EMC²

EMC Departmental Switch DS-xxB2

Guide for Installation of Switches Into Third-Party Racks

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This document describes the requirements for installing EMC Deparmental Switches (DS-xxB2) into both EMC and non-EMC third-party racks.

Major sections discussed in this guide are as follows:

Overview

The Departmental Switch Models DS-16B2 and DS-32B2 are fibre channel gigabit switches that support link speeds up to 2 Gb/s. Each port can automatically negotiate to the highest common speed of all devices connected to the port. The ports are compatible with small form factor pluggable media (SFPs), are universal, self configuring, and are capable of individually becoming a fabric-enabled port (F_Port), fabric loop enabled port (FL_Port), or an expansion port (E_Port).

The Departmental Switch Model DS-16B2 is one rack unit in height, has an air-cooled chassis, and can be set up as a stand-alone unit or mounted in a 19-inch rack. The Departmental Switch Model DS-32B2 is an air-cooled 1.5U chassis; can be set up as a stand-alone unit or mounted in a standard Electronic Industries Association (EIA) 19-inch rack.

Table 1 lists the departmental switches and mounting kit model numbers.

Table 1 Departmental Switch and Mounting Kit Model Numbers.

Device	Device Model	Mounting Kit Model
16-port Departmental Switch	DS-16B2-00	DS16B2RKLS
32-port Departmental Switch	DS-32B2-00	DS16B2RKLS

Figure 1 shows an example of the DS-xxB2.

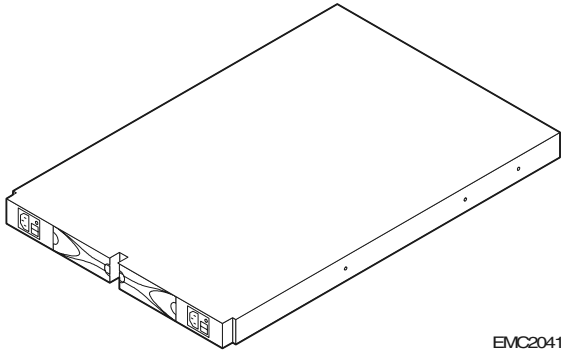


Figure 1 DS-xxB2

Device Power, Cooling, and Weight Information

Table 2 lists the power and cooling requirements and weight information for the DS-16B2 and DS32B2 switches.

Table 2 Device Power, Cooling, and Weight Information

Device	Power Requirements	Cooling Requirements (Heat Dissipation)	Maximum Weight
DS-16B2 switch	Voltage: 100 to 240 V ac, 47 to 63 Hz	368.5 BTU/hr	12.9 kg (28.5 lbs)
DS-32B2 switch	Voltage: 100 to 240 V ac, 47 to 63 Hz	1876 BTU/hr	16.2 kg (35.8 lbs)

Device Dimensions

Table 3 gives the height, depth, and width for the DS-16B2 switch, the DS-16B2 switch with rails, and the DS-32B2 switch

Table 3 Device Dimensions

Device	Height			Depth		Width	
DS-16B2 switch		4.34 cm	1.71 in	61.00 cm	24.01 in	42.86 cm	16.87 in
DS-16B2 switch with rails	1.0 U	4.44 cm	1.75 in	61.00 cm	24.01 in	43.18 cm	17.00 in
DS-32B2 switch	1.50	6.55 cm	2.58 in	58.56 cm	23.06 in	42.86 cm	16.87 in

Device Placement Requirements

There are no restrictions on the location of the DS-xxB2 switch in the rack/cabinet.

Switches are typically located at the top of the rack/cabinet.

Power distribution must support the number of outlets required for the switch and the switch power rating listed in Table 2 on page 3.

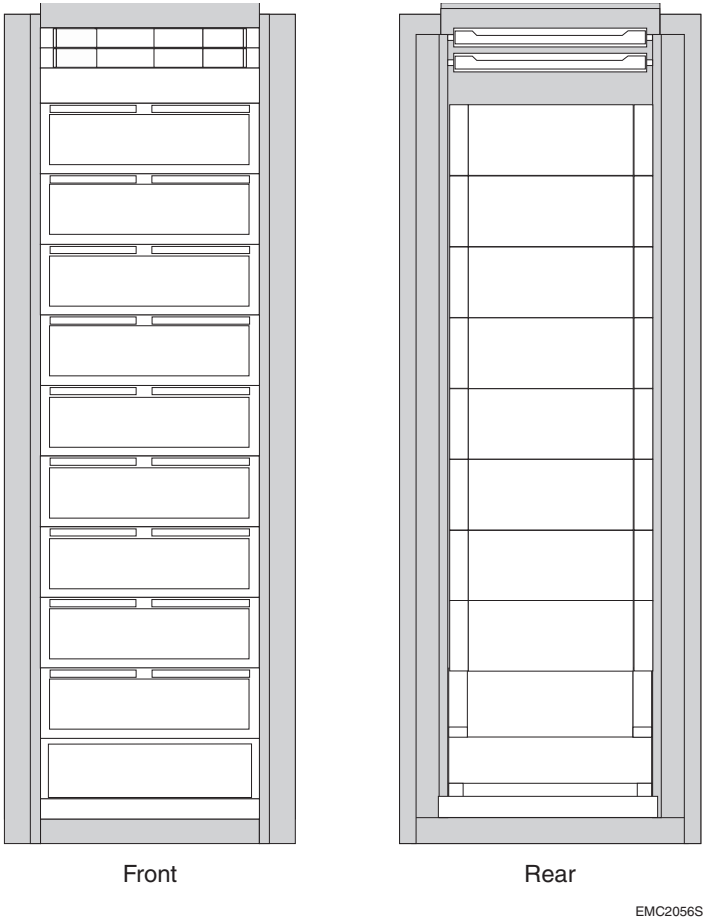


Figure 2 Sample Cabinet Installation

Switch Mounting Kit (DS16B2RKLS)

The switch mounting kit includes rails, and brackets as listed inTable 4.

Table 4 Switch Mounting Kit

Component	Use
2 switch mounting brackets (see Figure 15 on page 17)	2 per switch
2 short rail assemblies (20.5 inches to 27 inches)	2 per switch
2 long rail assemblies (27 inches to 34 inches)	2 per switch

Figure 3 illustrates these components.

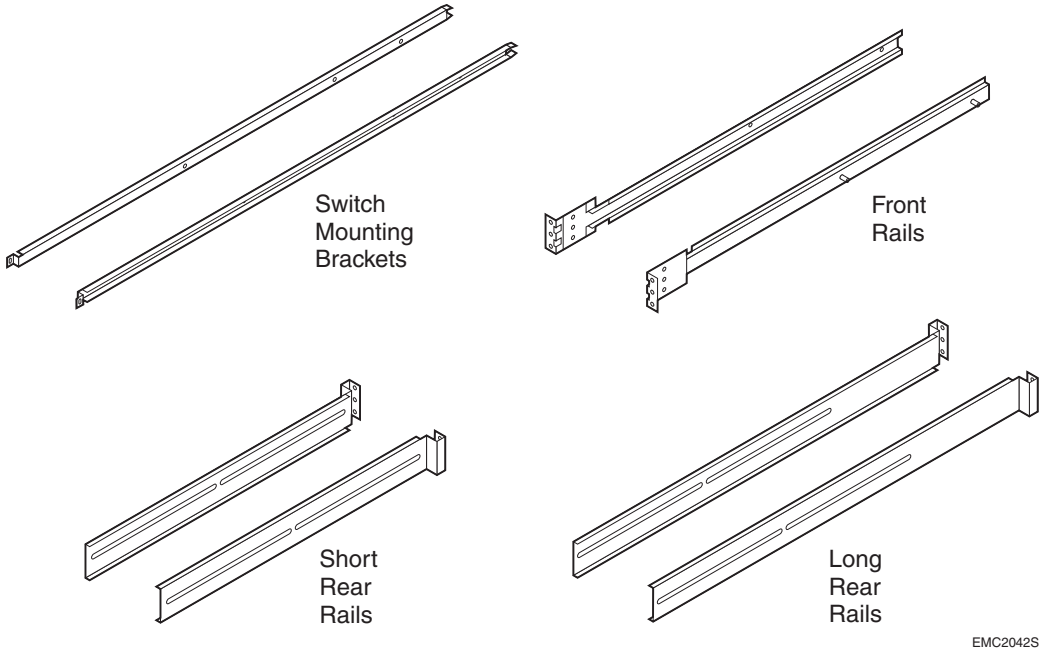
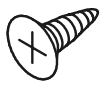
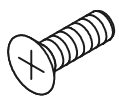


Figure 3 Rails and Brackets

Screws, Nuts and Washers

Table 5 lists all the securing hardware that is included in the switch mounting kit.

Table 5 Screws, Nuts and Washers

Component		Use
	#10 flat washer (Qty. 4)	2 per rail assembly to secure adjustable rail to the “C” channel.
	M5 keps nut (Qty. 4)	2 per rail assembly to secure adjustable rail to the “C” channel.
	8-32 x 5/16-in. pan-head screw (Qty. 6)	3 per mounting bracket to secure mounting bracket to switch.
	M5 x 10-mm pan-head screw (Qty. 8)	4 per rail for DS-16B2 in round-hole channels.
	Square-hole washer (Qty. 8)	4 per rail for DS-16B2 in square-hole channels.
	M5 x 16-mm flat-head screw (Qty. 8)	4 per rail for DS-16B2 in square-hole channels.
	M3 x 8-mm pan-head screw (Qty. 2)	1 per switch mounting bracket. Used to secure mounting brackets to the rails.

Tools Required for Installation

You will need the tools shown in Figure 4 to complete the installation of the rails and one or more switches.

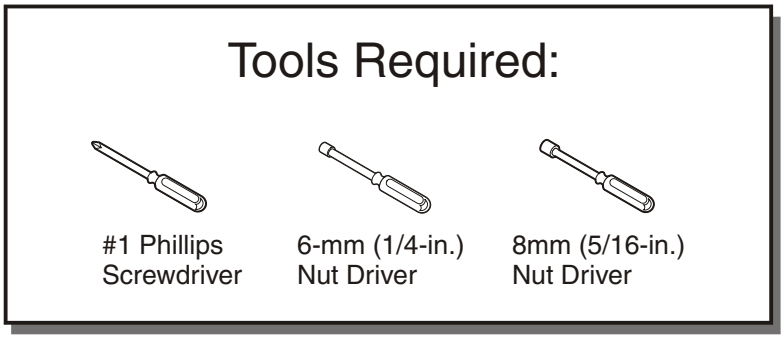


Figure 4 Tools Required for Installation

Installing the DS-xxB2 Rails

This section describes the installation procedures for the DS-xxB2 rails. Figure 5 shows a view of the rails installed in a 39 U rack/cabinet.

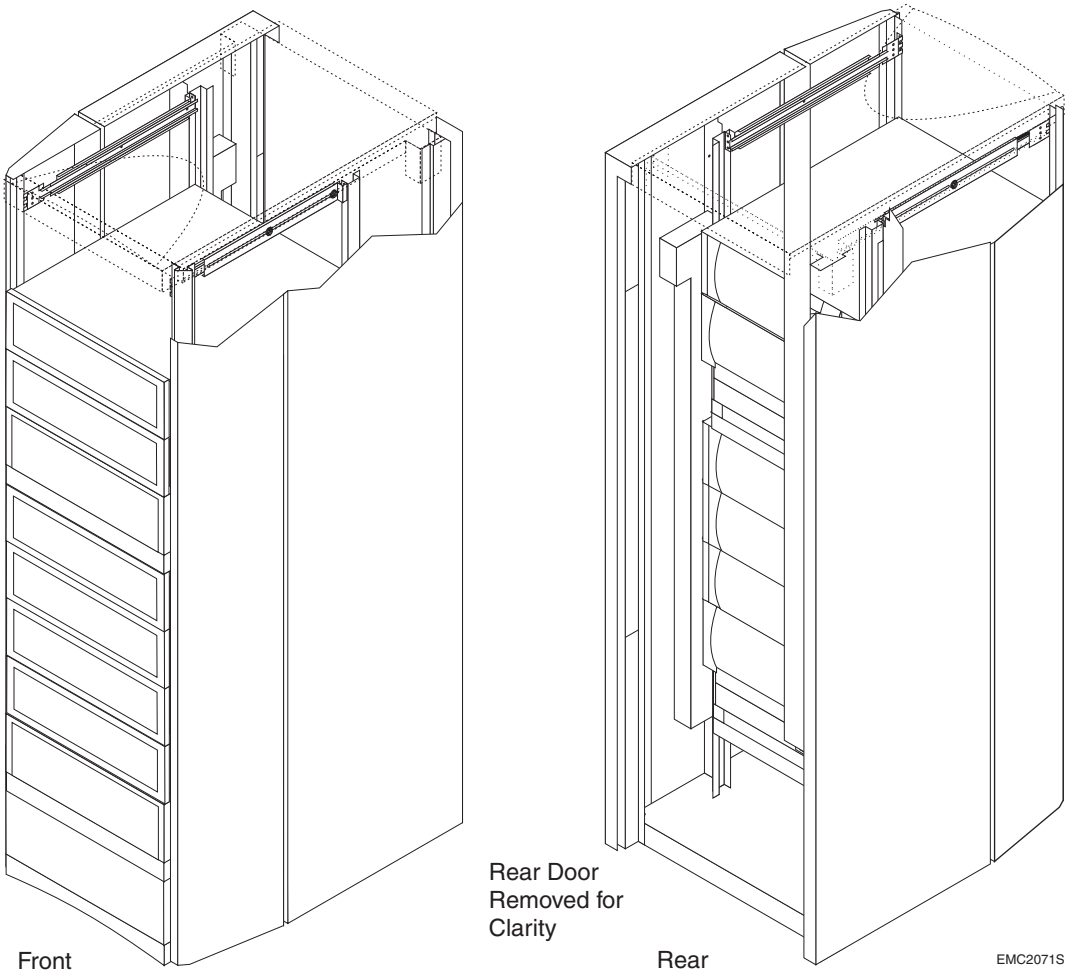


Figure 5 View of the Rails Installed in a 39 U Rack/Cabinet

DS-xxB2 Rails Installation

There are two different length rails, see Figures 6 and 7. The short rails range between 20.5 inches and 27 inches. The long rails range between 27 inches and 34 inches. If your rail kit contains two different length rear rail mounts, be sure to use the rail length that is appropriate for your rack/cabinet.

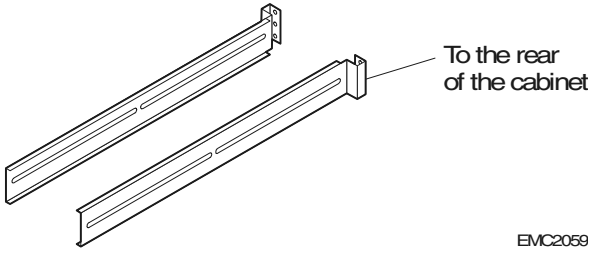


Figure 6 DS-xxB2 Short Rear Rails

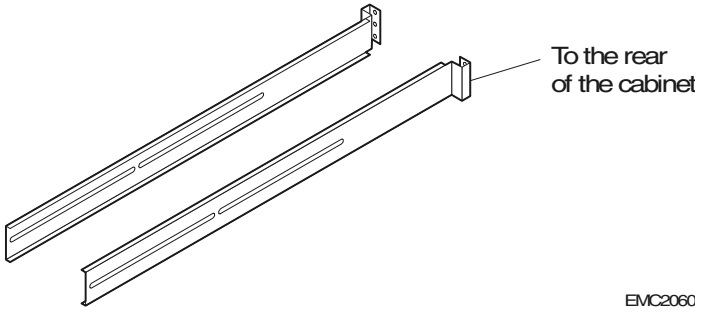


Figure 7 DS-xxB2 Long Rear Rails

The front and rear flanges of the DS-xxB2 rails have three screw holes. See Figures 8 and 9.

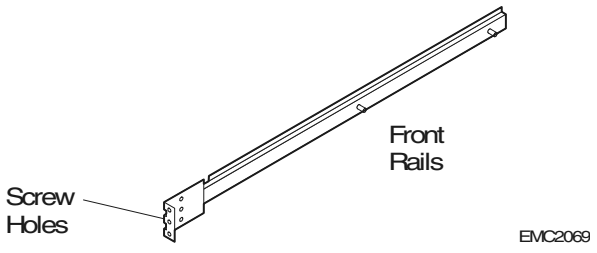


Figure 8 Front Flange of the DS-xxB2 Rails

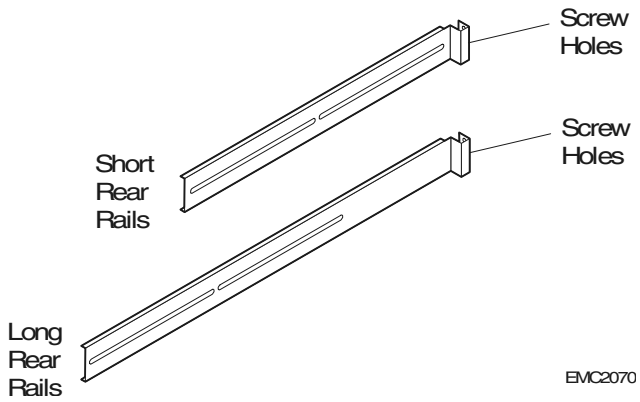


Figure 9 Rear Flange of the DS-xxB2 Rails

Select the appropriate length rails, and follow the steps below to install them. The rails assembly consists of a front rail, an adjustable rear rail, and two washers and keps nuts. Figure 10 illusrates the complete assembly.

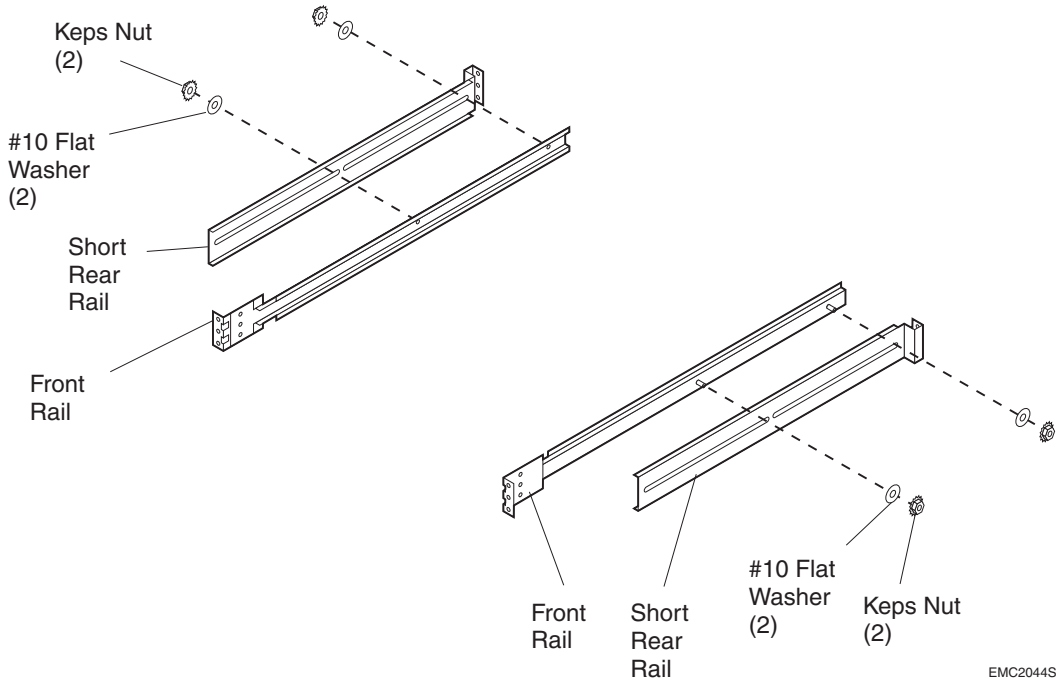


Figure 10 DS-xxB2 Rails Assembly

Assembling the Rails

To assemble the rails:

1. Place the front rail down on a table.
2. Insert the slots of the rear adjustable rail onto the threaded posts on the front rail. Be sure that the lip on the top of the rear adjustable rail slides over the top of the slot on the front rail, thereby capturing the ac power cord.
3. Secure the adjustable rail to the front rail with two #10 flat washers and M5 keps nuts. Leave the keps nuts finger tight (see Figure 11).

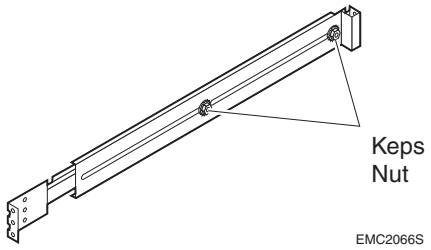


Figure 11 Location of Keps Nuts

4. Determine where in the rack/cabinet you will locate the switch.
5. Adjust the length of the rail to fit between the channels in the rack/cabinet.

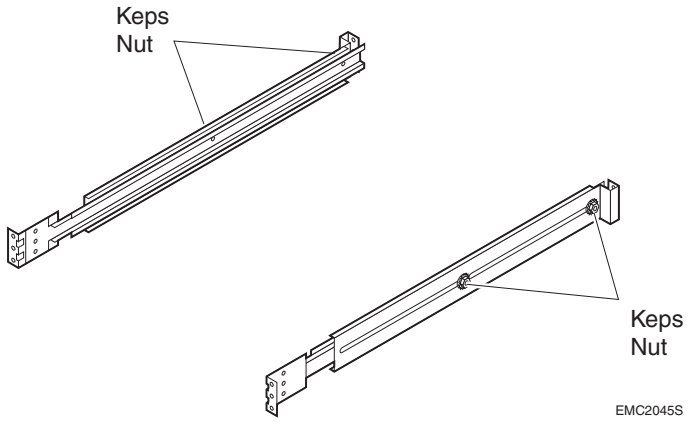


Figure 12 Securing the Keps Nuts

If the side skins are removed on the rack/cabinet, the keps nuts can be tightened after the rails have been installed.

Round-Hole Channel

To install the rails assembly in the round-hole channel of the rack/cabinet:

1. Align the holes of the front rail flange to the inside of the front channel. The top and bottom screw holes are used for the screws.
2. Secure the rail to a round-hole channel with 2 M5 x 10-mm pan-head screws (see table on Table 5 on page 6). Leave the screws finger-tight, and tighten them after the switch is installed. See Figure 13 on page 14.
3. Align the holes in the rear, U-shaped flange of the rail with the holes in the rear inside channel.
4. Secure the rail to a round-hole channel with 2 M5 x 10-mm pan-head screws (see table on Table 5 on page 6). Leave the screws finger-tight, and tighten them after the switch is installed. See Figure 13.
5. Repeat steps 1 through 4 for the other rail.

See instructions for *Square-Hole Channel* on page 15.

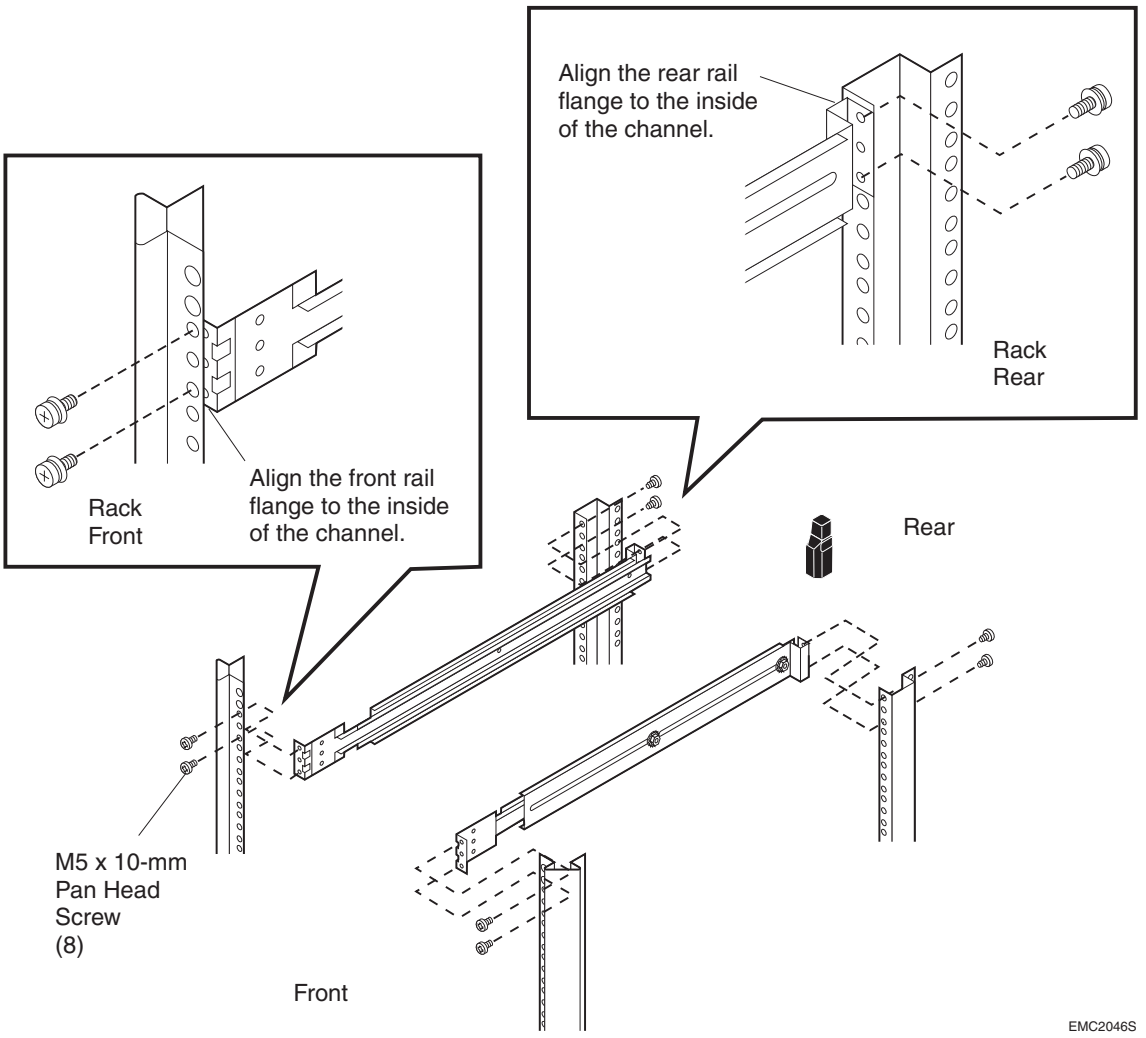


Figure 13 Installing Rails in Round-Hole Channels

Square-Hole Channel

To install the rails assembly in the square-hole channel of the rack/cabinet.

1. Align the holes of the front rail flange to the inside of the front channel. The top and bottom screw holes are used for the screws (see Figure 14 on page 16).
2. Secure the rail to a square-hole channel with two square-hole washers and M5 x 16-mm flat-head screws (see Table 5 on page 6). Leave the screws finger-tight, and tighten them after the switch is installed.
3. Align the holes in the rear, U-shaped flange of the rail with the holes in the rear inside channel, as shown in Figure 14.
4. Secure the rail to a square-hole channel with two square-hole washers and M5 x 16-mm flat head screws (see Table 5 on page 6). Leave the screws finger-tight, and tighten them after the switch is installed.
5. Repeat steps 1 through 4 for the other rail.

See instructions for *Round-Hole Channel* on page 13.

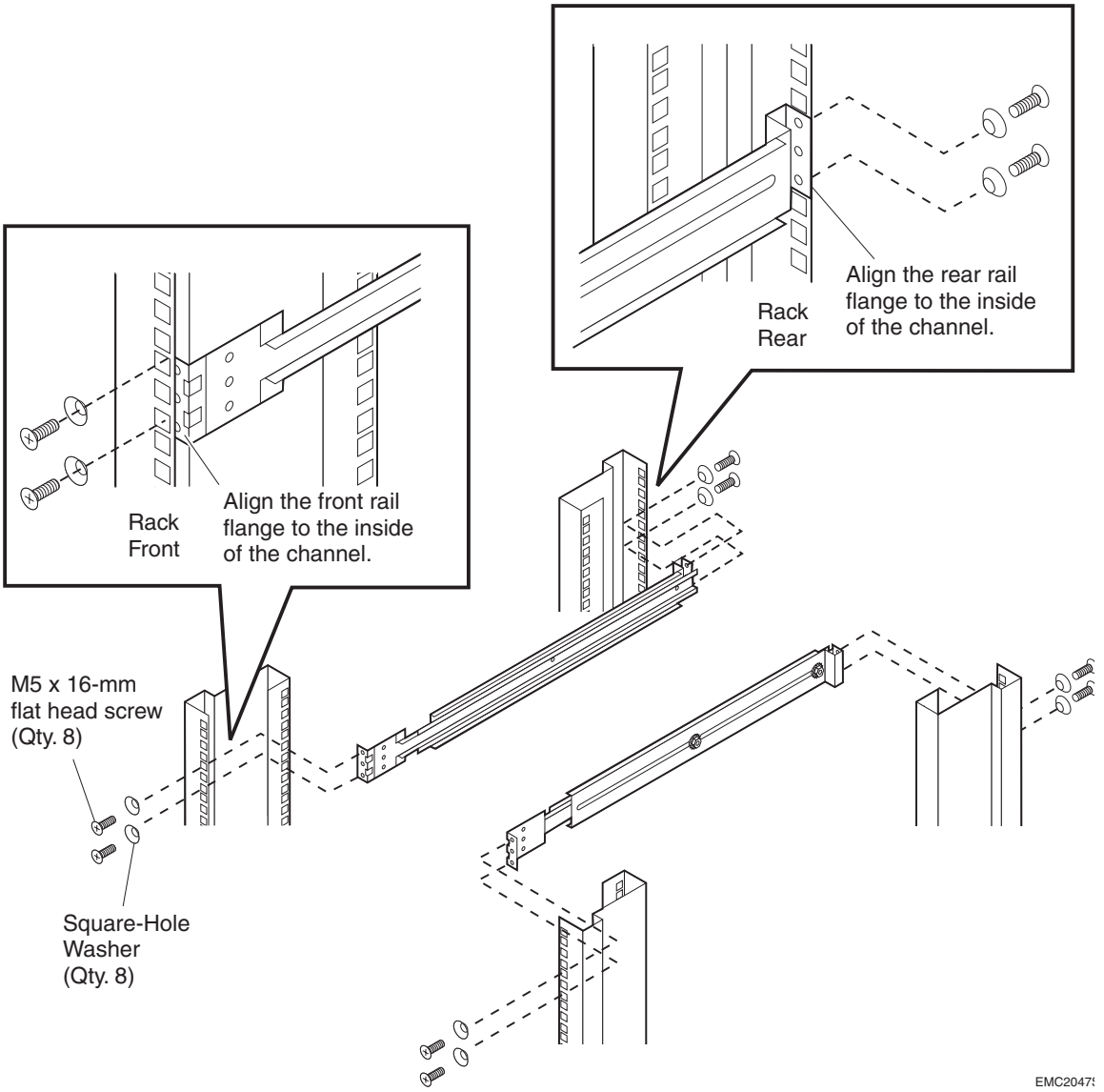


Figure 14 Installing Rails in Square-Hole Channels

Installing the DS-xxB2 Switch

This section describes the procedures for installing the DS-xxB2 switch in a rack/cabinet, including attaching the brackets on the switch.

Mounting Bracket Installation

You must attach mounting brackets to the switch before installing it on the rails. The mounting brackets slide into the "C" channel of the rails.

To attach the mounting brackets to the switch:

1. Orient the L-shaped end of the bracket outward and to the power outlet end of the switch.
2. Place the bracket against the switch. Align the three screw holes in the bracket with three screw holes on the side of the switch (see Figure 15 on page 17).
3. Secure the bracket with three 8-32 x 5/16-in. pan-head screws (see Table 5 on page 6). Tighten the screws fully.
4. Repeat steps 1 through 3 for the other side of the switch to be mounted.

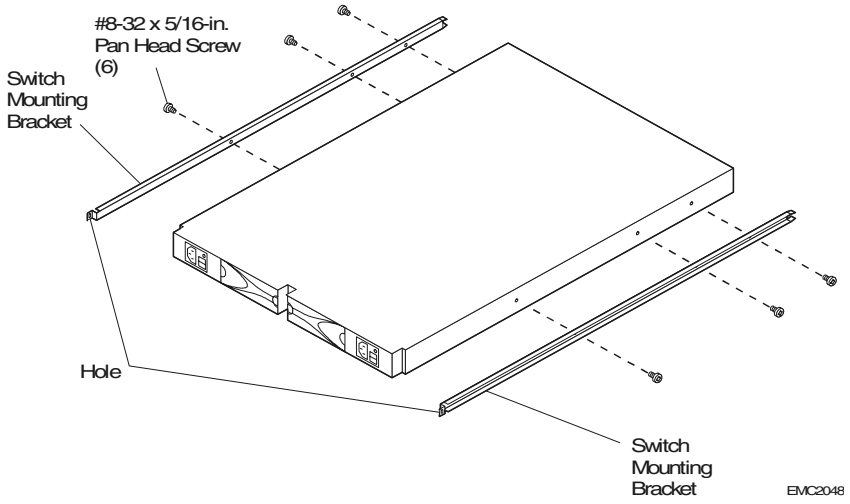


Figure 15 Attaching the Switch Mounting Brackets

Installing the Switch in the Rack/Cabinet

To install the switch in the rack/cabinet:

1. Lift and orient the switch so that the fan end is to the front of the rack/cabinet.
2. Align the bracket on each side of the switch with the "C" channel on each fixed rail.
3. Push the switch into the rack/cabinet until the hole in the front part of each bracket (the "L"-shaped end) aligns with the hole on the fixed rail.

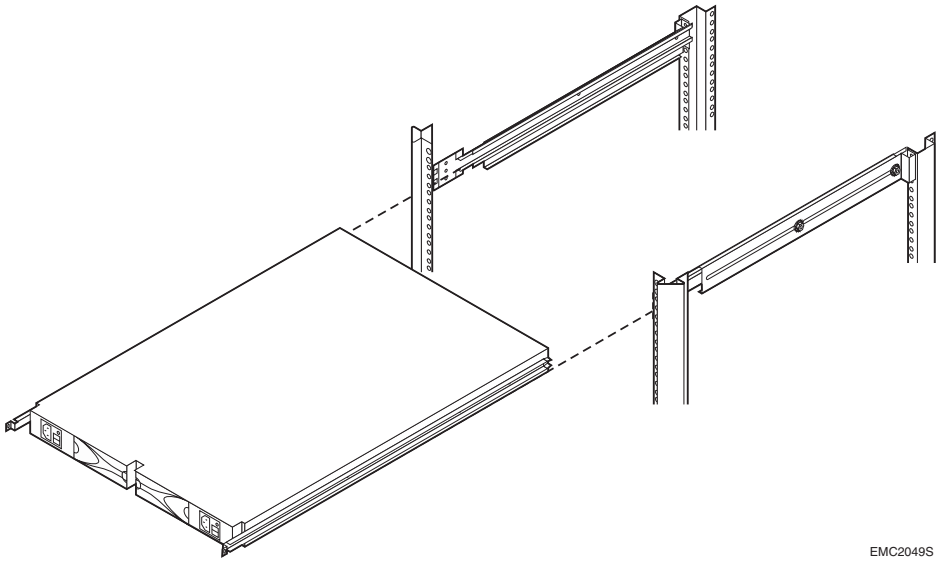


Figure 16 Placing the Switch Into the Rack/Cabinet

4. Secure the brackets to the rails with two M3 x 8-mm pan-head screws (see Table 5 on page 6), one on each side, (Figure 17 on page 19).

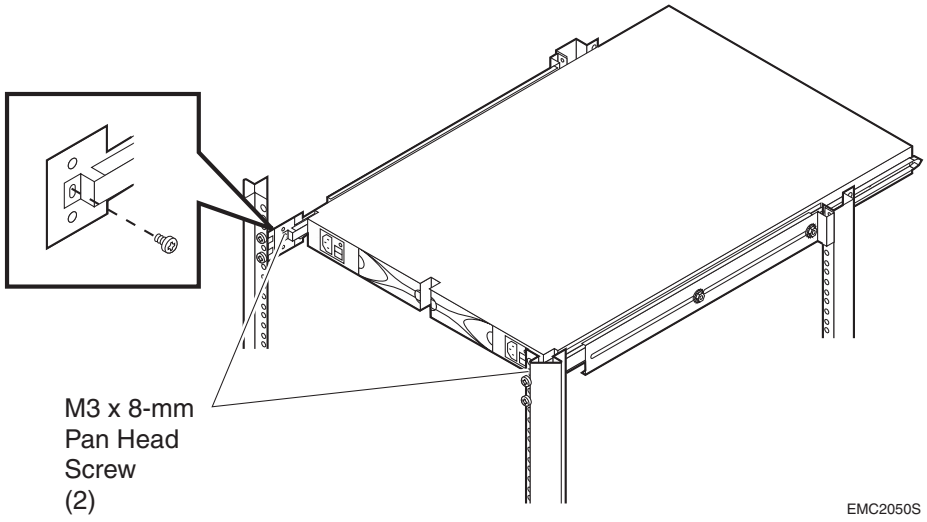


Figure 17 Securing the brackets to the Rails

5. Tighten the rear screws securing the rails to the rear of the rack/cabinet (see Figure 18 on page 20).
6. Tighten the front screws securing the rails to the front of the rack/cabinet (see Figure 18).

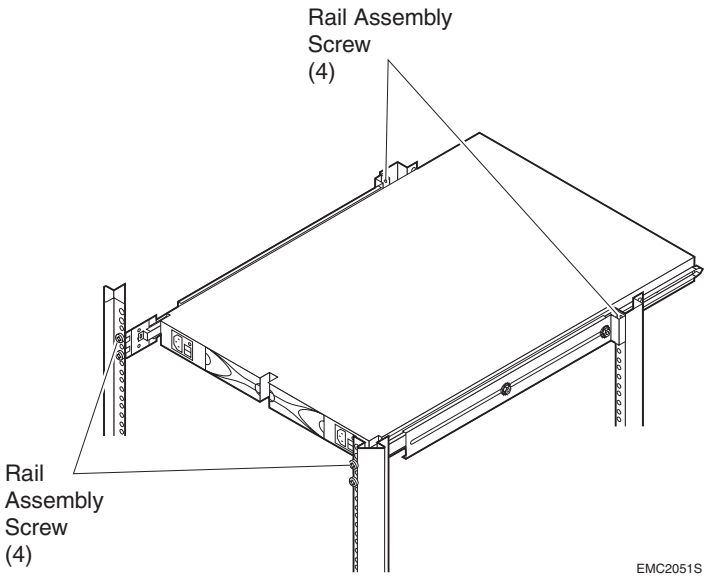


Figure 18 Tightening the Front and Rear Rail Assembly Screws

Where to Get Help

For questions about technical support call your local sales office or service provider.

If you have a valid EMC service contract, contact EMC Customer Service at:

United States:	**(800) 782-4362 (SVC-4EMC)**
Canada:	**(800) 543-4782 (543-4SVC)**
Worldwide:	**(508) 497-7901**

Follow the voice menu prompts to open a service call and select the applicable product support.

If you are located outside the North America, call the nearest EMC office for technical assistance.

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