CISCO SYSTEMS

Rack-Mounting the Cisco uBR 3x10 RF Switch with the Cisco uBR7246VXR CMTS
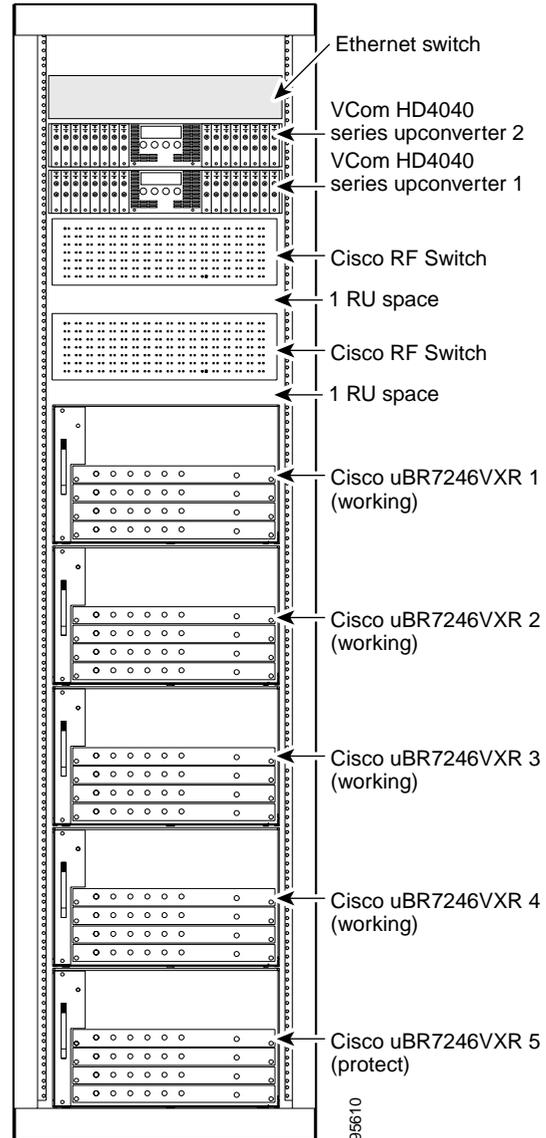
⚠
Warning   **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030

1   Overview

This quick start guide provides basic instructions for rack-mounting a Cisco uBR 3x10 RF Switch with the Cisco uBR7246VXR CMTS.

Sample Configurations

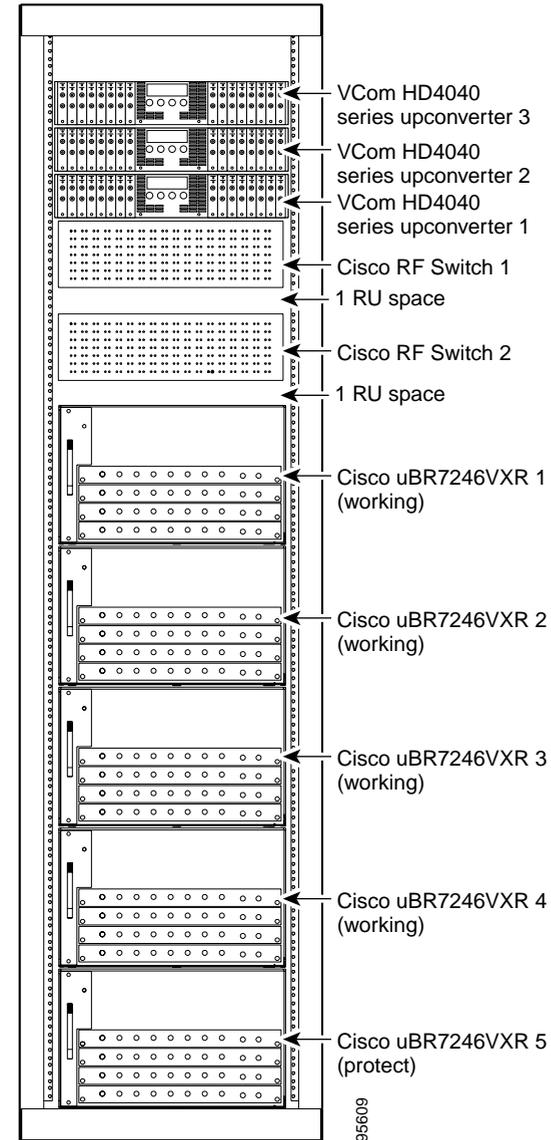**Figure 1   Cisco uBR7246VXR CMTS with the Cisco uBR-MC16x Line Cards**

- Ethernet switch
- VCom HD4040 series upconverter 2
- VCom HD4040 series upconverter 1
- Cisco RF Switch
- 1 RU space
- Cisco RF Switch
- 1 RU space
- Cisco uBR7246VXR 1 (working)
- Cisco uBR7246VXR 2 (working)
- Cisco uBR7246VXR 3 (working)
- Cisco uBR7246VXR 4 (working)
- Cisco uBR7246VXR 5 (protect)

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These illustrations show sample configurations using the Cisco uBR 3x10 RF Switch, upconverters, and the Cisco uBR7246VXR CMTS.

🔍
Tip   To prevent overheating, install the RF Switch in an area that is properly ventilated or air conditioned.

Figure 2   Cisco uBR7246VXR CMTS with the Cisco uBR-MC28C Line Cards

- VCom HD4040 series upconverter 3
- VCom HD4040 series upconverter 2
- VCom HD4040 series upconverter 1
- Cisco RF Switch 1
- 1 RU space
- Cisco RF Switch 2
- 1 RU space
- Cisco uBR7246VXR 1 (working)
- Cisco uBR7246VXR 2 (working)
- Cisco uBR7246VXR 3 (working)
- Cisco uBR7246VXR 4 (working)
- Cisco uBR7246VXR 5 (protect)

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2   Required Equipment

The following equipment is required for rack-mounting the Cisco uBR 3x10 RF Switch in a standard 19-inch-wide 4-post equipment rack.

✏
Note   The rack-mount brackets that come in the accessory kit cannot be used with other racks, such as 23-inch telco racks

Tools and Equipment

- Number 2 Phillips screwdriver
- 7/16-inch flat-blade screwdriver
- Eight 1/32 x 3/8 slotted screws
- Two M5 hex-head screws
- 4 AWG ground wire
- Heat-shrink tubing
- Ground lug

The rack-mount kit includes:

- Two rack-mount brackets
- Four M5 x 8-mm Phillips countersunk screws

Cables Used with These Configurations

- 10-m cables—CABRFSW-3X10-10T, MCX to F connector
- 1.2-m cables—CAB-RFSW-3X10-T, MCX to F connectors

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3 Attaching the Brackets

Before proceeding with the installation, review the safety information in *Cisco RF Switch Regulatory Compliance and Safety Information*.

Step 1 Locate the threaded holes at the rear of the chassis (both sides).

Step 2 Align the first rack-mount bracket with the threaded holes in the left-rear side of the chassis.

Step 3 Thread the M5 x 8 mm Phillips screws through the rack-mount bracket and into the side of the chassis.

Step 4 Use the number 2 Phillips screwdriver to tighten the screws.

Step 5 Repeat Step 1 through Step 4 for the other bracket.

Figure 3   *Rear-Mounted Brackets*
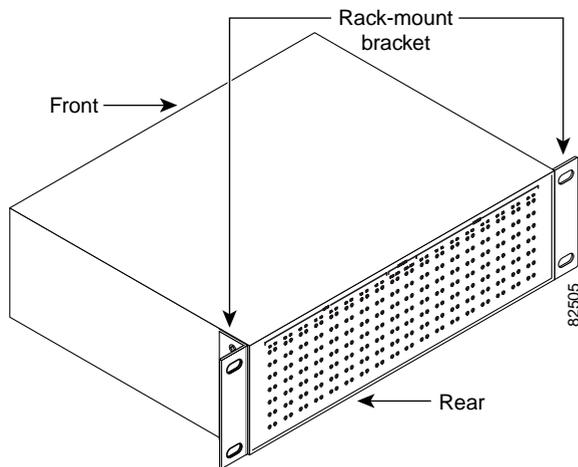
4 Rack-Mounting the Switch

⚠️ **Caution**   Two people should perform this installation procedure.

✎ **Note**   Use all four screws to fasten the two rack-mount brackets to the rack posts, because the brackets support the weight of the chassis (36.6 lbs (16.6 kg).

Step 1 Ensure that all the modules are secure in the chassis.

Step 2 Position the chassis so that the rear panel is facing the same way as the connectors on the cards. See Figure 1 and Figure 2.

🔎 **Tip**   To facilitate cabling, leave one RU space between the RF switch and the router, and one RU space between the two RF switches.

Step 3 Slide the chassis into the rack. Use the illustrations to determine where you attach the chassis to the rack. See Figure 1 and Figure 2.

Step 4 While keeping the brackets flush against the posts or mounting strips, position the chassis so that the holes in the brackets are aligned with those in the mounting strips.

Step 5 Insert all four 1/32 x 3/8 slotted screws (two on each side) through the brackets and into the mounting strip.

🔎 **Tip**   Insert the bottom screws first.

Step 6 Tighten all the screws.

5 Grounding the Chassis

⚠️ **Caution**   Before connecting power and turning on the RF Switch, you must provide an adequate earth ground connection.

Step 1 Locate the ground lug holes on the left-side rear of the chassis.

Step 2 Using 4 AWG wire (recommended), insert the wire into the ground lug.

Step 3 Cover any exposed wire with heat-shrink tubing.

Step 4 Use the two M5 hex-head screws to attach the grounding lug to the chassis.

Step 5 Attach the wire to an appropriate earth ground location.

Figure 4   *Grounding Lug Location*
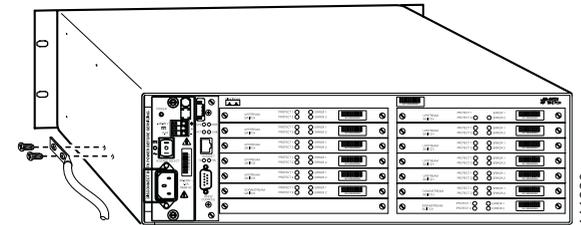
🔎 **Tip**   For more detailed installation instructions, refer to the *Cisco uBR 3x10 RF Switch Hardware Installation and Cabling Guide.*

🔎 **Tip**   For cabling information refer to the *Cisco uBR 3x10 RF Switch Hardware Installation and Cabling Guide.* and the cabling quick start guide for the Cisco uBR7246VXR CMTS.

6 Technical Specifications

Table 1   *Part Numbers and Specifications*

Description	Part Num/Specification
RF Switch (3x10)	UBR-RFSW-3X10
Weight	36.6 lbs (16.6 kg)
Dimensions (w x d x h)	19 x 15.5 x 5.25 inches (482 x 394 x 133 mm)(
Operating temperature	32 to 104°F (0 to +40°C)
Storage temperature	–38 to 149°F (–40 to +70°C)
Power requirement	
AC	100 to 240 VAC, 50–60 Hz.
DC	–48/–60 VDC
Requires Cisco IOS Release 12.2(15)BC2	

7 Related Documentation

- *Cisco uBR 3x10 RF Switch Hardware Installation and Cabling Guide*

  http://www.cisco.com/en/US/products/hw/cable/ps2929/prod_installation_guides_list.html

- *Cabling the Cisco uBR 3x10 RF Switch to a Cisco uBR7246VXR Router*

  http://www.cisco.com/en/US/products/hw/cable/ps2929/products_quick_start_list.html

- *Cisco RF Switch Regulatory Compliance and Safety Information*

  http://www.cisco.com/en/US/products/hw/cable/ps2929/products_regulatory_approvals_and_compliance_list.html

- For information about the 1-year warranty, enter 78-10747-01C0 at the following URL:

  http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

- For VCom HD4040 series IF-to-RF upconverters information, go to the following URL:

  http://www.vcom.com