



Cable Management Guide

Sun Fire™ High-End Server Systems

Sun Microsystems, Inc.
www.sun.com

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Cable Management

The cable management kit provides orderly cable management. With this kit, component maintenance can be accomplished by one technician.

The book contains the following sections:

- [“Tools” on page 1](#)
- [“Cable Straps” on page 2](#)
- [“Installing the Permanent Cable Straps” on page 3](#)
- [“Installing the Service Cable Straps” on page 6](#)
- [“Using the Cable Straps” on page 10](#)
- [“Uninstalling the Green Cable Straps” on page 11](#)

1.1 Tools

- Side-cutting pliers
- Screwdriver (supplied in system shipping kit, or equivalent)

1.2 Cable Straps

In the kit, there are six variations of cable straps to manage the system cables (TABLE 1-1).

One kit supplies enough cable straps (with spares) to manage the front of the Sun Fire™ system. To supply the front and rear of the system, two kits are required.

The following procedures apply to the front and rear of the Sun Fire system. The Strap ID Numbers are printed on the straps.

TABLE 1-1 Cable Management Kit Contents

Straps	Strap ID Number	Description	Number Per Kit
Black Management	3	6.0 in. (15.2 cm) black cable hanger strap with tie wrap	12
	4	6.0 in. (15.2 cm) (.5 in. wide) black lite cable strap	11
	5	10.0 in. (25.4 cm) black cable strap	16
Green Maintenance	1	12 in. (30.48 cm) green cable hanger straps	4
	2	51.0 in. (129.5 cm) green buckle strap; rear door maintenance straps	2
	6	18 in. (45.7 cm) green cable straps	6
Cable Management Bracket Assembly		Metal brackets used with two door (one in front) systems.	2

1.3 Installing the Permanent Cable Straps

1. Open the cabinet door.
2. Secure the black cable hanger strap with tie wrap (No. 3) to the cutouts of the air plenum using the tie wrap (FIGURE 1-1)

These straps should hang directly below each I/O board to accommodate the cables hanging from each board.

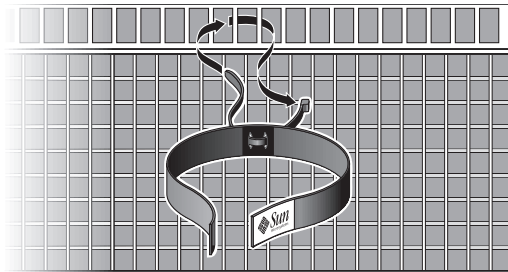


FIGURE 1-1 Black Cable Hanger Strap With Tie Wrap at Air Plenum

3. Use side-cutting pliers to cut off the ends of the tie wraps at the air plenum.

4. **Just below the I/O board attach a black cable strap (No. 5) to one of the cables and wrap the strap around the remaining cables in the I/O board set to bind all of the cables together (FIGURE 1-2).**

The system control (SC) cables should be allowed to hang freely.

Note – The cables for each system board should be bundled together as a set. This allows ease of access and removal of a single I/O board set without disturbing the adjacent board set cables.

5. **Vertically secure each of the bundled cable sets and the SC cables to the black cable hanger straps (FIGURE 1-2).**

The cable hanger straps were attached in Step 2.

6. **At the top of the power supplies, secure a black lite cable strap (No. 4) to one of the cables and wrap the strap around the remaining cables in the cable set to bind all of the cables together (FIGURE 1-2).**

Include the SC cables when wrapping the cables for slot SB0 on the front of the system or slot SB9 on the rear of the system.

7. **At the base of the system, secure a black cable strap (No. 5) to one of the cables and wrap the strap around the cables in two cable sets to bind the two sets together (FIGURE 1-2).**

8. **Repeat Step 3 through Step 7 for the remaining I/O boards.**

For a fully populated system, you should have nine sets of cables hanging vertically at the front or rear of the system.

Note – Leave ample cable slack below the floor tiles so the cables can be easily moved out of the way for component service and maintenance. Ensure no sharp edges are on the floor tile cutout. Be careful moving components in and out of the system as sharp edges could damage cables.

9. **Secure a black cable strap (No. 5) to one of the cable bundles below the tile floor and wrap the strap around the three bundles to bind them together (FIGURE 1-2).**

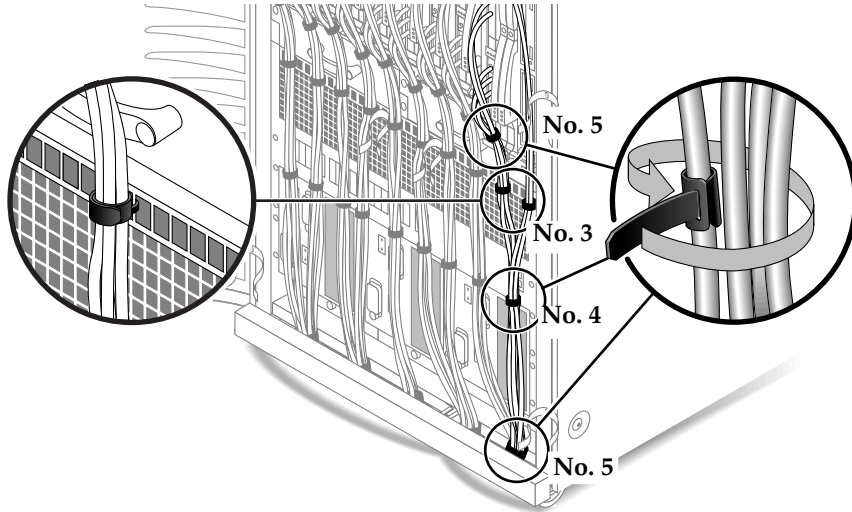


FIGURE 1-2 Black Permanent Straps

10. **At the center of the air plenum cutouts, secure two green cable hanger straps (No. 1), with tie wrap to the cutouts of the air plenum (FIGURE 1-3).**

On the front of the system secure these tie wraps between slot SB4 and SB5 and between slot SB2 and SB3. On the rear of the system secure these tie wraps between slot SB11 and SB12 and between SB13 and SB14.

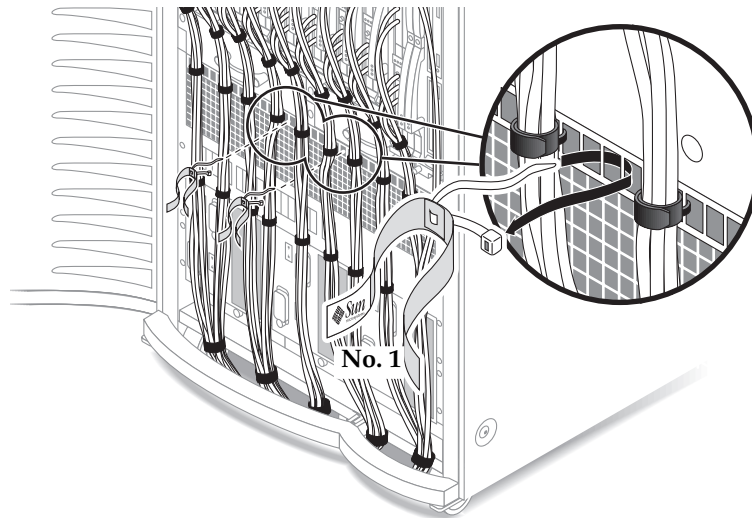


FIGURE 1-3 Green Cable Hanger Strap With Tie Wrap at Air Plenum

1.4 Installing the Service Cable Straps

Green maintenance straps are for service only and should not be left in the system. A location should be determined and the straps stored at the site. This section describes the installation procedures for:

- [Systems With Four Doors \(Two in Front\)](#)
- [Systems With Two Doors \(One in Front\)](#)

1.4.1 Systems With Four Doors (Two in Front)

1.4.1.1 For the Front of the System

1. Remove the screws located second from the bottom and eleventh from the bottom of the cabinet door on the left.
2. Use the screws recovered from [Step 1](#) to secure two green cable straps (No. 6) to the holes opened in [Step 1](#) ([FIGURE 1-4](#)).

The screws should be turned no more than 3.0 revolutions to prevent the stripping of the internal door material.

3. Remove the screws located second from the bottom and tenth from the bottom of the cabinet door on the right.
4. Use the screws recovered from [Step 3](#) to secure two green cable straps (No. 6) to the holes opened in [Step 3](#) ([FIGURE 1-4](#)).

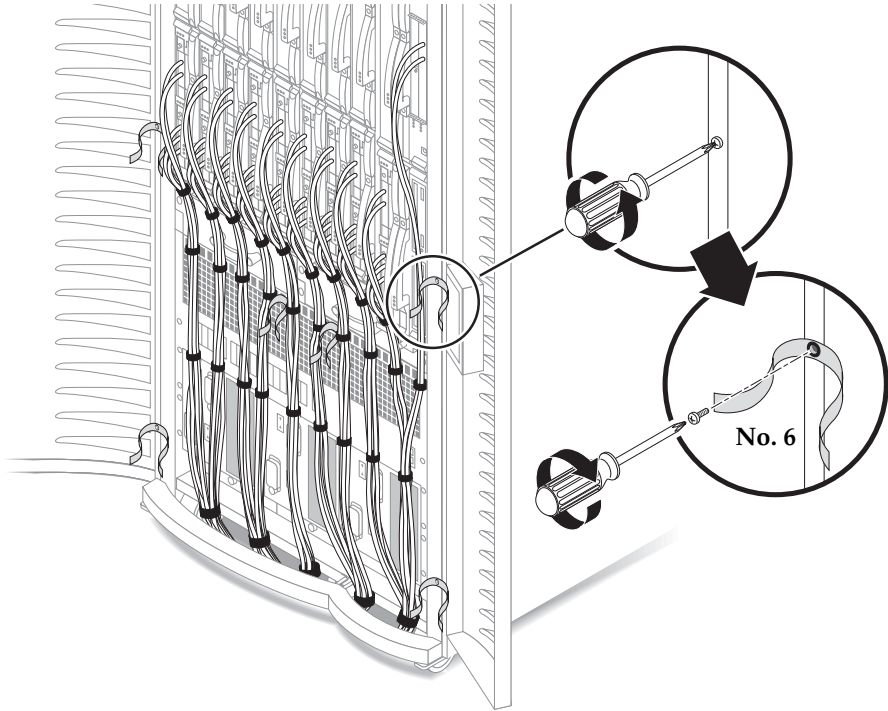


FIGURE 1-4 Front Door Maintenance Straps

1.4.1.2 For the Rear of the System

The buckle end of the green buckle strap (No. 2) that is used at the top crossbar of each rear door measures approximately 17.0 in. (43.2 cm). The other end that used to hold the cables measures approximately 12.0 in. (30.5 cm).

1. **Attach the green buckle strap (No. 2) to the top crossbar on the hinged side of the cabinet door on the left (FIGURE 1-5).**

- a. Insert the 17.0 in. (43.2 cm) end of the strap, buckle facing toward you, underneath and over the crossbar, and insert the end through the buckle.

- b. **Loosely secure the strap.**

This strap should be pushed close to the hinged side of the door to retain proper tension when the cables are held during maintenance.

2. **Attach the green buckle strap (No. 2) to the top crossbar on the hinged side of the cabinet door on the right (FIGURE 1-5).**

- a. Insert the 17.0 in. (43.2 cm) end of the strap, buckle facing toward you, underneath and over the crossbar, and insert the end through the buckle.

- b. **Loosely secure the strap.**

This strap should be pushed close to the hinged side of the door to retain proper tension when the cables are held during maintenance.

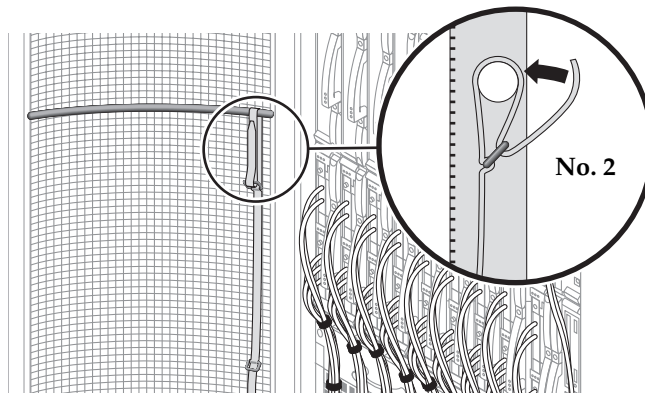


FIGURE 1-5 Rear door maintenance strap

1.4.2 Systems With Two Doors (One in Front)

1.4.2.1 For the Front of the System

1. Remove the pushbar (if it's still attached)
2. Remove the screws located second from the bottom and eleventh from the bottom on the cabinet door.
3. Use the screws recovered from [Step 2](#) to secure two green cable straps (No. 6) to the holes opened in [Step 2](#) ([FIGURE 1-6](#)).

The screws should be turned no more than 3.0 revolutions to prevent the stripping of the internal door material.

4. Secure the two cable management brackets to the holes on the right side of the cabinet ([FIGURE 1-6](#)).

The brackets have captive fasteners that can be tightened by hand.

5. Use the included phillips screws to secure a green cable strap (No. 6) to the holes at the end of each of the cable management brackets ([FIGURE 1-6](#)).

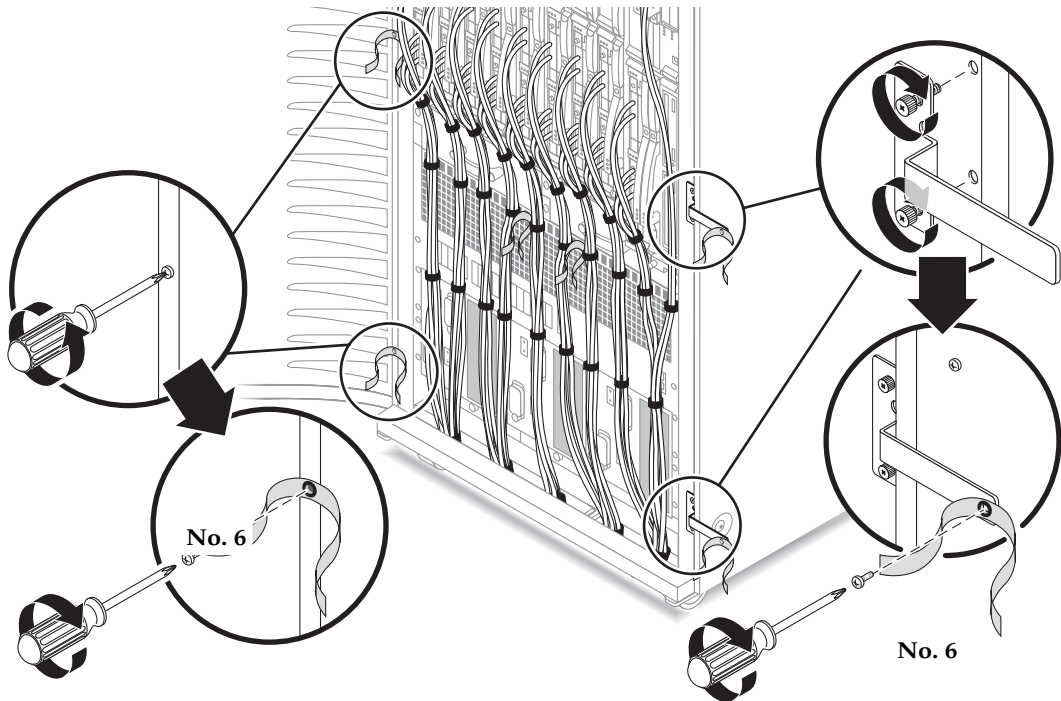


FIGURE 1-6 Installing the Maintenance Brackets and Straps

1.4.2.2 For the Rear of the System

The buckle end of the green buckle strap (No. 2) that is used at the top crossbar of the door measures approximately 17.0 in. (43.2 cm). The other end that used to hold the cables measures approximately 12.0 in. (30.5 cm).

1. **Attach the green buckle strap (No. 2) to the top crossbar on the hinged side of the door (FIGURE 1-5).**
 - a. **Insert the 17.0 in. (43.2 cm) end of the strap, buckle facing toward you, underneath and over the crossbar, and insert the end through the buckle.**
 - b. **Loosely secure the strap.**

This strap should be pushed close to the hinged side of the door to retain proper tension when the cables are held during maintenance.

2. **Secure the two cable management brackets to the holes on the right side of the cabinet (FIGURE 1-6).**

The brackets have captive fasteners that can be tightened by hand.
3. **Use the included phillips screws to secure a green cable strap (No. 6) to the holes at the end of each of the cable management brackets (FIGURE 1-6).**

1.5 Using the Cable Straps

1. **Release the I/O cable bundles from the black cable hanger straps of the air plenum (No. 4) and lift the cable bundles upward to obtain cable slack from beneath the tile floor.**



Caution – Avoid excessive strain on the I/O cable connectors.

2. **Secure the I/O cable bundles with the green maintenance straps.**

Ensure the cables are held tight and that ample room is provided to gain access to the air plenum panel.

3. **Perform maintenance on the system.**

Refer to the system service manual for the component maintenance procedures.

1.6 Uninstalling the Green Cable Straps

Green maintenance straps are for service only and should not be left in the system. A location should be determined and the straps stored at the site. This section describes the uninstallation procedures for:

- [Systems With Four Doors \(Two in Front\)](#)
- [Systems With Two Doors \(One in Front\)](#)

1.6.1 Systems With Four Doors (Two in Front)

1.6.1.1 For the Front of the System

1. Release the I/O cable bundles from the green maintenance strap and resecure them to their former black cable hanger straps on the air plenum.
2. Remove the two screws that secure the green cable straps (No. 6) to the cabinet door on the left and store the green straps for future use.
3. Remove the two screws that secure the green straps (No. 6) to the cabinet door on the right and store the green straps for future use.
4. Secure the four screws in their original locations on the cabinet doors.
5. Close the cabinet doors.

1.6.1.2 For the Rear of the System

The buckle end of the green buckle strap (No. 2) that is used at the top crossbar of the door measures approximately 17.0 in. (43.2 cm). The other end that used to hold the cables measures approximately 12.0 in. (30.5 cm).

1. Release the I/O cable bundles from the green buckle straps (No. 2) and resecure them to their former black cable hanger straps on the air plenum.
2. Release the buckle and remove the green buckle strap (No. 2) from the top crossbar on the hinged side of the cabinet door on the left ([FIGURE 1-5](#)).
3. Release the buckle and remove the green buckle strap (No. 2) from the top crossbar on the hinged side of the cabinet door on the right ([FIGURE 1-5](#)).
4. Close the cabinet doors.

1.6.2 Systems With Two Doors (One in Front)

1.6.2.1 For the Front of the System

1. Release the I/O cable bundles from the green maintenance strap and resecure them to their former black cable hanger straps on the air plenum.
2. Remove the two screws that secure the green cable straps (No. 6) to the cabinet door on the left and store the green straps for future use.
3. Secure the two screws in their original locations.
4. Remove the two screws that secure the green cable straps (No. 6) to the cable management brackets and store the straps and screws for future use.
5. Remove the cable management brackets and store them for future use (FIGURE 1-6).
The brackets have captive fasteners that can be loosened by hand.
6. Close the cabinet doors.

1.6.2.2 For the Rear of the System

The buckle end of the green buckle strap (No. 2) that is used at the top crossbar of the door measures approximately 17.0 in. (43.2 cm). The other end that used to hold the cables measures approximately 12.0 in. (30.5 cm).

1. Release the I/O cable bundles from the green maintenance strap and resecure them to their former black cable hanger straps on the air plenum.
2. Release the buckle and remove the green strap from the top crossbar on the hinged side of the cabinet door (FIGURE 1-5).
3. Remove the two screws that secure the green cable straps (No. 6) to the cable management brackets and store the straps and screws for future use.
4. Remove the cable management brackets and store them for future use (FIGURE 1-6).
The brackets have captive fasteners that can be loosened by hand.
5. Close the cabinet doors.