



Cisco uBR7200 Series Universal Broadband Router Fan Tray Replacement Instructions

Product Number: MAS-UBR7200-FAN=, MAS-U7246VXR-FAN2=

This document explains how to remove and replace the fan tray in the Cisco uBR7200 series universal broadband routers. It includes instructions for removing the fan tray from the chassis and installing a new fan tray in the chassis.



Note

Use this document in conjunction with the [and *Regulatory Compliance and Safety Information for Cisco uBR7200 Series Universal Broadband Routers*](#) that shipped with your Cisco uBR7246VXR or Cisco uBR7246 routers.

This document includes the following sections:

- [If You Need More Information, page 1](#)
- [Fan Tray Overview, page 2](#)
- [Installation Prerequisites, page 3](#)
- [Removing and Replacing the Fan Tray, page 6](#)
- [Obtaining Documentation and Submitting a Service Request, page 8](#)

If You Need More Information

The Cisco IOS software running on your router contains extensive features and functionality. The effective use of many of these features is easier if you have more information at hand. For additional information on configuring and maintaining a Cisco uBR7200 series router, the following documentation resources are available:

- For Cisco IOS software configuration information, refer to the modular configuration and modular command reference publications in the Cisco IOS software configuration documentation set that corresponds to the software release installed on your Cisco hardware.



Note

You can access Cisco IOS software configuration documentation on the World Wide Web at <http://www.cisco.com>.



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

© 1998-2010 Cisco Systems, Inc. All rights reserved.

- For hardware installation and maintenance information on the Cisco uBR7200 series routers, refer to the
- For international agency compliance, safety, and statutory information for wide-area network (WAN) interfaces for the Cisco uBR7200 series routers, refer to the [Regulatory Compliance and Safety Information for Cisco uBR7200 Series Universal Broadband Routers](#)
- To obtain general information about documentation, refer to the Cisco.com, or you can refer to the *Cisco Information Packet* that shipped with your router.

Fan Tray Overview

The Cisco uBR7246VXR and Cisco uBR7246 router fan tray, shown in [Figure 1](#), consists of seven fans enclosed in a metal tray.

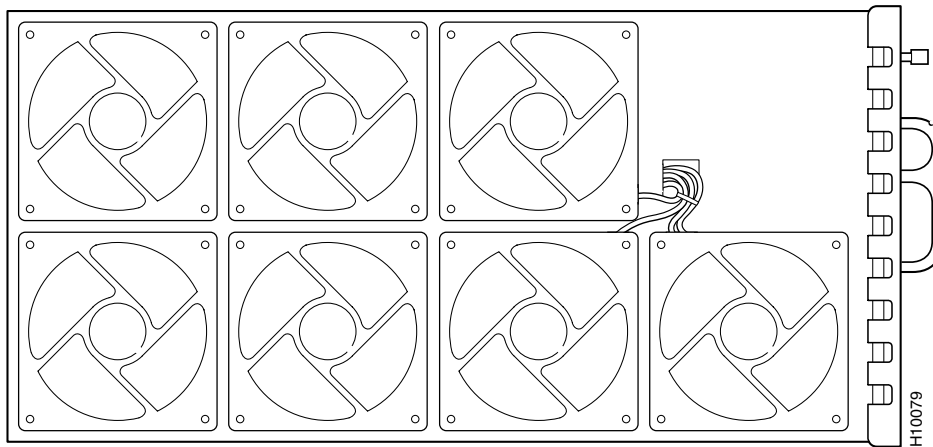
The fan tray is located in the chassis on the left side of the Cisco uBR7200 series routers when viewing the router from the front. (See [Figure 2](#).) The fan tray receives DC-input power through a power connector that connects to the router midplane.



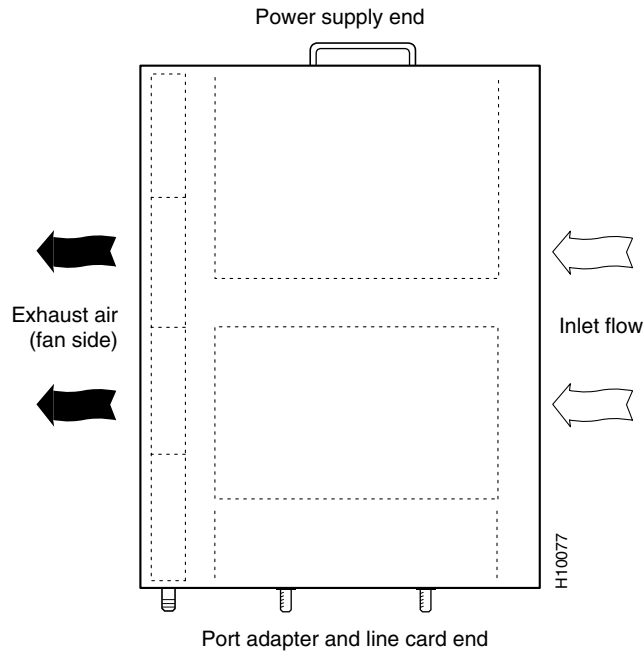
Note

You must use the new MAS-U7246VXR-FAN2 fan tray when the Cisco uBR7246VXR chassis is loaded with four Cisco uBR-MC88V line cards. However, you can load the router with up to two Cisco uBR-MC88V line cards and still use the old MAS-UBR7200-FAN fan tray. When you use three Cisco uBR-MC88V line cards in the Cisco uBR7246VXR router with the old fan tray, the router will disable the third Cisco uBR-MC88V line card and print an error message. The Cisco uBR-MC88V line card is not compatible with legacy line cards such as Cisco uBR-MC16U/X and Cisco uBR-MC28U/X.

Figure 1 Cisco uBR7246VXR and Cisco uBR7246 Router Fan Tray



The fan tray draws cooling air in through the intake vent on the right side of the chassis (when viewing the router from the front [the port adapter and cable modem card end]), and moves the air across the internal components and out of the exhaust vent on the left side of the chassis. [Figure 2](#) shows the air flow through the Cisco uBR7200 series router.

Figure 2 Cisco uBR7200 Series Router Thermal Airflow— Top View

The right and left sides of the router must remain unobstructed to ensure adequate airflow and to prevent overheating inside the router. Maintain at least 3 inches of clearance on both sides of the router.

Installation Prerequisites

This section provides a list of parts and tools you need to remove and replace the fan tray in the Cisco uBR7200 series routers. This section also includes safety and ESD-prevention guidelines to help you avoid injury to yourself and damage to the equipment.

Parts and Tools

You need the following tools and parts to remove and replace the fan tray. If you need additional equipment, contact a service representative for ordering information.

- Fan tray (MAS-UBR7200-FAN= for a Cisco uBR7246VXR and Cisco uBR7246 routers, MAS-U7246VXR-FAN2= for a Cisco uBR7246VXR router when using Cisco uBR-MC88V line card)
- No. 2 Phillips screwdriver
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, FRUs, and spares
- Antistatic mat or surface

Safety Guidelines

Following are the safety guidelines that you should follow when working with any equipment that connects to electrical power or telephone wiring.

Safety Warnings



Warning

This warning symbol means **danger**. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device.

Waarschuwing

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document *Regulatory Compliance and Safety Information* (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.

Varoitus

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta *Regulatory Compliance and Safety Information* -kirjasesta (määräysten noudattaminen ja tietoa turvallisuudesta).

Attention

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document *Regulatory Compliance and Safety Information* (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.

Warnung

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument *Regulatory Compliance and Safety Information* (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.

Avvertenza

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento *Regulatory Compliance and Safety Information* (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.

Advarsel

Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskaade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet *Regulatory Compliance and Safety Information* (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.

Aviso

Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento *Regulatory Compliance and Safety Information* (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.

¡Advertencia!

Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado *Regulatory Compliance and Safety Information* (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.

Varning!

Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förekommer i denna publikation i dokumentet *Regulatory Compliance and Safety Information* (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.

Electrical Equipment Guidelines

Follow these basic guidelines when working with any electrical equipment:

- Before beginning any procedures requiring access to the chassis interior, locate the emergency power-off switch for the room in which you are working.
- Disconnect all power and external cables before moving a chassis.
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power has been disconnected from a circuit; always check.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.

Telephone Wiring Guidelines

Use the following guidelines when working with any equipment that is connected to telephone wiring or to other network cabling:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Removing and Replacing the Fan Tray

Removing and replacing the fan tray in a Cisco uBR7200 series router involves the following tasks:

- [Removing the Fan Tray from the Chassis](#)
- [Installing a New Fan Tray in the Chassis](#)



Note

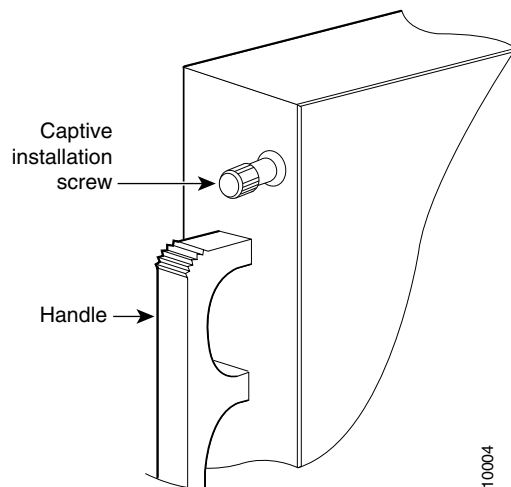
The fan tray supports online insertion and removal (OIR); there is no need to power down the Cisco uBR7200 series router to remove or replace the fan tray. However, the Cisco uBR7200 series routers will shut down if the fan tray is removed from the chassis for more than two minutes.

These tasks are described in detail in the following subsections.

Removing the Fan Tray from the Chassis

- Step 1** Using a the no. 2 Phillips screwdriver or your fingers, loosen the captive installation screw that secures the fan tray to the chassis. See [Figure 3](#).

Figure 3 *Loosening and Tightening the Fan Tray Captive Installation Screw)*



Step 2 Grasp the fan tray handle (or handles) with one hand and the outside of the chassis with the other hand.



Caution

The fans are exposed on the left side of the fan tray. Keep your fingers, clothing, and jewelry away from the fans. Always handle the fan tray by the handle (or handles).

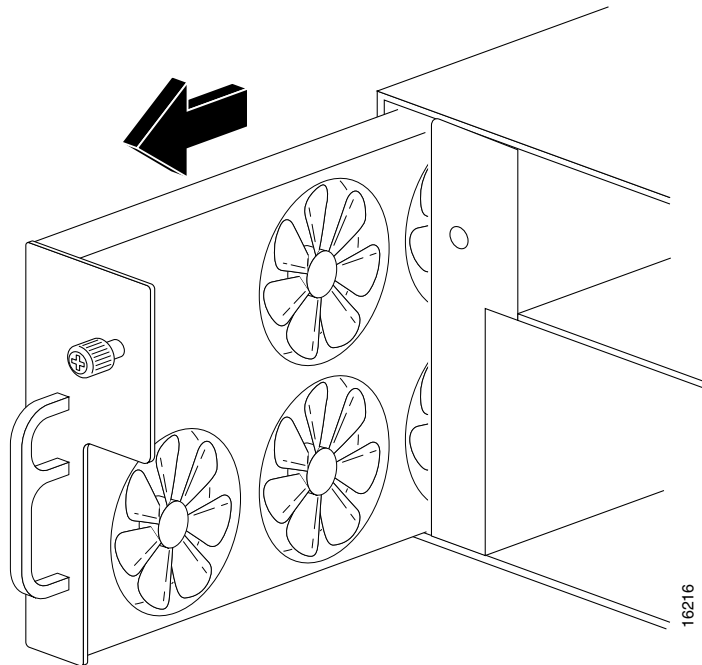
Step 3 Pull the fan tray backward toward you to disengage it from the power receptacle on the midplane. See [Figure 4](#).



Note

As the fan tray slides out of the chassis, you might want to support the bottom of the fan tray with one hand and keep your other hand on the fan tray handle.

Figure 4 *Removing the Fan Tray from the Chassis*



This completes the steps for removing the fan tray from the chassis. Proceed to the following section, [“Installing a New Fan Tray in the Chassis.”](#)

Installing a New Fan Tray in the Chassis

Step 1 For a Cisco uBR7246VXR or Cisco uBR7246 router, orient the fan tray so that the fans face the outside of the chassis and the fan tray handle is at the top of the fan tray front panel. See [Figure 4](#).

Step 2 Guide the fan tray into the chassis making sure the DC-power connector on the fan tray is aligned with the receptacle on the midplane.

**Caution**

The fans are exposed on the left side of the fan tray. Keep your fingers, clothing, and jewelry away from the fans. Always handle the fan tray by the handle.

Step 3

Secure the fan tray to the chassis using the attached captive installation screw. See [Figure 3](#).

This completes the procedure for installing or replacing the fan tray in a Cisco uBR7200 series router.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

This document is to be used in conjunction with the *Cisco uBR7246 Universal Broadband Router Hardware Installation Guide* and *Regulatory Compliance and Safety Information for the Cisco uBR7246 Universal Broadband Router* publications.

CCDE, CCENT, CCSI, Cisco Eos, Cisco Explorer, Cisco HealthPresence, Cisco IronPort, the Cisco logo, Cisco Nurse Connect, Cisco Pulse, Cisco SensorBase, Cisco StackPower, Cisco StadiumVision, Cisco TelePresence, Cisco TrustSec, Cisco Unified Computing System, Cisco WebEx, DCE, Flip Channels, Flip for Good, Flip Mino, Flipshare (Design), Flip Ultra, Flip Video, Flip Video (Design), Instant Broadband, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn, Cisco Capital, Cisco Capital (Design), Cisco:Financed (Stylized), Cisco Store, Flip Gift Card, and One Million Acts of Green are service marks; and Access Registrar, Aironet, AllTouch, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Lumin, Cisco Nexus, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, Continuum, EtherFast, EtherSwitch, Event Center, Explorer, Follow Me Browsing, GainMaker, iLYNX, IOS, iPhone, IronPort, the IronPort logo, Laser Link, LightStream, Linksys, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, PCNow, PIX, PowerKEY, PowerPanels, PowerTV, PowerTV (Design), PowerVu, Prisma, ProConnect, ROSA, SenderBase, SMARTnet, Spectrum Expert, StackWise, WebEx, and the WebEx logo are registered trademarks of Cisco and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1002R)

© 1998-2010, Cisco Systems, Inc.