



Cisco LCD Module for the Cisco uBR10012 Universal Broadband Router

Document Part Number: OL-5090-01
October 2003

Product Numbers: UBR10-DSPL=, UBR10-DSPL-CAB=

Revision History

Date	Revision	Reason
08/31/2001	78-13759-01	Original publication. This document is obsolete.
10/20/03	OL-5090-01	Moved document to online only, updated information and format.

Purpose

The purpose of this document is to provide installation, removal, and troubleshooting information for the LCD module installed in the Cisco uBR10012 universal broadband router.

Audience

This document is intended for use by a field service engineer who is familiar with Cisco products and headend cable installation procedures.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.
Statement 1030.



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Scope

This document includes procedures for installing and removing the Cisco LCD module that comes with the Cisco uBR10012 universal broadband router. This document also includes technical specifications and troubleshooting information.

Contents

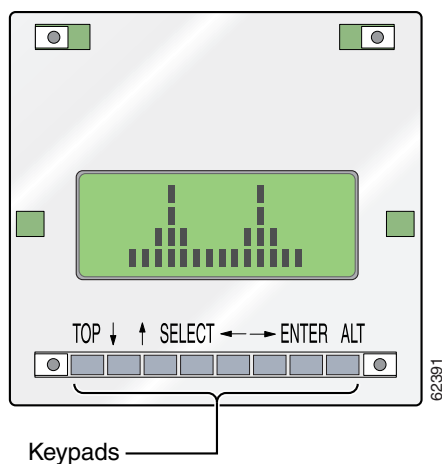
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Feature Overview

The LCD module for the Cisco uBR10012 universal broadband router is designed to provide real-time operating status and configuration information for the system. After powering on the Cisco uBR10012 universal broadband router, an image of the Cisco logo appears on the LCD module.

Figure 1 shows a front view of the Cisco LCD module. When the router is turned on, the Cisco logo appears on the screen.

Figure 1 Cisco LCD Front Panel



Note

The keypad functions are not active at this time.

Figure 2 shows the location of the Cisco LCD module in the Cisco uBR10012 chassis.

Figure 2 Front View of the Cisco uBR10012 Universal Broadband Router

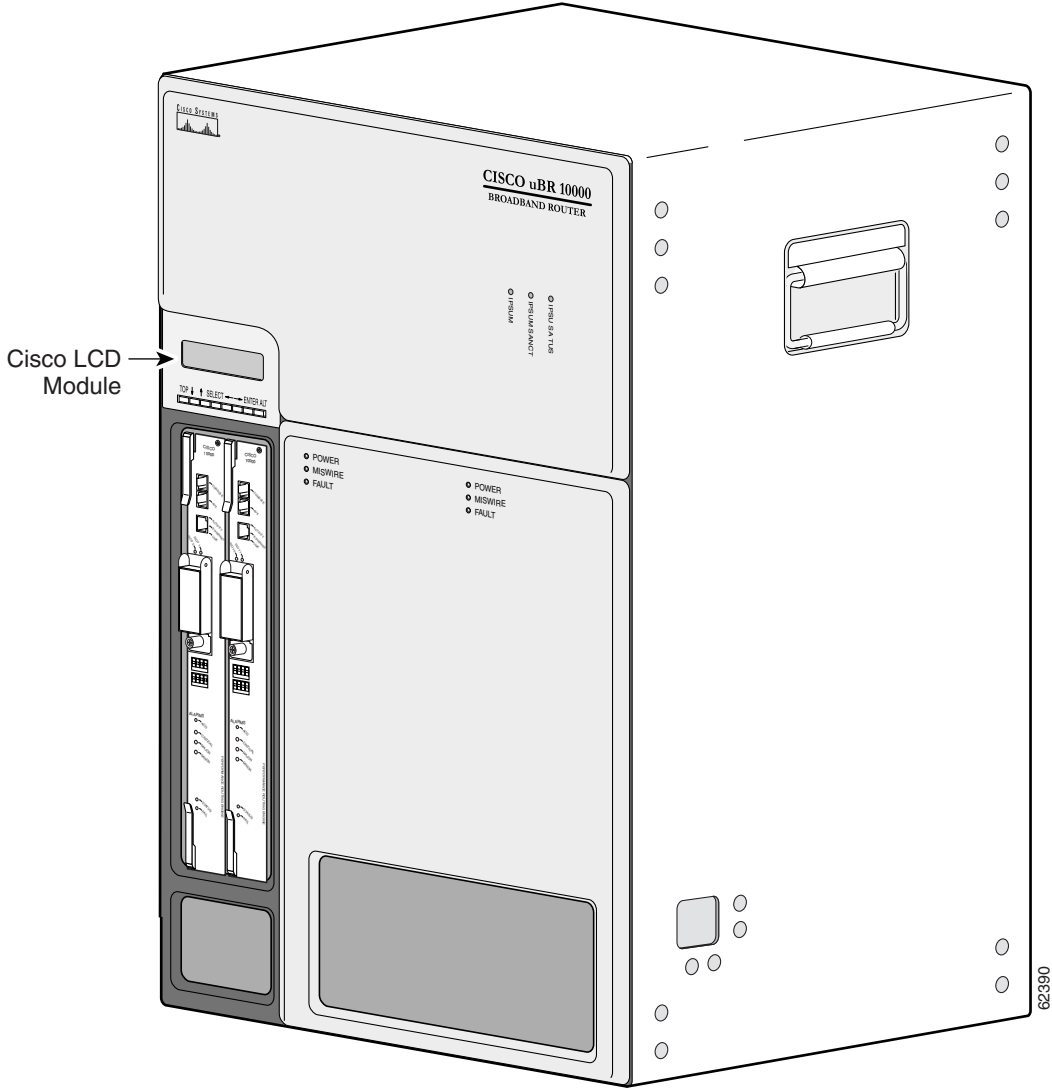
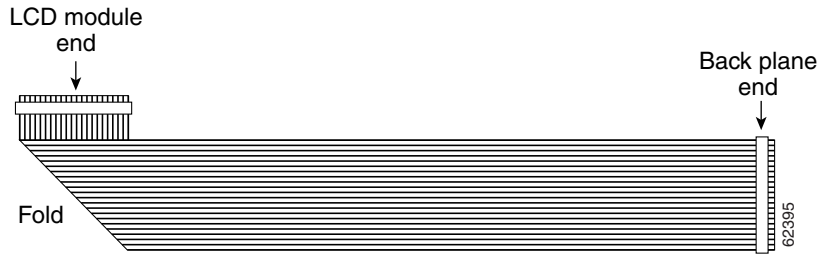


Figure 3 on page 4 shows the LCD ribbon cable. The LCD ribbon cable connects the LCD module to the backplane. The folded end is connected to the LCD module.

Figure 3 Cisco LCD Cable



Part Numbers and Technical Specifications

Table 1 lists the specifications for the LCD module:

Table 1 Cisco uBR10012 LCD Module Specifications

Description	Specifications
Product order number - module	UBR10-DSPL=
Product order number - cable	UBR10-DSPL-CAB=
Module dimensions	<ul style="list-style-type: none"> Height: 4.0 in. (10.16 cm) Width: 4.8 in. (12.19 cm) Depth: 1.4 in. (3.56 cm)
Weight	0.4 lb (0.1814 kg)
Power consumption	2 Watts (6.824 btu ¹ per hour)
MTBF	LCD Module—231,576 hours LCD Module Cable—N/A
Temperature range	<ul style="list-style-type: none"> Operating: 41 to 104° F (5 to 40° C) Storage: -40 to 158° F (-40 to 70° C)
Relative humidity	<ul style="list-style-type: none"> Operating: 5 to 85% Storage: 5 to 95%
Operating altitude	-197 to 13,123 ft (-60 to 4000 m)

1. British thermal units per hour

Safety Warnings

Warning Definition



IMPORTANT SAFETY INSTRUCTIONS

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. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Waarschuwing

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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 de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus

TÄRKEITÄ TURVALLISUUSOHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelyyn liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET

Attention

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS

Warnung WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI

Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES

Varning! VIKTIGA SÄKERHETSANVISNINGAR

Denna varningssignal 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 vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение

ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告

重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告

安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

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 when 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.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) damage, which occurs when electronic cards or components are improperly handled, can result in complete or intermittent failures. The AC-input power shelf and its AC power modules contain a printed circuit card that is fixed in a metal carrier. Electromagnetic interference (EMI) shielding and connectors are integral components of the carrier. Although the metal carrier helps to protect the cards from ESD, use an anti-static strap each time you handle the modules.

Following are guidelines for preventing ESD damage:

- Always use an ESD-preventive wrist or ankle strap and ensure that it makes good skin contact. Before removing a card from the chassis, connect the equipment end of the strap to a bare metal, unpainted surface on the chassis or rack-mount.
- Handle components by the carrier edges only; avoid touching the card components or any connector pins.
- When removing a module, place it on an anti-static surface or in a static-shielding bag. If the module will be returned to the factory, immediately place it in a static-shielding bag.
- Avoid contact between the modules and clothing. The wrist strap protects the card from ESD voltages on the body only; ESD voltages on clothing can still cause damage.



Caution

For safety, periodically check the resistance value of the anti-static strap. The measurement should be between 1 and 10 megohms.

Removing and Replacing the Cisco LCD Module

Follow this procedure to replace an existing Cisco LCD module and module ribbon cable. You do not need to power down the system to perform this procedure.



Caution

If you are replacing the ribbon cable, you may need to remove the fan assembly, too. The ribbon cable connection to the backplane is reached most easily through the top of the chassis where the fan module is located. This procedure should be done as quickly as possible, because it requires removing the cooling elements from the chassis. Review *Cisco uBR10012 Fan Assembly Module* documentation at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/cable/ubr10k/ubr10012/frus/index.htm>

Equipment

To remove and replace an individual Cisco LCD module you need the following:

- Replacement Cisco LCD module, product order number UBR10-DSPL=
- Phillips head screwdriver #1
- ESD-preventive wrist strap
- Anti-static surface



Note

You do not need the cable if you are only replacing the Cisco LCD module.

Unpack the LCD Module

- Step 1** Make sure that you are properly grounded with an ESD-preventive ground strap.
- Step 2** Remove the Cisco LCD module from the box and packaging.
- Step 3** Place the module on an anti-static surface close to the chassis.
- Step 4** Remove the cable from its packaging.
- Step 5** Place the cable on an anti-static surface close to the chassis.

Remove the LCD Module

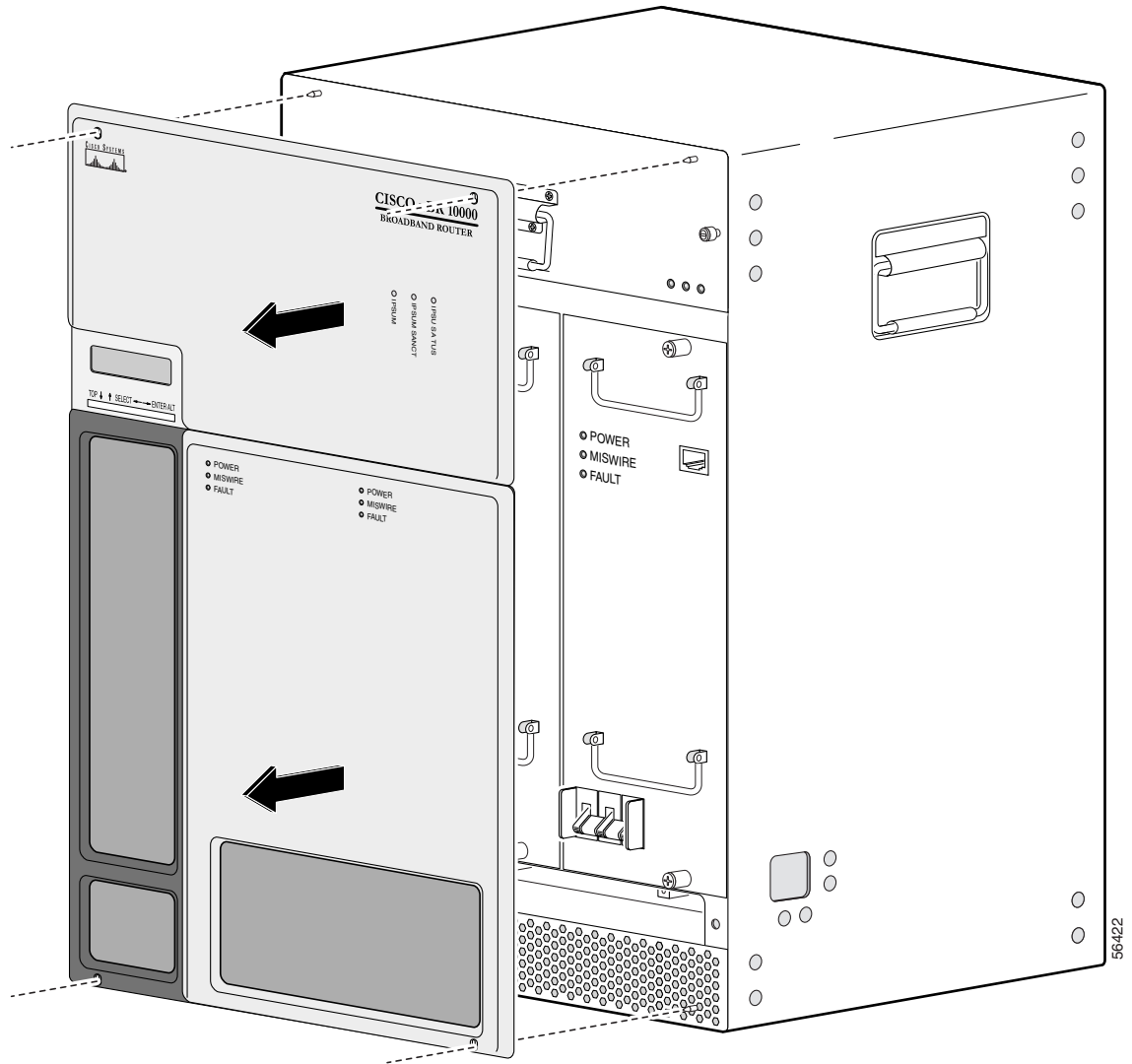


Caution

When you are removing the front cover, watch that the key caps on the front of the LCD are not dislodged or otherwise damaged.

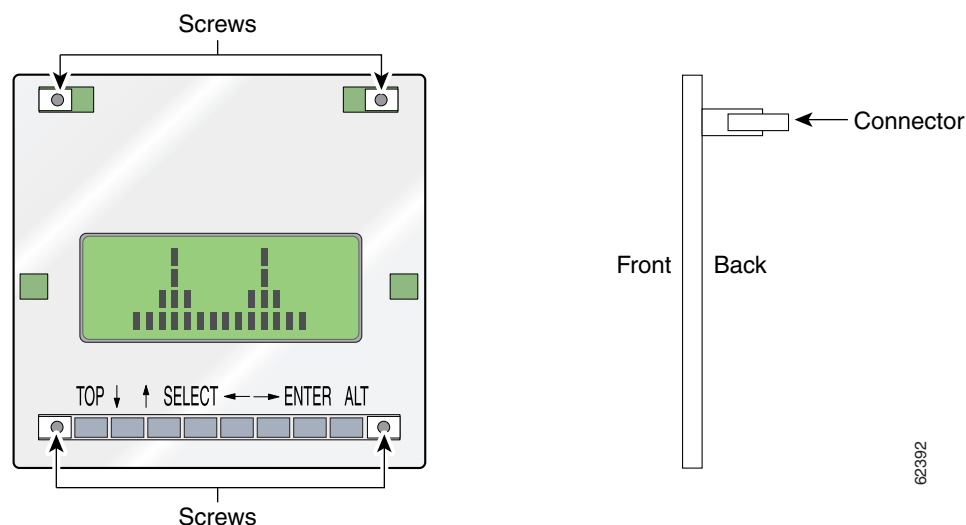
- Step 1** Remove the front cover by lifting it up slightly and then pulling it toward you. See [Figure 4 on page 10](#).

Figure 4 Cisco uBR10012 Series Universal Broadband Router



- Step 2** Remove the screws from the LCD module and put them in a safe place.

Figure 5 Locations of Screws



- Step 3** Pull the module out of the chassis until you can reach the ribbon cable plugged into the back of the module.
- Step 4** Disconnect the cable from the connector and place the module on an anti-static surface.
- Step 5** If you are replacing the cable and the module, or if you are replacing just the cable, see the [“Replace the LCD Ribbon Cable”](#) section on page 12.

Replace the LCD Module

- Step 1** Hold the module up close to its location in the chassis.
- Step 2** Attach the ribbon cable to the back of the module. See [Figure 5](#) for connector location.



Note The ribbon cable is designed to fold into the chassis as you put the module back into place.

- Step 3** Align the screw holes in the module with the screw holes in the chassis.
- Step 4** Insert the screws (one at a time starting with the top) in the screw holes.
- Step 5** Hand tighten the screws with the screwdriver. Do not over tighten or torque the screws down.



Caution The key caps are easily dislodged. Be careful when reinstalling the front cover.

- Step 6** Carefully replace the front cover on the chassis.

Replace the LCD Ribbon Cable

You may need to remove the fan assembly first, if you are replacing the ribbon cable. Before removing the fan assembly, review *Cisco uBR10012 Fan Assembly Module* documentation at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/cable/ubr10k/ubr10012/frus/index.htm>



Caution

To avoid overheating the system, this procedure must be done as quickly as possible. Be sure that you have all the required tools and equipment immediately available.

Equipment

- Replacement LCD cable, product part number UBR10-DSPL-CAB=



Caution

Replace the fan assembly within three minutes to maintain the chassis temperature.

Step 1

Remove the LCD module from the chassis and set it aside. See the “[Remove the LCD Module](#)” section on page 9.

Step 2

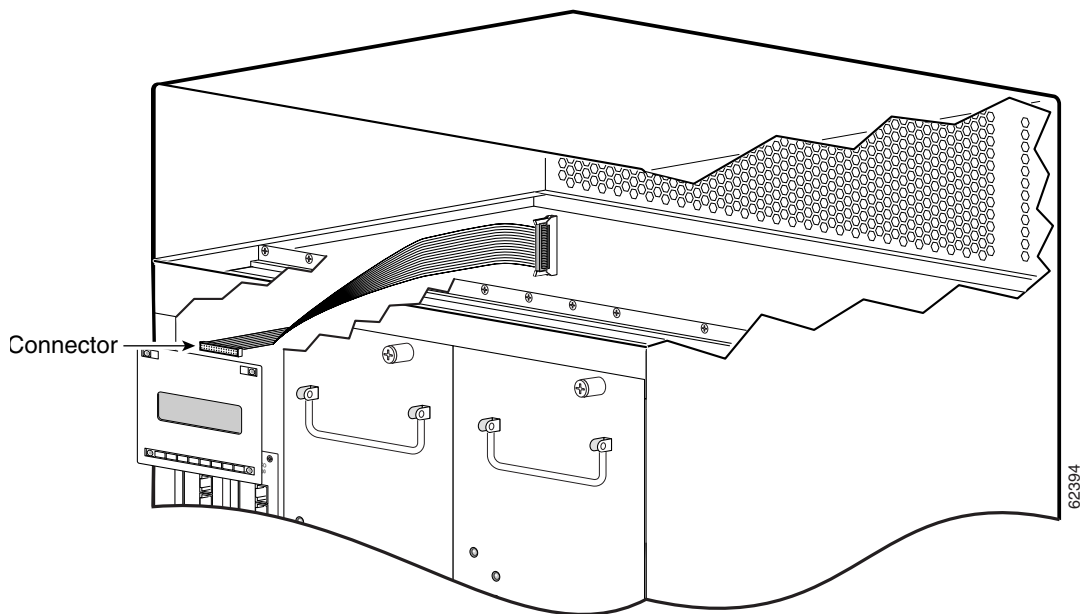
Remove the fan assembly module from the chassis, if necessary.



Note

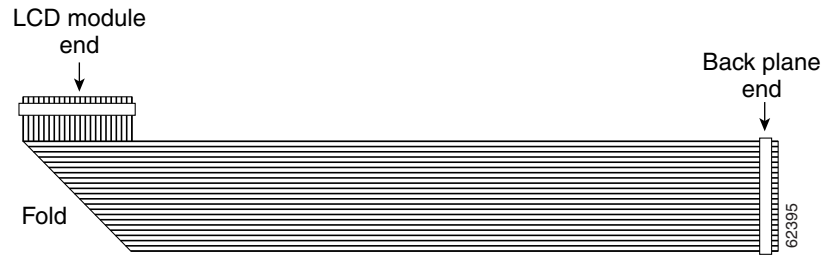
The easiest way to remove the cable is to reach in through the bottom of the fan assembly slot. See [Figure 6](#).

Figure 6 Location of LCD Cable Connector in Chassis



- Step 3** Push down on the extractors to open them and release the cable.
- Step 4** Pull the cable from the connector and remove it from the chassis.
- Step 5** Connect a new cable to the connector. The connector is keyed so that it can be connected only one way. See [Figure 7](#) for cable orientation.

Figure 7 LCD Assembly Cable



- Step 6** Lay the cable in the LCD slot so that you can reach it easily from the LCD module location.
- Step 7** Immediately reinstall the fan assembly module back into the chassis.
- Step 8** Connect the cable to the LCD module.
- Step 9** Reinstall the LCD module in the chassis. See the “[Replace the LCD Module](#)” section on page 11.

Troubleshooting

Check the following if there is a problem with the LCD module:

- Verify that the cable is securely connected to the LCD module.
 - Disconnect the cable and reconnect it.
- Verify that the cable is securely connected to the connector on the backplane.
 - Reach into the chassis and push down on the connector.



Note To check the cable connections you need to remove the LCD module from the chassis.

- Verify that the TCC+ card is properly installed in the chassis.
- Verify that the LCD module is driven by the active TCC+ card. Refer to *Cisco uBR10012 Universal Broadband Router Software Configuration Guide*. See the “[Related Documentation](#)” section on page 14.

Related Documentation

Cisco uBR10012 Universal Broadband Router Hardware Installation Guide at the following URL:

<http://www.cisco.com/en/US/docs/cable/cmts/ubr10012/installation/guide/hig.html>

Cisco uBR10012 Universal Broadband Router Software Configuration Guide at the following URL:

<http://www.cisco.com/en/US/docs/cable/cmts/ubr10012/configuration/guide/scg.html>

Cisco CMTS Feature Guide at the following URL:

<http://www.cisco.com/en/US/docs/cable/cmts/feature/guide/cmtsfg.html>

Obtaining Documentation

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/cisco/web/psa/default.html?mode=prod>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco websites can be accessed from this URL:

<http://www.cisco.com/web/siteassets/locator/index.html>

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which may have shipped with your product. The Documentation CD-ROM is updated regularly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual or quarterly subscription.

Registered Cisco.com users can order a single Documentation CD-ROM (product number DOC-CONDOCCD=) through the Cisco Ordering tool:

http://www.cisco.com/en/US/partner/ordering/ordering_place_order_ordering_tool_launch.html

All users can order annual or quarterly subscriptions through the online Subscription Store:

<http://www.cisco.com/pcgi-bin/marketplace/welcome.pl>

Click Subscriptions & Promotional Materials in the left navigation bar.

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/en/US/docs/general/illus_process/PDI/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit e-mail comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, the Cisco Technical Assistance Center (TAC) provides 24-hour-a-day, award-winning technical support services, online and over the phone. Cisco.com features the Cisco TAC website as an online starting point for technical assistance. If you do not hold a valid Cisco service contract, please contact your reseller.

Cisco TAC Website

The Cisco TAC website (<http://www.cisco.com/cisco/web/support/index.html>) provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year.

Accessing all the tools on the Cisco TAC website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Opening a TAC Case

Using the online TAC Case Open Tool (<http://tools.cisco.com/ServiceRequestTool/create/launch.do>) is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer.

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

http://www.cisco.com/en/US/support/tsd_cisco_worldwide_contacts.html

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The Cisco Product Catalog describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

<http://www.cisco.com/en/US/products/index.html>

- Cisco Press publishes a wide range of general networking, training and certification titles. Both new and experienced user will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com/index.asp>

- Packet magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:

http://www.cisco.com/web/about/ac123/ac114/about_cisco_packet_magazine.html

- Internet Protocol Journal is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

http://www.cisco.com/web/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:


<http://www.cisco.com/web/learning/index.html>

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