Multiplex Loop Cable used on a JOT53A-1 REM Local Shelf is presented in steps 26 and 27.</p>	
2	It is recommended to enter a QUE PSHF ALL command in overlay program CPK on the Classic Network DMS-10 in order to facilitate understanding of the Peripheral Loops (PELPS) assigned to the PE Shelves. This response will be used to determine the configuration that is used for all PE shelves.	
3	It is recommended to enter a QUE DCM ALL command in overlay program CPK on the Classic Network DMS-10 in order to facilitate understanding of the Peripheral Loops (PELPS) assigned to the DCMs. This response will be used to determine the configuration that is used for all DCM shelves.	
4	If JOT53A-1 REM Local shelves are equipped, it is recommended to enter a QUE REM ALL command in overlay program NET on the Classic Network DMS-10 in order to facilitate understanding of the Peripheral Loops (PELPS) assigned to the OCM shelves. This response will be used to determine the configuration that is used for all REM Local shelves.	

Table 1 – Multiplex Loop Cable Connection Details (Page 2 of 5)		
Step	Action	Observation
ED1T56-11 Multiplex Loop cable information for a "tall" PE Bay starts here:		
5	An ED1T56-11 Multiplex Loop cable attaches to connector PE-3 Right on the top of the PE bay.	
	<i>Note:</i> The ED1T56-11 Multiplex Loop cable is typically used for an even-numbered PE Bay.	
6	If standard configuration is used, the following relationship exists between the PELP connectors of an ED1T56-11 Multiplex Loop cable and the PE shelves in a "tall" J0T30 PE Bay:	
	<ul style="list-style-type: none"> • Connector A controls PE shelves 2 and 4 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls PE shelves 1 and 3 and attaches to a PELP in shelf 4 of the CNI Module. 	
7	If non-standard configuration is used, the following relationship exists between the PELP connectors of an ED1T56-11 Multiplex Loop cable and the PE shelves in a "tall" J0T30 PE Bay:	
	<ul style="list-style-type: none"> • Connector A controls PE shelves 2 and 4 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls PE shelves 1 and 3 and attaches to a PELP in shelf 5 of the CNI Module. 	
ED1T56-12 Multiplex Loop cable information for a "tall" PE Bay starts here:		
8	An ED1T56-12 Multiplex Loop cable attaches to connector PE-2 on the top of the "tall" PE bay.	
	<i>Note:</i> The ED1T56-12 Multiplex Loop cable is typically used for an odd-numbered PE Bay.	
9	An existing ED0T25-18 Inter-Bay Multiplex Loop Jumper cable (from connector PE-3 Left on the top of the PE Bay) is used to extend two of the four loops in the ED1T56-12 Multiplex Loop cable to shelves 5 and 6 in the same PE Bay and to shelves 5 and 6 in an adjacent PE Bay.	
	<i>Note:</i> In some cases, an existing ED0T25-11 Multiplex Loop Jumper cable may be used to extend two loops from connector PE-3 Left on this PE Bay to connector PE-2 on the top of another PE Bay that may or may not be adjacent. This configuration is not typical and may cause timing problems with long versions of the ED1T56-12 Multiplex Loop cable. DED745 messages on the affected PE shelves may be noted. Contact the Nortel Networks Engineering Action Center for assistance if this problem occurs.	
10	If standard configuration is used, the following relationship exists between the PELP connectors on an ED1T56-12 Multiplex Loop cable and the PE shelves in a "tall" J0T30 PE Bay:	
	<ul style="list-style-type: none"> • Connector A controls PE shelves 2 and 4 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls shelf 6 in this PE bay and shelf 6 in the adjacent PE bay and attaches to a PELP in shelf 5 of the CNI Module. • Connector C controls PE shelves 1 and 3 and attaches to a PELP in shelf 4 of the CNI Module. • Connector D controls shelf 5 in this PE bay and shelf 5 in the adjacent PE bay and attaches to a PELP in shelf 4 of the CNI Module. 	
11	If non-standard configuration is used, the following relationship exists between the PELP connectors of an ED1T56-12 Multiplex Loop cable and the PE shelves in a "tall" J0T30 PE Bay:	
	<ul style="list-style-type: none"> • Connector A controls PE shelves 2 and 4 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls shelf 6 in this PE bay and shelf 6 in the adjacent PE bay and attaches to a PELP in shelf 4 of the CNI Module. • Connector C controls PE shelves 1 and 3 and attaches to a PELP in shelf 5 of the CNI Module. • Connector D controls shelf 5 in this PE bay and shelf 5 in the adjacent PE bay and attaches to a PELP in shelf 5 of the CNI Module. 	

Table 1 – Multiplex Loop Cable Connection Details (Page 3 of 5)		
Step	Action	Observation
ED1T56-11 Multiplex Loop cable information for a "short" PE Bay starts here:		
12	One or two ED1T56-11 Multiplex Loop cable(s) attach to the rear of the Bay Supervisory Panel.	
13	<p>If standard TRNK configuration is used, the following relationship exists between the PELP connectors on the first and second ED1T56-11 Multiplex Loop cables and the PE shelves in a "short" JOT30 PE Bay:</p> <ul style="list-style-type: none"> • The first ED1T56-11 cable attaches to connector PE-3 Left on the BSP: • Connector A controls PE shelf 2 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls PE shelf 1 and attaches to a PELP in shelf 4 of the CNI Module. • The second ED1T56-11 cable attaches to connector PE-3 Right on the BSP: • Connector A controls PE shelf 4 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls PE shelf 3 and attaches to a PELP in shelf 4 of the CNI Module. 	
14	<p>If non-standard TRNK configuration is used, the following relationship exists between the PELP connectors on the first and second ED1T56-11 Multiplex Loop cables and the PE shelves in a "short" JOT30 PE Bay:</p> <ul style="list-style-type: none"> • The first ED1T56-11 cable attaches to connector PE-3 Left on the BSP: • Connector A controls PE shelf 1 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls PE shelf 2 and attaches to a PELP in shelf 5 of the CNI Module. • The second ED1T56-11 cable attaches to connector PE-3 Right on the BSP: • Connector A controls PE shelf 3 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls PE shelf 4 and attaches to a PELP in shelf 5 of the CNI Module. 	
15	<p>If standard LINE configuration is used, the following relationship exists between the PELP connectors on the ED1T56-11 Multiplex Loop cable and the PE shelves in a "short" JOT30 PE Bay:</p> <ul style="list-style-type: none"> • The ED1T56-11 cable attaches to connector PE-2 on the BSP: • Connector A controls PE shelf 2 and 4 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls PE shelf 1 and 3 and attaches to a PELP in shelf 4 of the CNI Module. 	
16	<p>If non-standard LINE configuration is used, the following relationship exists between the PELP connectors on the ED1T56-11 Multiplex Loop cable and the PE shelves in a "short" JOT30 PE Bay:</p> <ul style="list-style-type: none"> • The ED1T56-11 cable attaches to connector PE-2 on the BSP: • Connector A controls PE shelf 1 and 3 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls PE shelf 2 and 4 and attaches to a PELP in shelf 5 of the CNI Module. 	
ED1T56-11 Multiplex Loop cable information for a DCM Shelf starts here:		
17	<p>If standard configuration is used, the following relationship exists between the PELP connectors on a ED1T56-11 Multiplex Loop cable and the DCMs in a JOT13A-1 shelf:</p> <ul style="list-style-type: none"> • The ED1T56-11 cable attaches to connector B-Bottom on the DCM Shelf. • Connector A controls slot 18 and is attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls slot 8 and is attaches to a PELP in shelf 4 of the CNI Module. 	
18	<p>If non-standard configuration is used, the following relationship exists between the PELP connectors on a ED1T56-11 Multiplex Loop cable and the DCMs in a JOT13A-1 shelf:</p> <ul style="list-style-type: none"> • The ED1T56-11 cable attaches to connector B-Bottom on the DCM Shelf. • Connector A controls slot 18 and is attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls slot 8 and is attaches to a PELP in shelf 5 of the CNI Module. 	

Table 1 – Multiplex Loop Cable Connection Details (Page 4 of 5)		
Step	Action	Observation
EDIT56-12 Multiplex Loop cable information for a DCM Shelf starts here:		
19	If standard configuration is used, the following relationship exists between the PELP connectors on a EDIT56-12 Multiplex Loop cable and the DCMs in a J0T13A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls slot 15 and attaches to a PELP in shelf 5 of the CNI Module. • Connector C controls slot 2 and attaches to a PELP in shelf 4 of the CNI Module. • Connector D controls slot 5 and attaches to a PELP in shelf 4 of the CNI Module.
20	If non-standard configuration is used, the following relationship exists between the PELP connectors on a EDIT56-12 Multiplex Loop cable and the DCMs in a J0T13A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls slot 15 and attaches to a PELP in shelf 4 of the CNI Module. • Connector C controls slot 2 and attaches to a PELP in shelf 5 of the CNI Module. • Connector D controls slot 5 and attaches to a PELP in shelf 5 of the CNI Module.
EDIT56-11 Multiplex Loop cable information for a J0T53A-1 REM Local Shelf starts here:		
21	One or two EDIT56-11 Multiplex Loop cables may be attached to a J0T53A-1 REM Local Shelf.	
22	If standard configuration is used, the following relationship exists between the PELP connectors on the first EDIT56-11 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls slot 3 and is attaches to a PELP in shelf 4 of the CNI Module.
23	If standard configuration is used, the following relationship exists between the PELP connectors on the second EDIT56-11 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 16 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls slot 7 and attaches to a PELP in shelf 4 of the CNI Module.
24	If non-standard configuration is used, the following relationship exists between the PELP connectors on the first EDIT56-11 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls slot 3 and attaches to a PELP in shelf 5 of the CNI Module.
25	If non-standard configuration is used, the following relationship exists between the PELP connectors on the second EDIT56-11 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 16 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls slot 7 and attaches to a PELP in shelf 5 of the CNI Module.

Table 1 – Multiplex Loop Cable Connection Details (Page 5 of 5)		
Step	Action	Observation
EDIT56-12 Multiplex Loop cable information for a J0T53A-1 REM Local Shelf starts here:		
26	If standard configuration is used, the following relationship exists between the PELP connectors on an EDIT56-12 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 5 of the CNI Module. • Connector B controls slot 16 and attaches to a PELP in shelf 5 of the CNI Module. • Connector C controls slot 3 and attaches to a PELP in shelf 4 of the CNI Module. • Connector D controls slot 7 and attaches to a PELP in shelf 4 of the CNI Module.
27	If non-standard configuration is used, the following relationship exists between the PELP connectors on an EDIT56-12 Multiplex Loop cable and the OCMs in a J0T53A-1 shelf:	<ul style="list-style-type: none"> • Connector A controls slot 12 and attaches to a PELP in shelf 4 of the CNI Module. • Connector B controls slot 16 and attaches to a PELP in shelf 4 of the CNI Module. • Connector C controls slot 3 and attaches to a PELP in shelf 5 of the CNI Module. • Connector D controls slot 7 and attaches to a PELP in shelf 5 of the CNI Module.
28	End of Multiplex Loop Connection Details.	

Appendix B – ED0T12-06 BITS-CNI Sync Clock Cable Wiring

ED0T12-06 BITS-CNI Sync Clock Cable Wiring		
Connector P35 (Cable A)		
Pin Number	Wire Color	Signal Name
1	White/Blue	-8KC_PRM
2	N/C	N/A
3	Shield	Drain
4	N/C	N/A
5	N/C	N/A
6	Blue/White	+8KC_PRM
7	N/C	N/A
8	N/C	N/A
9	N/C	N/A
Connector P36 (Cable B)		
Pin Number	Wire Color	Signal Name
1	White/Orange	-8KC_ALT
2	N/C	N/A
3	Shield	Drain
4	N/C	N/A
5	N/C	N/A
6	Orange/White	+8KC_ALT
7	N/C	N/A
8	N/C	N/A
9	N/C	N/A

Last Page