INSTALLATION PROCEDURES FOR DIGITAL SYSTEMS ACCESS BAY (DSAB1)

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Material ID 846 811 800

General

The Digital Systems Access Bays (DSABs) are robust intermediary termination points between Digital Cross-Connect Systems (DCSs) and various network elements. Digital Systems Access Bays provide a convenient termination point for dissimilar cables (pair count, gauge, insulation, etc.) in a location that is removed from the backplane of the DCS Interface Bays. Connections on the backplane of the DCS Interface Bay may be directly cabled to the DSAB at the time of installation and left permanently in place. Future installations, removals, and rearrangements can be performed directly at the DSAB, away from sensitive DCS backplanes. The three DSABs are designed to match the cabling complements and density of the DACS III-2000 and the DACS IV-2000 Interface Bays. The DSAB1 is designed to match the DACS IV-2000 DS1, the DSAB3/1 to match the DACS IV-2000 DS3, and the DSAB3/3 to match the DACS III-2000 DS3 Interface Bays.

Equipment Description

This instruction sheet covers equipment installation for the Digital Systems Access Bay 1 (DSAB1) panel. The DSAB1 panel is intended for use with the DS1 Interface Bay of the DACS IV-2000. The DSAB1 bay contains up to four panels (868 circuits) cabled directly from the Interface Bay. A full DSAB1 bay is composed of three panels containing 224 circuits each and a fourth containing 196 circuits, for a total of 868 circuits per bay. Each DSAB1 panel exactly matches the cabling of a corresponding DACS IV-2000 Interface Bay. The panels contain either seven or eight removable 28 circuit blocks to achieve the total number of circuits. The fourth panel on the DACS IV-2000 contains 28 protection circuits not cabled out to the DSAB or other equipment. A total of eight DSAB1 bays will be required for maximum configuration of the DACS IV-2000, fully populated with DS1 Interface Bays.

How to Contact Us

- To find out more about **Carrier Apparatus** products, visit us on the web at: http://cw.commscope.com/
- For technical assistance regarding Carrier Apparatus products: contact your local CommScope account representative or CommScope technical support at 1-800-344-0223.
- Report any missing or damaged parts to CommScope customer service in Omaha, Nebraska, at 1-866-539-2795.

References

- 365-301-135 — *Digital Systems Access Bays, Installation and Operation Reference Guide*
- ED-6C154-10 — *DSAB1 Method of Cabling*
- ED-6C154-30 — *DSAB1 Common Systems Specifications*

ORDERING INFORMATION

The Table 1 lists the individual components that comprise the ED6C154-30, Group 1 (Material ID 601 337 264) and Group 2 (Material ID 601 337 272) Ordering Groups.

Also available is a rear cable cover (Material ID 845 373 497) for use when cables are routed from underneath and a package of 20 terminal punching (Material ID 845 601 772) for use with cable sheath ground wires.

Table 1: Group 1 and Group 2 Components

Description	Quantity
Group 1 (Material ID 601 337 264)	
Tie block panel assembly	1
Filler panel, 2 inches (51 mm) high	1
Transition trough	1
Cable bracket, 5 inch (127 mm)	1
Label (tie block panel-DACS IV-2000)	1
Label (tie block panel-EQUIPMENT)	1
Label covers*	2
Tie bar	1
Screws, PHM 12-24	18
Instruction sheet	1
Group 2 (Material ID 601 337 272)	
Tie block panel assembly	4
Filler panel, 2 inches (51 mm) high	4
Transition trough	4
Cable bracket, 5 inch (127 mm)	6
Label (tie block panel-DACS IV-2000)	4
Label (tie block panel-EQUIPMENT)	4
Label cover*	8
Tie bar	4
Screws, PHM 12-24	76
Instruction sheet	1
* Not shown in Figure 1 on page 4	

Table 2 lists the separately orderable piece parts available for the DSAB1:

Table 2: Separately Orderable Parts for DSAB1

Apparatus Code	Material ID	Description	Quantity
DSAB1 BP	106 641 277	Tie block mounting bracket, includes six screws	1
DSAB CB5	106 641 285	Cable bracket, 5 inch (127 mm), includes four screws	1
800E1-A2	106 568 736	28-circuit, 5-wire tie block, 2.6 inches (67 mm) wide	1
800E1-A3	106 641 251	56-circuit, 2-wire tie block, 2.6 inches (67 mm) wide	1
DSAB1 TB	106 633 548	Transition trough, includes one EQUIPMENT label, one label cover, and four screws	1

STEP 1— CHECK CONTENTS AGAINST PARTS LIST OF GROUP 1

Refer to Figure 1.

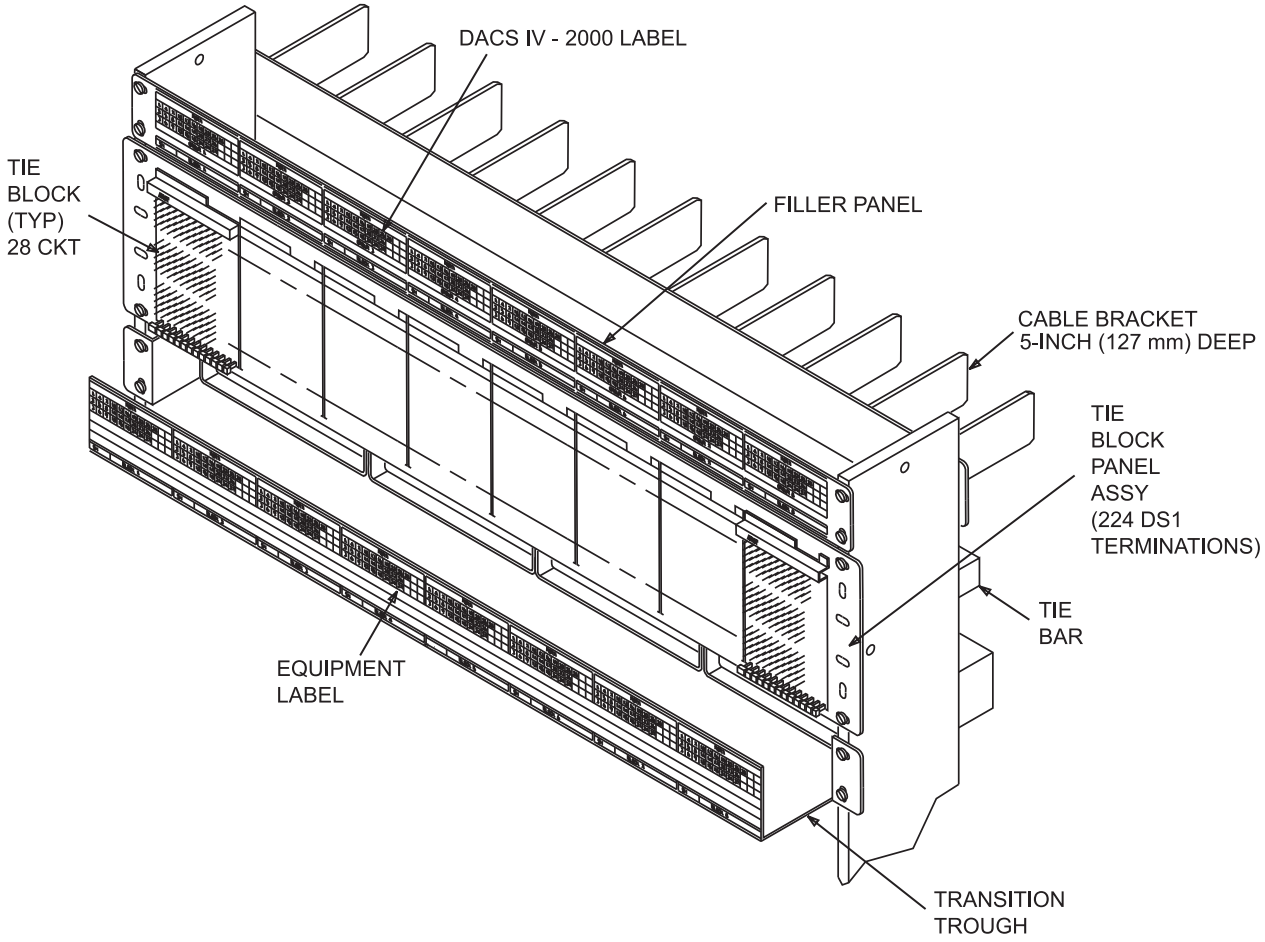

Figure 1. DSAB1 Assembly Components (Group 1)

STEP 1—CHECK CONTENTS AGAINST PARTS LIST OF GROUP 2

Refer to Figure 2.

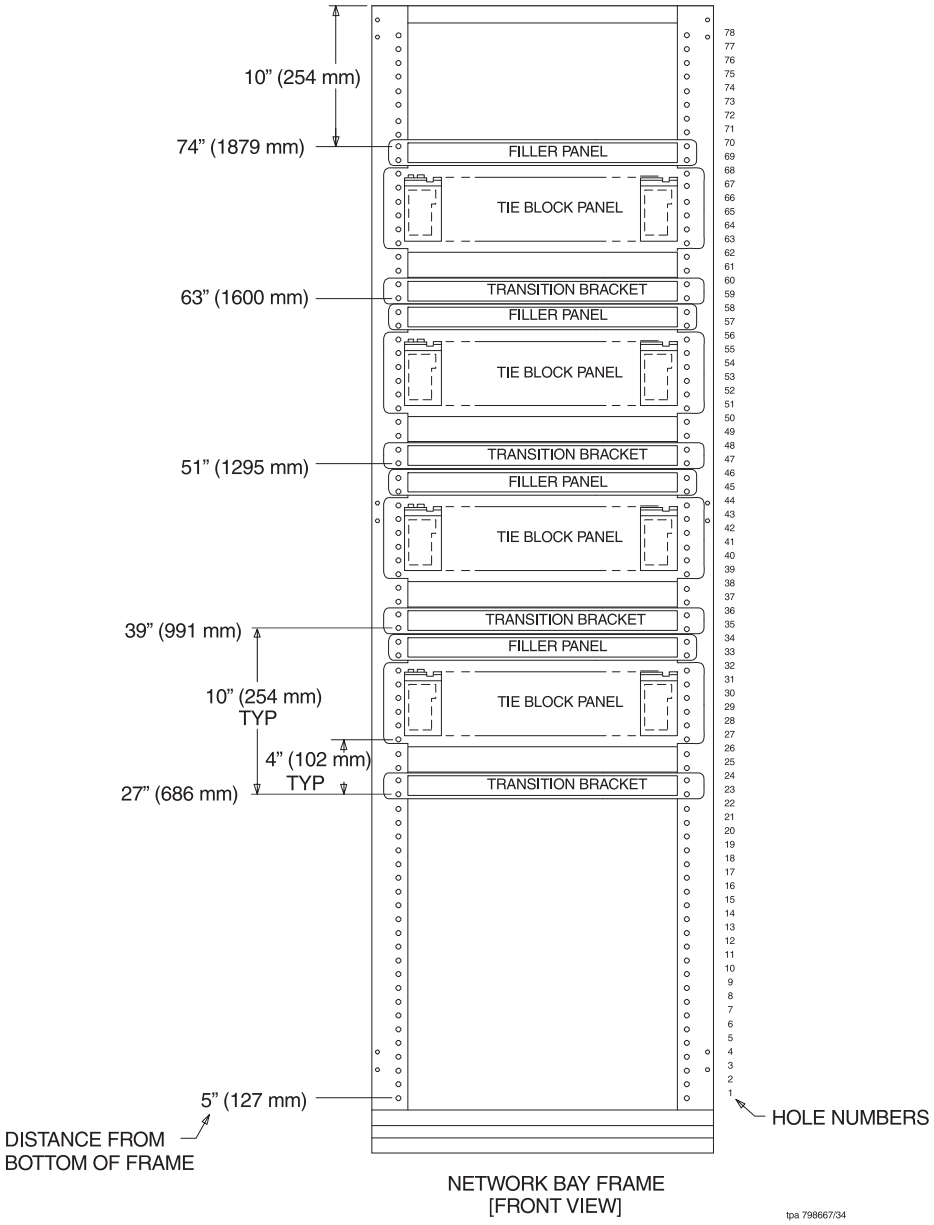

Figure 2. DSAB1 Assembly Components (Group 2)

STEP 2—MOUNT DSAB1 PANEL ASSEMBLIES

1. Locate the mounting positions on the network bay frame for the number of shelves to be mounted. Refer to Figure 3 on page 7. Shelf assemblies are mounted in the bay starting at the lowest shelf assembly first, then working up the bay.
2. Mount the transition trough, using the four 12-24 screws.
3. Mount the tie block panel assembly next with four 12-24 screws 2 inches (51 mm) above the transition trough, leaving a 2-inch (51 mm) space between the transition trough and the tie block panel.
4. Mount the filler panel above the tie block panel assembly, using the four 12-24 screws provided.
5. Repeat Items 2 through 4 for the remainder of the shelf assemblies to be installed in the bay.

NOTE:

Due to both the amount and type of 22 ga. (0.6 mm) cables used on the DSAB1, a maximum of four shelf assemblies should be mounted in one bay.

6. Slip the equipment designation label and the clear label cover into the plastic retaining slot on the transition shelf. This label may be removed and marked later when you are ready to identify the circuits.
7. Slip the DACS label and its cover into the plastic retaining slot on the filler panel.
8. At the rear of the bay, install one cable bracket directly behind each filler panel installed on the front of the frame using four 12-24 screws provided. In accordance with Figure 3, the cable bracket for the uppermost shelf assembly should be positioned in hole No. 70. ED6C154-30, Group 2 includes two additional cable brackets. When a 7-foot (2.1 m) frame is used, one additional cable bracket should be installed at the top of the bay in position 78, and the second bracket may be discarded. When a 9-foot (2.7 m) or 11-foot 6-inch (3.5 m) bay is used, one cable bracket should be installed at the top of the bay in the uppermost hole and the second cable bracket should be mounted halfway between the top of the bay and the highest shelf assembly. This would be reversed for subfloor cabling.
9. Mount one tie bar for DACS cables on the rear of the bay directly opposite the top hole of the tie block assembly panel for each panel installed using two 12-24 screws.

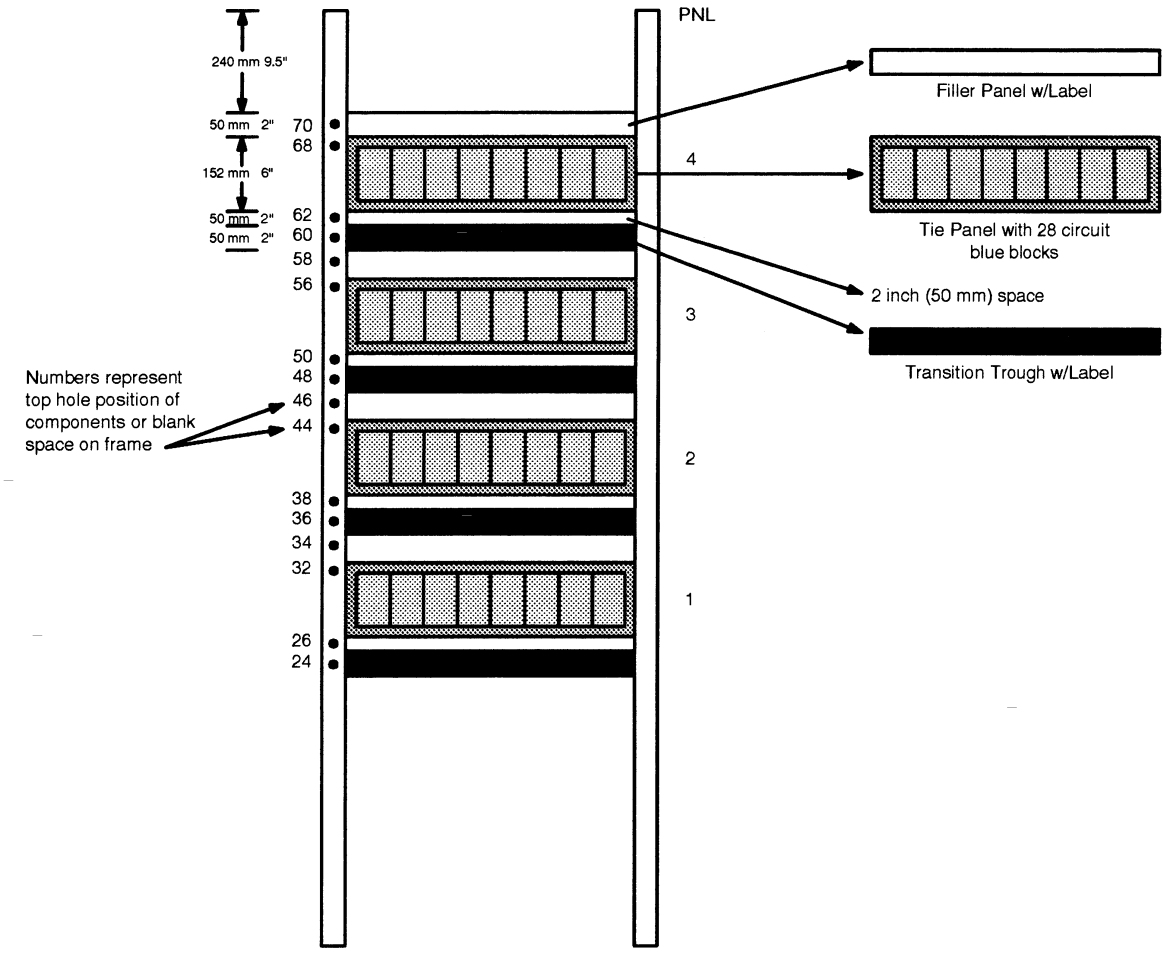

Figure 3. DSAB1 Spacing of Assembly Components

STEP 3—ROUTE DACS AND EQUIPMENT CABLES ON DSAB1

Refer toFigure 4.

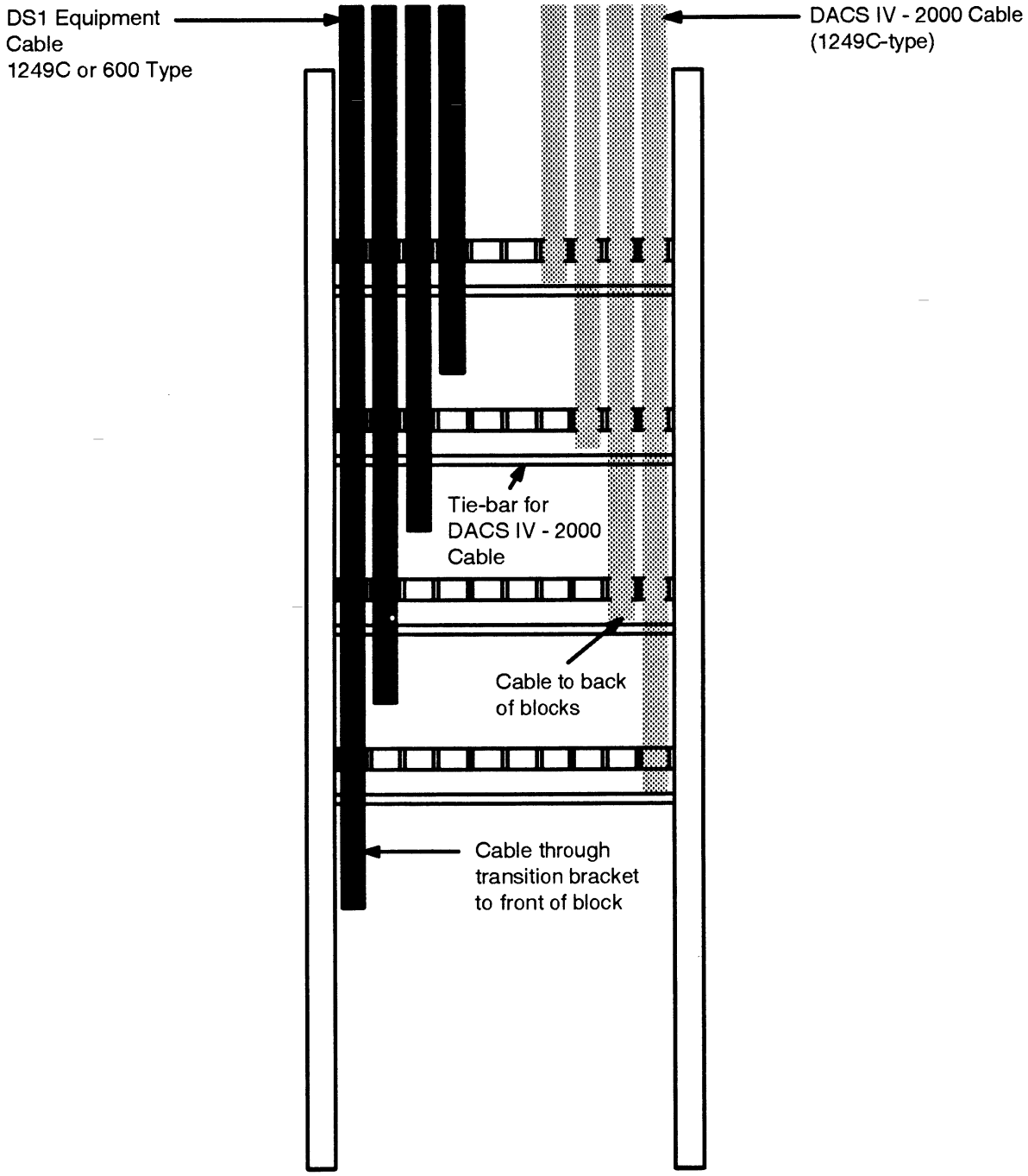

Figure 4. DSAB1 “Double Waterfall” Cabling

1. Route the cable into the proper slots of the cable retaining bracket. For overhead cabling, the longest cables are routed in the outermost retaining slots. This leaves the shortest cables in the center, providing the most access to all shelves.
2. Butt and strip the cables so that 48 inches (1.2 m) remains beyond the appropriate cable bracket.
3. The 600C, 1249C, or similar equipment cable from the DS1 equipment should be routed on the left side of the bay, as viewed from the rear, and the 1249C or similar cable coming from the DACS should be routed on the right side as viewed from the rear.
4. Secure the cables to all the retaining brackets, except one at the final destination, using twine or nylon ties.

STEP 4—GROUNDING

1. Refer to Figures 5 and 6 for current DCS/DSX grounding method and recommended DSAB1/DCS/DSX grounding method.
2. Ground all DACS to DSAB1 cable sheaths at the DACS end only. All sheath grounds on the DACS may be strapped together.
3. All cables that are terminated at the network element should have the sheaths grounded at the network element end only. The sheath grounds of *Transmit* and *Receive* cables may be strapped together at each network element.

NOTE:

Multiple network elements may not be grounded together.

4. Ground cables between the DSAB1 and DSX-1, at the DSAB1 end, directly on frame-mounted terminal punching (Material ID 842 442 659). This punching is orderable as a package of 20 (Material ID 845 601 772). See Figure 7.
5. Mount a minimum of two or a maximum of four terminal punchings as shown in Figure 8 at each shelf of the DSAB1 that is cabled to a DSX.
6. A P490121 wire assembly is required for cables without an internal ground wire.
7. Route ground wires as shown in Figure 8.

Note 1: All grounds terminated on the DSAB1 frame may be strapped together.
Note 2: The wire-wrap pin designated as “G” on the front of the blue tie blocks and as “L” on the rear of the blue tie blocks of the DSAB1, should not be used for grounding.

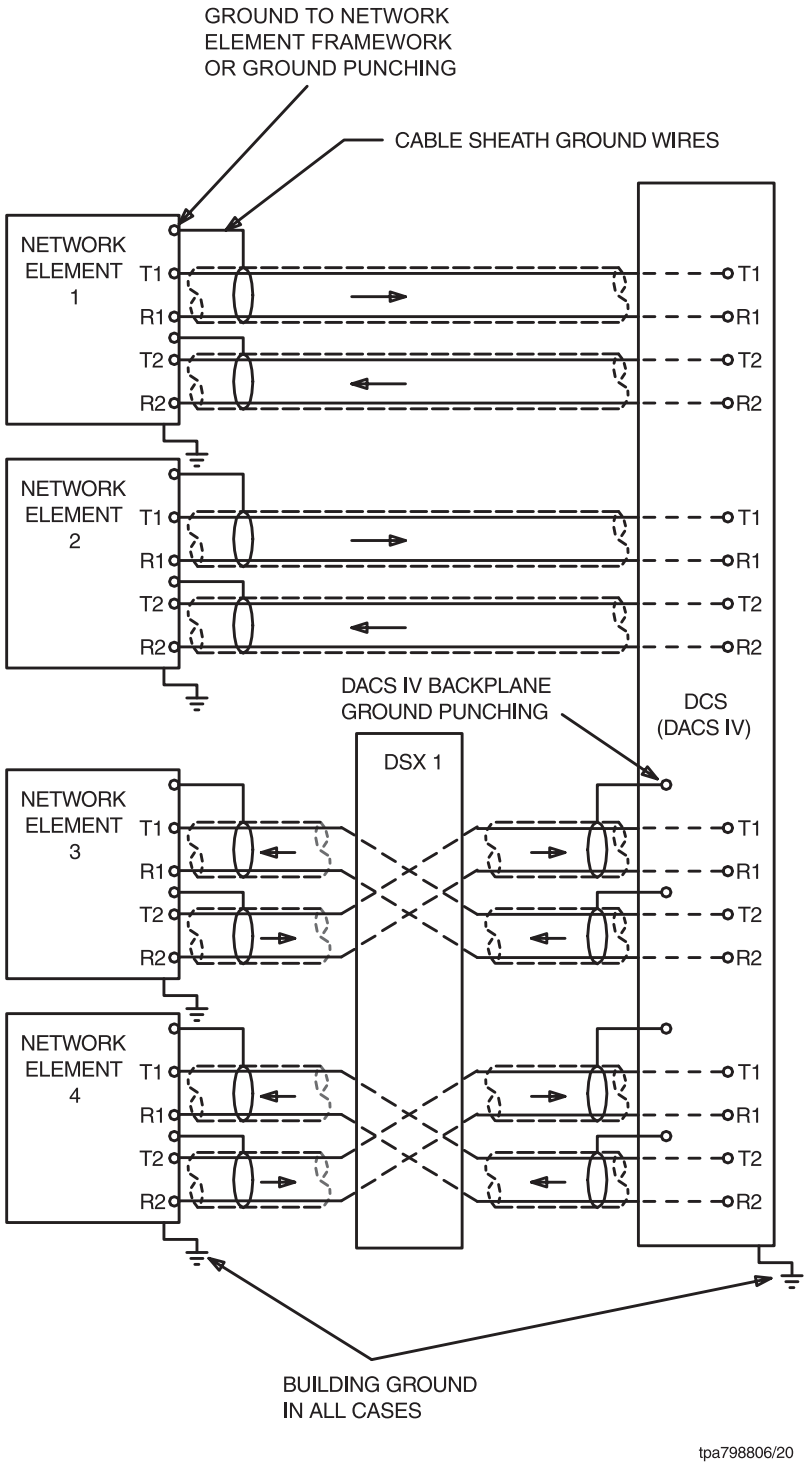

Figure 5. Current DCS/DSX Grounding Method

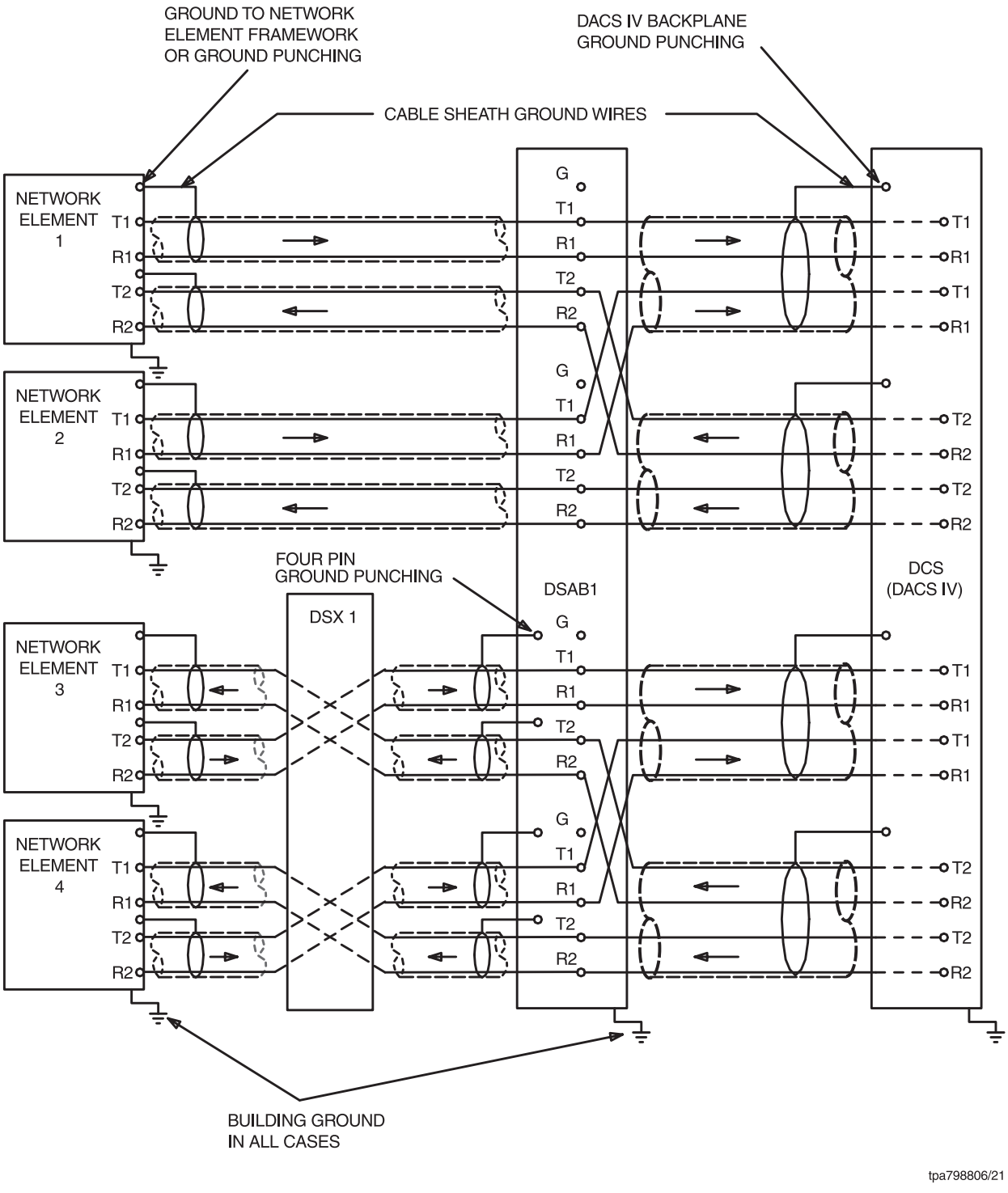

Figure 6. Recommended DSAB1/DCS/DSX Grounding Method

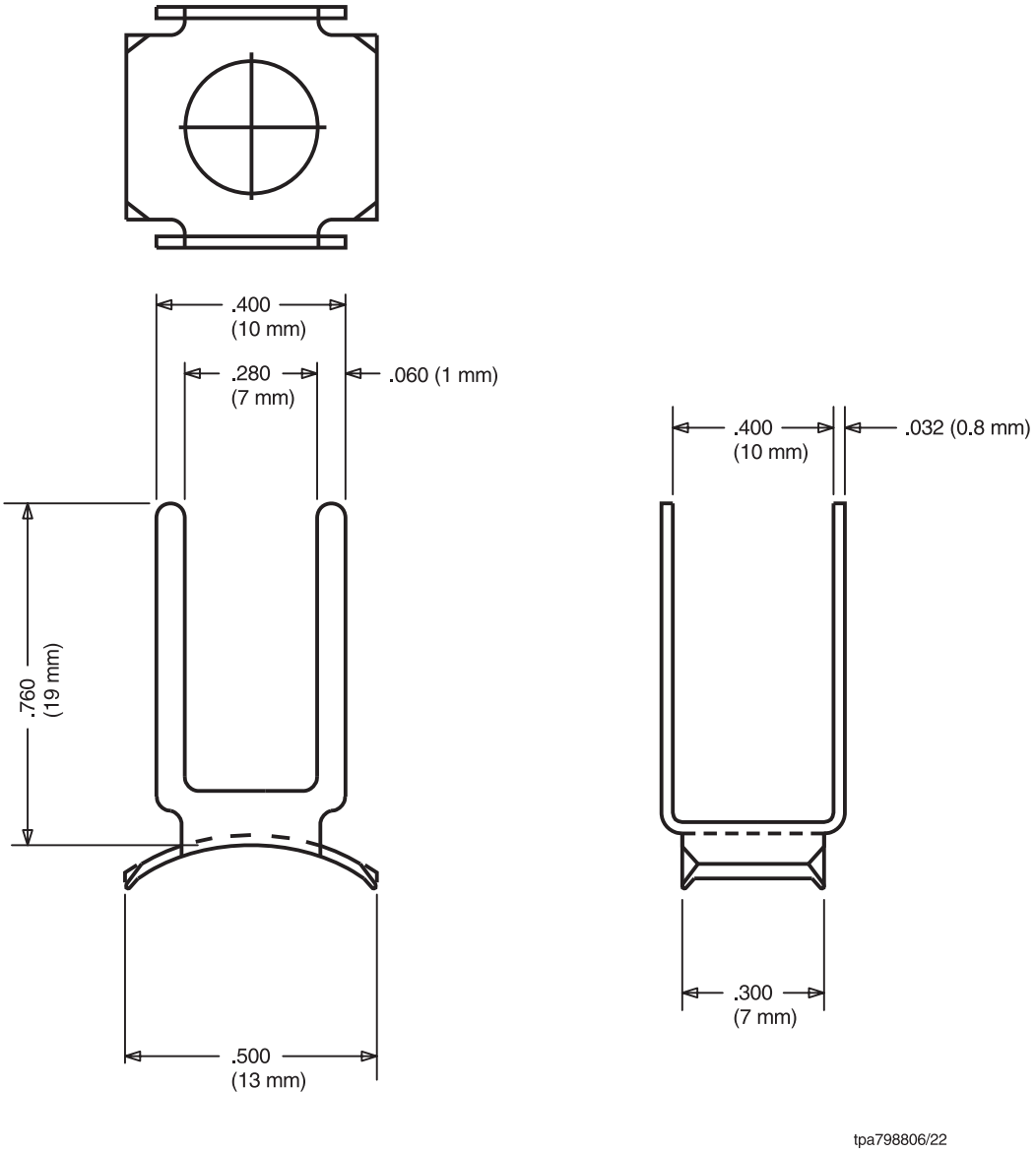

Figure 7. Ground Terminal Punching

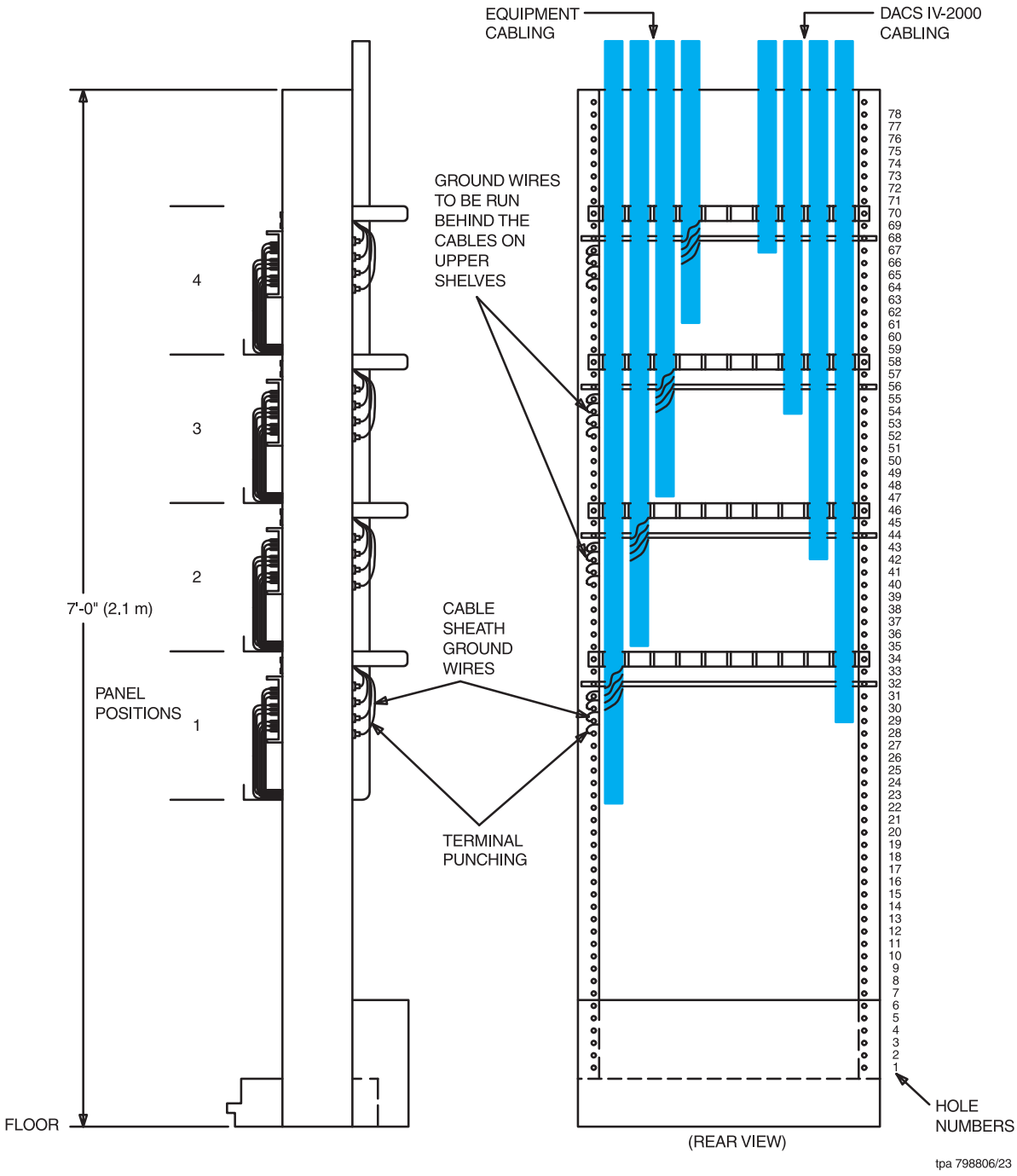

Figure 8. Routing of Ground Wires on DSAB1

STEP 5—TERMINATE DACS CABLES

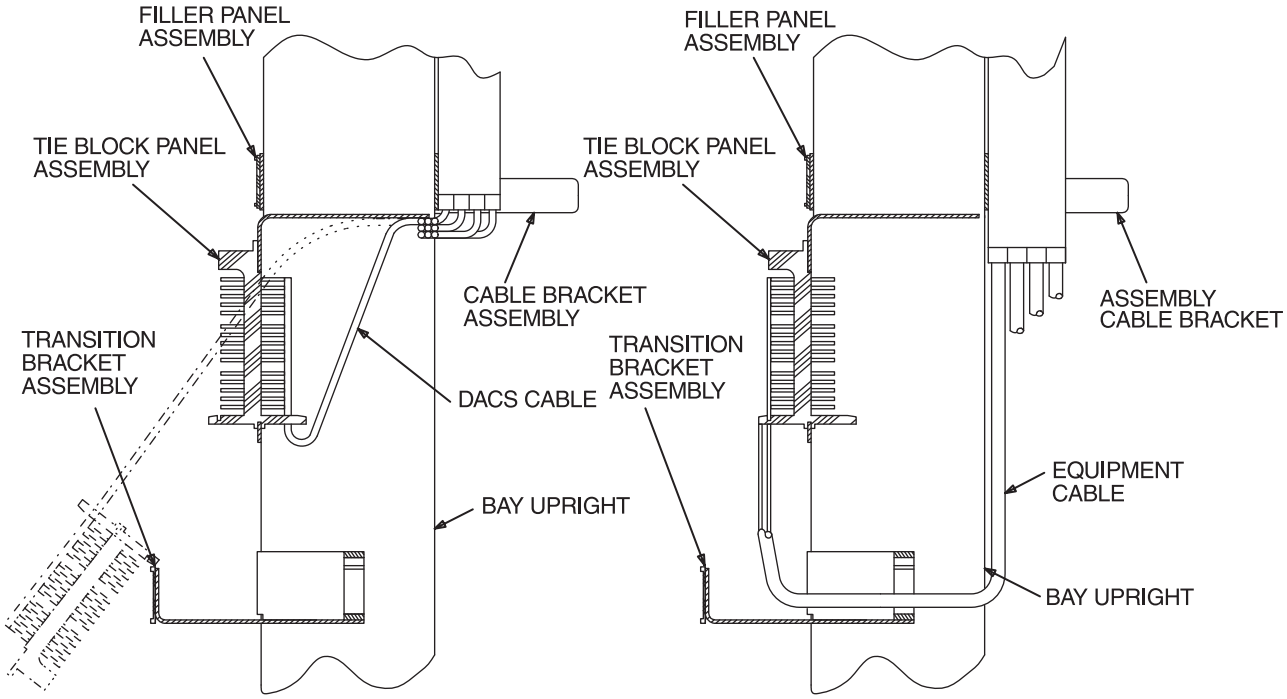

Figure 9. DACS and Equipment Cable Routing

NOTE:

The DSAB is not used for equal-level signal equipment. It is imperative that twisted pairs remain tightly twisted to reduce possible cross-talk effects.

1. Secure DACS cables to tie bar and run horizontally to appropriate tie block.
2. Cut remaining conductor length to approximately 12 to 16 inches (300 to 400 mm) from where it is secured to tie bar behind block.
3. Hang blocks inverted on the lip of the transition trough with the rear side of the block facing out and ready for wire-wrapping operation.
4. Temporarily secure blocks to the transition trough with lacing cord during cabling procedure.
5. Do not pull conductors through the fanning strip until after the wire-wrapping operation is complete.
6. Strip conductors and wire wrap to corresponding terminals. Be sure to maintain the twist in the pairs as close to the terminals as possible.
7. Dress terminated conductors by snapping them through the slotted fanning strip.
8. Remove lacing cord.
9. Rotate the block up and into the tie block assembly and snap into place.

STEP 6—TERMINATE EQUIPMENT CABLE

1. Butt and strip equipment cables so that 48 inches (1.2 m) remains beyond the appropriate cable bracket.
2. Route equipment cable across the rear of the transition trough and through the appropriate retaining ring to the front of the tie block.
3. Do not pull conductors through the fanning strip until after the wire-wrapping operation is complete.
4. Cut pairs to the appropriate length minimizing slack buildup in transition trough. Strip conductors and wire wrap to corresponding terminals. Be sure to maintain the twist in the pairs as close to the terminal as possible.
5. Dress terminated conductors by snapping them through the slotted fanning strip.