

# RouteAbout Access EW

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## Installation

Order Number: EK-DEX2R-IN. A01

**June 1995**

This manual describes how to install the RouteAbout Access EW.

**Revision/Update Information:** This is a new manual.

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**June 1995**

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**Attention!**

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# Preface

## Manual Content

This manual describes how to install and set up the RouteAbout Access EW module. It also provides problem-solving and connector pin assignment information.

## Intended Audience

This manual is intended for use by personnel who will install and set up the RouteAbout Access EW.

## Organization

This manual is organized as follows:

Section	Description
Chapter 1	Provides an overview of the RouteAbout Access EW and describes its features.
Chapter 2	Provides instructions for installing the RouteAbout Access EW.
Chapter 3	Provides instructions for setting up the RouteAbout Access EW.

Section	Description
Appendix A	Provides installation-specific problem-solving information using the LEDs.
Appendix B	Provides connector and pin assignment information.
Appendix C	Contains installation information that is specific to the United Kingdom only.
Appendix D	Provides product specifications and a parts list.

## Conventions Used in This Guide

Special Type	This special type in examples indicates system output or user input.
<b>Boldface</b>	Boldface type in examples indicates user input.
<Return>	Indicates that you should press the Return key.

## Associated Documents

The following documents provide related information about the module. Ordering information is provided at the back of this manual. The software manuals listed are available on the CDROM which was packaged with your module.

Title and Order No.	Description
<i>Bridging Configuration Guide</i> AA-QL29A-TE	Describes bridging methods, operational features of bridging, configuration methods and basic configurations, and monitoring of bridging software.
<i>DEChub 90 Owner's Guide</i> EK-DEHUB-OM	Provides installation, use, security, and troubleshooting information for the DEChub 90.
<i>DEChub 900 MultiSwitch Owner's Manual</i> EK-DH2MS-OM	Provides installation, use, security, and troubleshooting information for the DEChub 900 MultiSwitch.



<b>Title and Order No.</b>	<b>Description</b>
<i>Event Logging System Messages Guide</i> AA-QL2AA-TE	Describes messages logged by the Event Logging System.
<i>Network Interface Operations Guide</i> AA-QL2BA-TE	Describes the configuring and monitoring of the network interfaces in the Bridge Router Software bridging router.
<i>Router Protocols Reference Guide</i> AA-QL2CA-TE	Provides detailed reference information about the micro-operating system structure and the protocols and interfaces that the bridging routers support.
<i>Routing Protocols Users Guide</i> AA-QL2DA-TE	Explains how to configure and monitor the routing protocol software.
<i>System Software Guide</i> AA-QL2EA-TE	Describes the installation, configuration, and operation of the Bridge Router Software.

---

## Safety

Any warning or caution that appears in this manual is defined as follows:


<b>WARNING</b>	Contains information to prevent personal injury.
<b>CAUTION</b>	Contains information to prevent damage to equipment.
<b>VORSICHT</b>	Enthält Informationen, die beachtet werden müssen, um den Benutzer vor Schaden zu bewahren.
<b>ACHTUNG</b>	Enthält Informationen, die beachtet werden müssen, um die Geräte vor Schaden zu bewahren.
<b>DANGER</b>	Signale les informations destinées à prévenir les accidents corporels.
<b>ATTENTION</b>	Signale les informations destinées à prévenir la détérioration du matériel.
<b>AVISO</b>	Contiene información para evitar daños personales.
<b>PRECAUCION</b>	Contiene información para evitar daños al equipo.

---

## Safety (Cont'd)

The warnings and cautions that must be observed for the hardware described in this manual are listed below in English, German, French, and Spanish. The pages on which these safety messages appear are also listed.

---


<b>WARNING</b> 	Do not attempt to open the module under any circumstances - physical injury may occur. Only qualified service personnel are authorized to open the module. [Page A-1.]
<b>VORSICHT!</b>	Versuchen Sie auf gar keinen Fall, das Modul zu öffnen - es besteht Verletzungsgefahr. Module dürfen nur von entsprechend ausgebildetem Kundendienstpersonal geöffnet werden.
<b>DANGER!</b>	N'ouvrir cet appareil en aucun cas, sous peine de blessures corporelles. L'ouverture ne doit être effectuée que par un personnel d'entretien qualifié.
<b>¡AVISO!</b>	No se debe abrir el módulo bajo ninguna circunstancia; pueden ocurrir lesiones físicas. Sólo se autoriza al personal cualificado abrir el módulo.

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## Safety (Cont'd)

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<b>CAUTION</b> 	This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost. [Page 3-9]
<b>ACHTUNG</b>	Bei diesem Vorgang werden alle Konfigurationseinstellungen gelöscht und die Werkseinstellungen wieder eingesetzt. Alle Konfigurationsdaten gehen verloren.
<b>ATTENTION</b>	Cette action supprime tous les paramètres de configuration et les remplace par des valeurs prédéfinies. Tous les paramètres de configuration seront perdus.
<b>PRECAUCIÓN</b>	Esta intervención borrará todos los parámetros de configuración y los sustituirá por valores por defecto definidos de fábrica. Se perderán todos los parámetros de configuración.

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# Chapter 1

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## RouteAbout Access EW Description

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### Overview

This chapter provides a description of the RouteAbout Access EW module and its features, indicators, and connectors. The sections of this chapter are listed below.

---

#### What is the RouteAbout Access EW?

##### Features

##### Front and Side Panels – LEDs and Connectors

##### Back Panel Features

---

### What is the RouteAbout Access EW?

The RouteAbout Access EW Remote Access Router (referred to as the RouteAbout Access EW or the module throughout this manual) delivers cost effective, multi-protocol solutions for linking remote Ethernet LANs to corporate networks. The RouteAbout Access EW offers flexible software support that can be tailored to the needs of specific remote environments. It operates in a DEChub 90 or DEChub 900 MultiSwitch backplane or as a standalone bridging router. The base configuration supports one Ethernet and two serial lines (up to T1/E1 speed). With an industry-proven Motorola ® 68360 processor and 4 megabytes of memory (upgradeable to up to 16 megabytes), the RouteAbout Access EW can handle both current and future needs of remote office environments.

The RouteAbout Access EW comes standard with flash EPROM technology for reduced software maintenance and server costs. The RouteAbout Access EW is easily managed by Simple Network Management Protocol (SNMP).

In this manual, the term Ethernet is Digital's term for its product compatibility with:

- ISO 8802-3/ANSI/IEEE 802.3 standards
- Ethernet standards for Carrier Sense Multiple Access with Collision Detection (CSMA/CD) local area networks (LANs).

## Features

The RouteAbout Access EW is a wide area router/bridge that has:

- one console port
- three interfaces consisting of:
  - one Ethernet interface
  - and two synchronous serial ports

The console port is an asynchronous RS232 serial port. The Ethernet interface is either a ThinWire port (10Base2) or a twisted pair port (10BaseT) exclusively. The two synchronous serial ports support any of nine standards as determined by the cable attached to the serial port (see the LEDs and Connectors section).






The RouteAbout Access EW module is managed by SNMP through HUBwatch or other network management systems.



When the module is installed into a DEChub 90 or DEChub 900 MultiSwitch, the module's hot-swap capability allows you to install or remove the module without turning off the power.

## Front and Side Panels – LEDs and Connectors

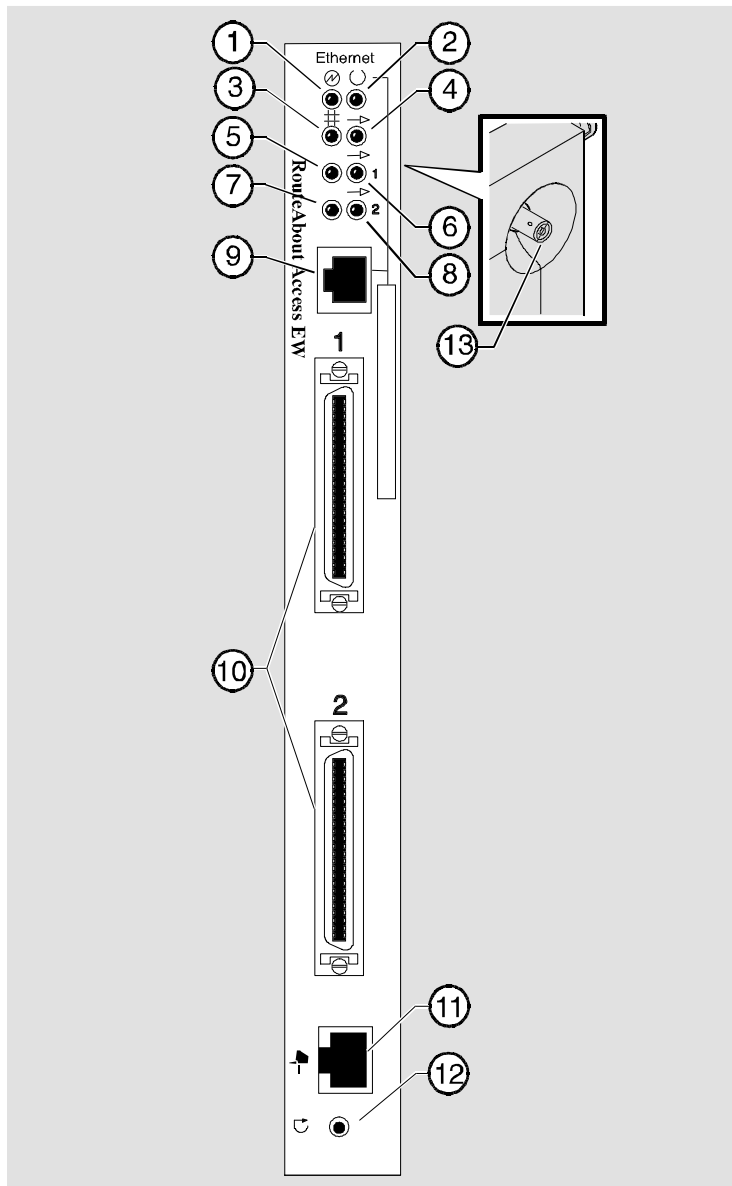
The LED indicators and connectors on the front and side panels of the RouteAbout Access EW are listed below in Table 1-1. Figure 1-1 shows the location of each item listed. For problem-solving information using the LEDs, refer to Appendix A.

**Table 1-1 LED Indicators and Connectors**

Item	Icon	Name	Description
1		Power LED	<b>On:</b> indicates the module has power. <b>Off:</b> indicates the module has no power. <b>Blinking:</b> indicates faulty power connection or insufficient power.
2		Module OK LED	<b>On:</b> indicates the module passed self-test. <b>Off:</b> indicates the module failed self-test.
3		Network OK LED	<b>On:</b> indicates the ThinWire 10Base2 port or twisted pair 10BaseT port is connected to a properly terminated and operational LAN. <b>Off:</b> indicates the ThinWire 10Base2 port or twisted pair 10BaseT port is <u>not</u> connected to a properly terminated and operational LAN.
4		Network Activity LED	<b>On:</b> indicates network traffic. <b>Blinking:</b> blinks more rapidly and appears brighter as network traffic increases. <b>Off:</b> indicates no network traffic.
5		Port 1 Serial Line OK Indicator	<b>On:</b> indicates normal operation. <b>Blinking:</b> indicates self-test mode. <b>Off:</b> indicates self-test failure.
6		Port 1 Serial Line Activity Indicator	<b>On:</b> indicates Port 1 is transmitting or receiving data. <b>Off:</b> indicates Port 1 is not currently transmitting or receiving data.

Item	Icon	Name	Description
7		Port 2 Serial Line OK Indicator	<b>On:</b> indicates normal operation. <b>Blinking:</b> indicates self-test mode. <b>Off:</b> indicates self-test failure.
8	→	Port 2 Serial Line Activity Indicator	<b>On:</b> indicates Port 2 is transmitting or receiving data. <b>Off:</b> indicates Port 2 is not transmitting or receiving data.
9		Twisted Pair (10BaseT) Connector	Connects the module to a 10BaseT twisted pair. Not used when the module is installed in the DEChub 900 or connected through the ThinWire (10Base2) BNC connector.
10		Synchronous Serial Port 1 and Port 2 Connections	These ports support the following standards: EIA530A RS232/V.28 RS422/V.11 V.35 X.21 Leased Lines (LL) The ports are compatible with RS423/V.10.
11		Console Port Connection	Connects a console terminal that is used to manage the module. Uses an MJ8 connector.
12		Dump Button	If pressed during the execution of power-on diagnostics (from shortly after power on until the LED's blink three times in sequence), it causes the diagnostic state to reset to the factory defaults and the power-on sequence to stop at the boot prompt to allow for manual clearing of configuration memory.
13		Ethernet Network Connector (BNC)	Connects the module to the Ethernet ThinWire segment. Not used when the module is installed in either the DEChub 90 or DEChub 900 MultiSwitch or connected through the twisted pair (10BaseT) connector.





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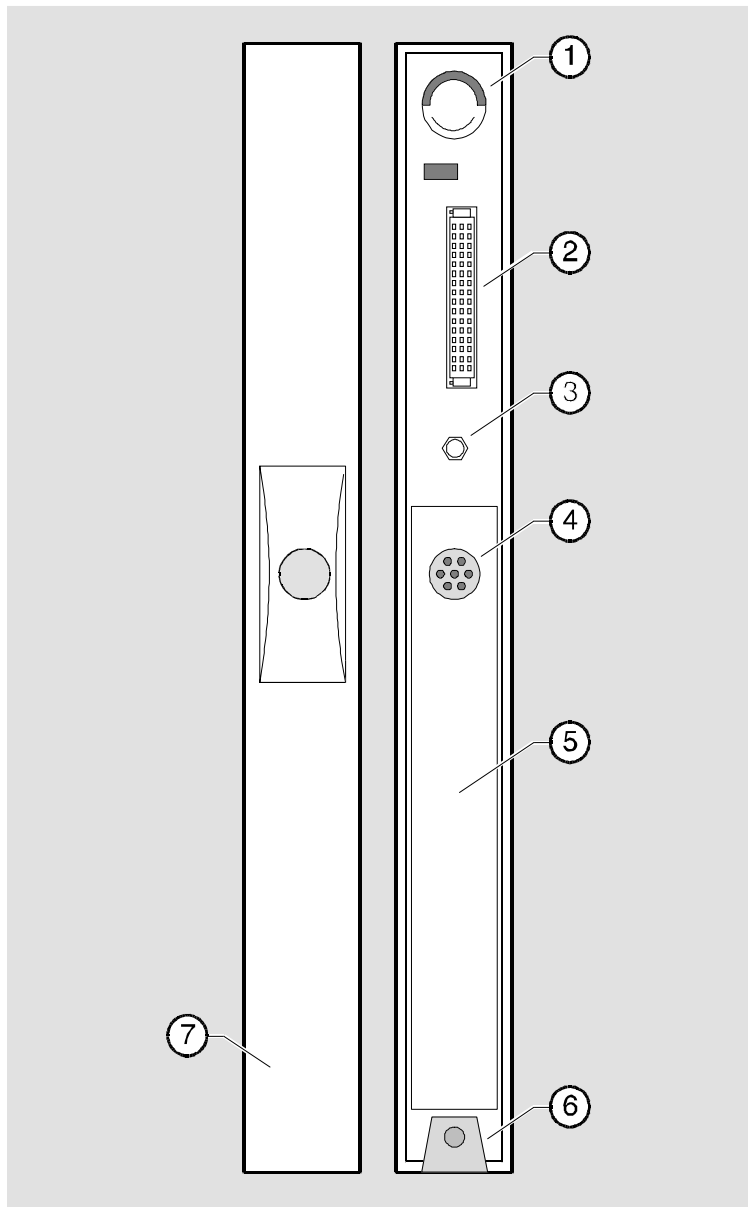
**Figure 1-1 LEDs and Connectors on Front and Side Panels**

## Back Panel Features

The features on the back panel of the RouteAbout Access EW are listed below in Table 1-2. Figure 1-2 shows the location of each item listed.

**Table 1-2 Back Panel Features**

<b>Item No.</b>	<b>Name</b>	<b>Description</b>
1	Locking tab	Locks the module into the DEChub 90 or DEChub 900 MultiSwitch backplane.
2	48-pin connector	Provides network and power connections to the module when the module is installed in a DEChub 90 or DEChub 900 MultiSwitch.
3	Grounding bolt	Provides a chassis grounding connection to the module when the module is installed into a DEChub 90 or DEChub 900 MultiSwitch.
4	Power connector	Receives dc current from the power supply. This feature is used for standalone operation only.
5	Manufacturing label	Lists the module part number, serial number, revision level, and power requirements.
6	Mounting tab	Secures the module to the backplane when the module is installed into a DEChub 90 or DEChub 900 MultiSwitch.
7	Back cover	The back cover is used only when the module is a standalone unit.



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Figure 1-2 Back Panel Features



# Chapter 2

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## Installing the RouteAbout Access EW

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### Overview

This chapter tells you how to install the RouteAbout Access EW as a standalone unit, into a DEChub 90, or a DEChub 900 Multiswitch backplane. The sections of this chapter are listed below.

---

#### Installing the Module as a Standalone Unit

##### Removing the Back Cover

##### Installing the Module into a DEChub 90

##### Removing the Module from a DEChub 90

##### Installing the Module into a DEChub 900 MultiSwitch

##### Removing the Module from a DEChub 900 MultiSwitch

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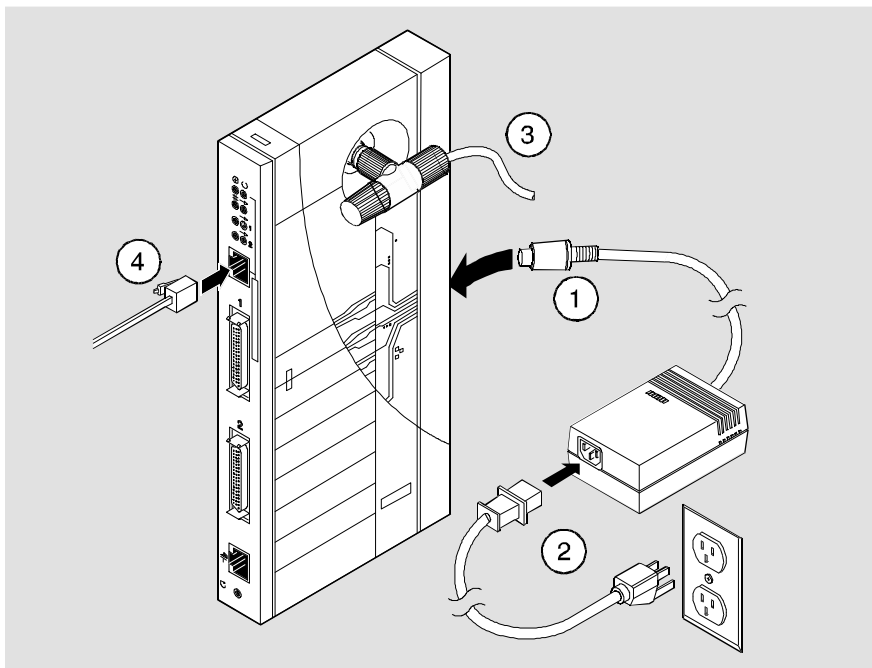
If your module has a back cover and you are installing the module into a DEChub 90 or DEChub 900 MultiSwitch, go to the section titled Removing the Back Cover.

If your module does not have a back cover and you are installing the module into a DEChub 90 or DEChub 900 MultiSwitch, go to the section titled Installing the Module into a DEChub 90 or Installing the Module into a DEChub 900 MultiSwitch.

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




## Installing the Module as a Standalone Unit



You can use the RouteAbout Access EW as a standalone unit by placing it on a table, mounting it on a wall, or by installing it into a standard 19-inch rack using a shelf assembly (Digital Part No. H9544-MS). To install the module as a standalone unit, complete the following steps (refer to Figure 2-1).



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**Figure 2-1 Installing the Module as a Standalone Unit**

Step	Action
1	Connect the cable from the power supply to the power connector ① on the back of the module. Use only the H7867-AA power supply.
2	Plug the ac power supply cable ② into the power supply, then into a wall outlet.
3	<p>Upon receiving power, verify that the module's Power LED  lights immediately, the Module OK LED  lights within five seconds, and that the module performs a self-test. The self-test should complete in 25 seconds for a module with 4MB of memory and 67 seconds for a module with 16MB of memory.</p> <p>After the module completes self-test, the Power LED , the Module OK LED , and the Network OK LED  remain lit. The Network Activity LED  blinks at a rate proportional to the amount of activity on the port.</p>
	<p><b>NOTE:</b> If the LEDs do not operate as described, refer to the section titled Problem Solving Using the LEDs .</p>
4	<p>Connect the ThinWire T-connector ③ <u>or</u> the Twisted Pair Connector ④:</p> <p>a Attach the ThinWire T-connector ③ to the BNC network connector and turn the connector one-quarter turn clockwise until it locks into place. Terminate the connection with a 50-ohm terminator or extend the Ethernet segment to the next device.</p> <p>To disconnect the ThinWire T-connector, turn the connector one-quarter turn counter-clockwise until the connector clears the BNC connector stem, then disconnect the cable.</p> <p>b <u>or</u>, connect the 10BaseT cable ④ to the twisted pair connector (MJ8 Ethernet connector).</p>

Step	Action
<b>NOTE:</b>	Do not use both ThinWire <u>and</u> twisted pair connectors simultaneously.
5	Connect the serial cables to Ports 1 or 2 of the RouteAbout Access EW. Refer to Table D-3 in Appendix D to determine which cable is correct for your network environment.
6	Verify the operation of each port by sending information to it. The LED associated with the port will flash to indicate network activity.
7	Connect the console cable using the MJ8 connector. Use the H-8584-AC adapter if necessary.
8	After successful installation and power-up, configuration information will appear on the console monitor, including questions about your network topology. Refer to Chapter 3, RouteAbout Access EW Set-Up, for further guidance on how to set up your module.
	Upon completion of the configuration mode setup, the Module OK  LED and the Network Activity  LED will light.



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## Removing the Back Cover

If you are installing a module into a DEChub 90 or DEChub 900 MultiSwitch, remove the back cover as follows (refer to Figure 2-2).

---

Step	Action
1	Lift up the latch on the back cover by inserting a flat-blade screwdriver into the top mounting hole.
2	With the latch up, pull the top of the back cover away, pivoting at the bottom of the module.

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To install the module into a DEChub 90, go to the section titled *Installing the Module into a DEChub 90*. To install the module into a DEChub 900 MultiSwitch, go to the section titled *Installing the Module into a DEChub 900 MultiSwitch*.

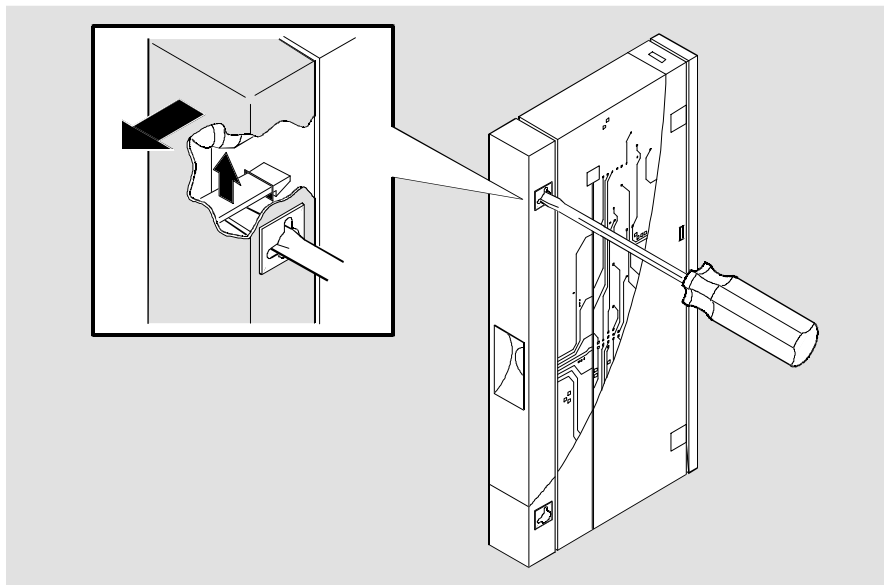


Figure 2-2 Removing the Back Cover

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## Installing the Module into a DEChub 90

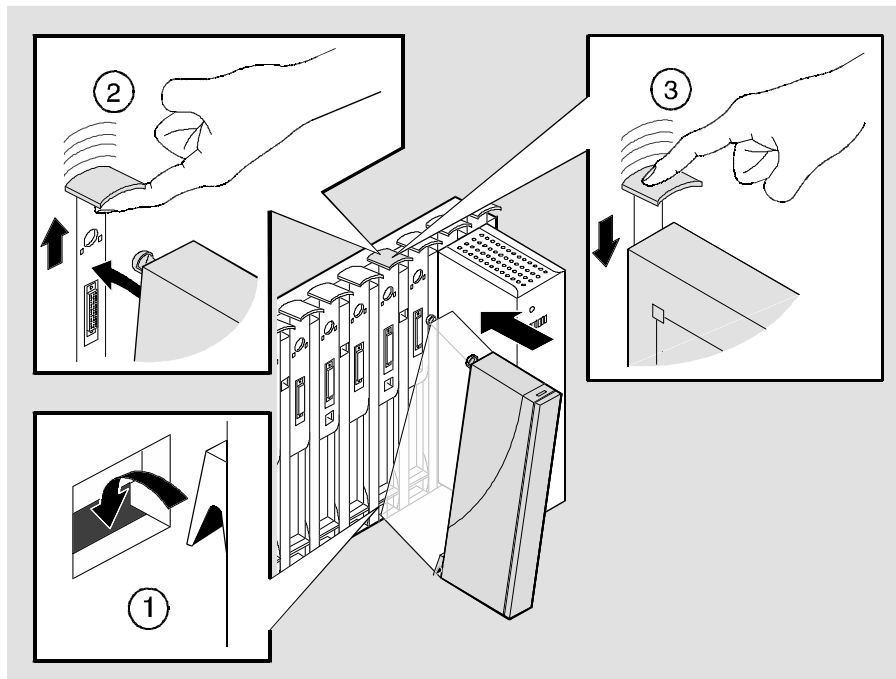
The RouteAbout Access EW hot-swap feature allows you to install the module into the DEChub 90 without turning off power. Seating the module initiates the power-up. Installing the module involves the following tasks:

Task	Described in...
Seat the module.	Task 1
Verify initial LED operation.	Task 2
Connect the cables.	Task 3

### Task 1: Seat the Module

To seat the module into a DEChub 90, complete the following steps (refer to Figure 2-3).

Step	Action
1	Place the module's mounting tab into a mounting slot ① on the DEChub 90.
2	Pull up on the release lever ② to its unlocked position.
3	Pivot the module on the mounting tab and align the connectors.
4	Firmly push the module onto the backplane connectors.
5	Press down on the release lever ③ to ensure that it is locked.









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**Figure 2-3 Seating the Module in the DEChub 90**

**Task 2:  
Verify Initial  
LED Operation**

If this is a new installation, turn on the power to the DEChub 90. If the module was installed while the DEChub 90 was powered up, seating the module will initiate the module's power-up sequence. To see the locations of the module LEDs, refer to Figure 2-4.

Stage	Description
Self-test	Upon receiving power, verify that the module's Power LED  lights immediately and that the Module OK LED  lights within five seconds. Also upon receiving power, the module performs a self-test. The self-test should complete in 25 seconds for a module with 4MB of memory and 1 minute, 7 seconds for a module with 16MB of memory.
After Self-test	After the module completes self-test, the Power LED  , the Module OK LED  , and the Network OK LED  remain lit. The Network Activity LED  blinks at a rate proportional to the amount of activity on the port.
<b>NOTE:</b>	If the LEDs do not operate as described, refer to Appendix A, Problem Solving Using the LEDs.

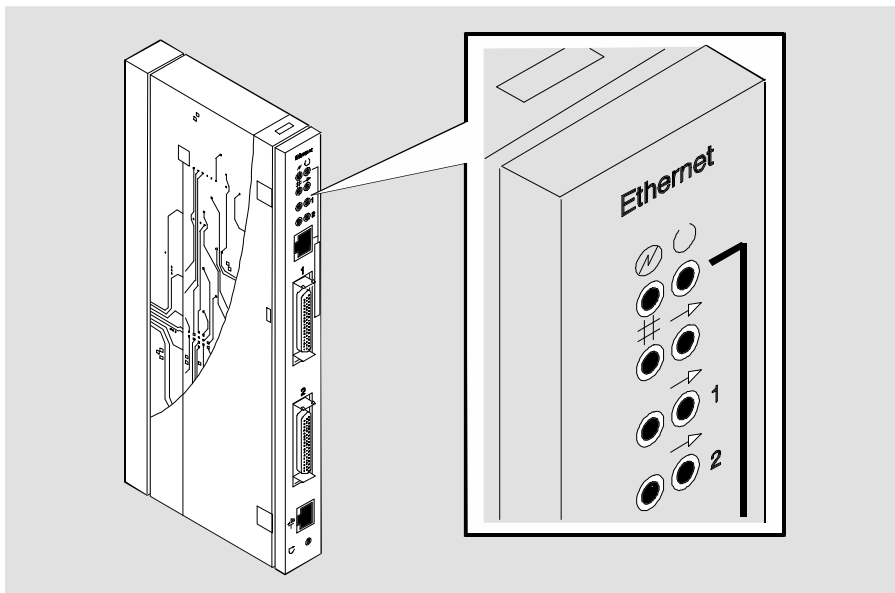


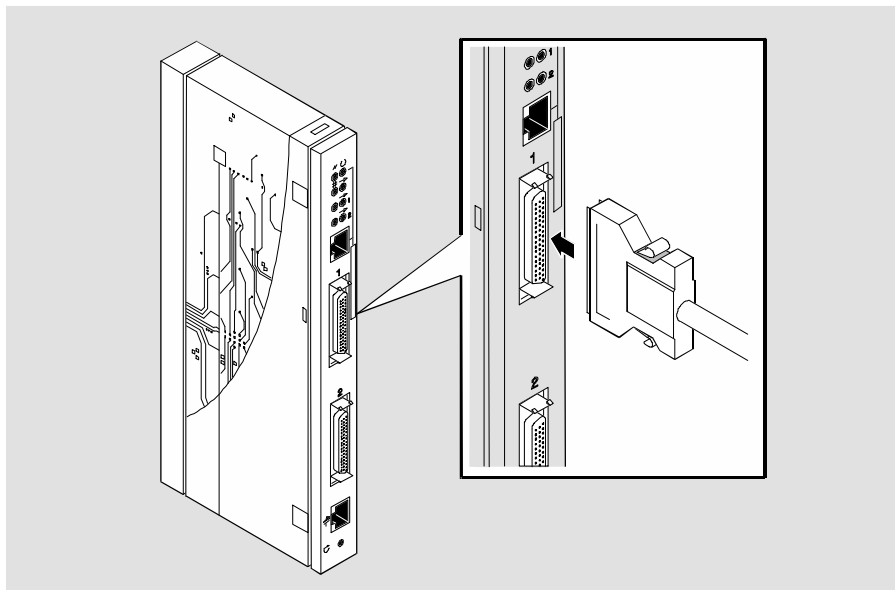
Figure 2-4 Location of LED Indicators

NPG-0025-95F

### Task 3: Connect the Cables

After the RouteAbout Access EW has been installed in the DEChub 90, complete the following steps while referring to Figure 2-5:

Step	Description
1	Attach the serial cable to Port 1 for the RouteAbout Access EW.
2	Verify the operation of each port by sending information to it. The LED associated with the port will flash to indicate network activity.
3	If the module will not be configured through a hub manager, connect the console using an RS232 MJ8 connector.



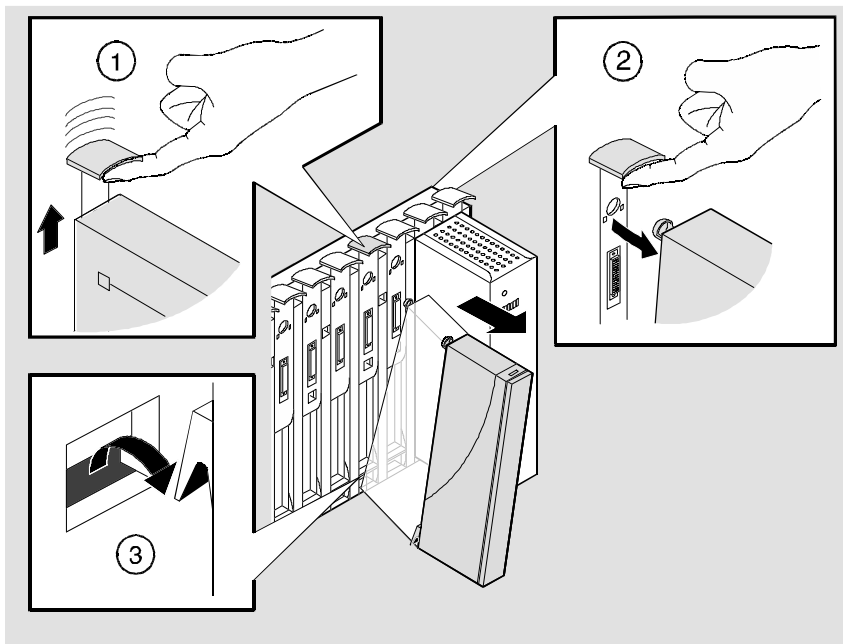
**Figure 2-5 Cable Connection**

After successful installation and power-up, configuration information will appear on the hub manager screen. Included will be questions about your network topology. Refer to Chapter 3, RouteAbout Access EW Set-Up, for further guidance on how to set up your module.

## Removing the Module from the DEChub 90

To remove the module from the DEChub 90, complete the following steps while referring to Figure 2-6:

Step	Action
1.	Disconnect the serial port cables by pressing the release tab on the cable plug and then remove the plug.
2.	Remove the RS232 MJ8 console connector from the unit. <ol style="list-style-type: none"><li>Lift the release lever ① at the top of the DEChub 90 slot.</li><li>While holding up the release lever, pivot the module back on its bottom mounting tab ②.</li></ol>
3.	Lift the module from the backplane ③.



NPG-9057-95F

Figure 2-6 Removing the Module from the DEChub 90

---

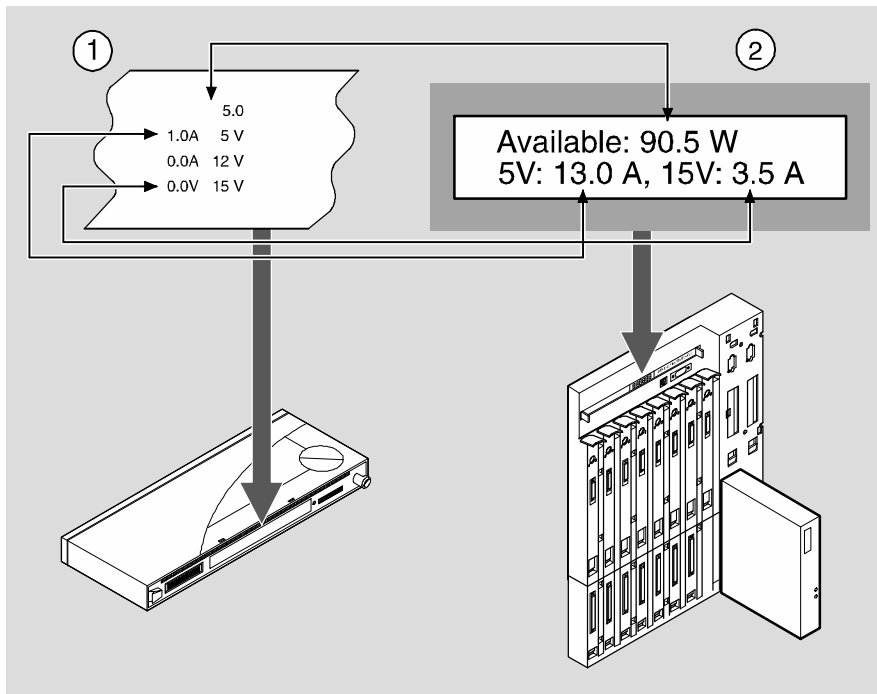
## Installing the Module into a DEChub 900 MultiSwitch

The RouteAbout Access EW hot-swap feature allows you to install the module into the DEChub 900 MultiSwitch without turning off power. Seating the module initiates the power-up. Installing the module involves the following tasks:

Task	Detailed in...
Compare the power ratings.	Task 1
Seat the module.	Task 2
Verify initial LED operation.	Task 3
Connect the cables.	Task 4

### Task 1: Compare the Power Ratings

Compare the module's power ratings with the values shown in the Hub Manager Status display (see Figure 2-7).



NPG-0023-951

### Figure 2-7 Compare the Power Ratings

If the power values on the module's manufacturing label do not exceed the values shown in the Hub Manager status display, go to Task 2 to seat the module into the DEChub 900 MultiSwitch.

If the power values on the module's manufacturing label exceed the values shown in the Hub Manager status display, add another power supply to the DEChub 900 MultiSwitch (refer to the *DEChub 900 MultiSwitch Owner's Manual*.)



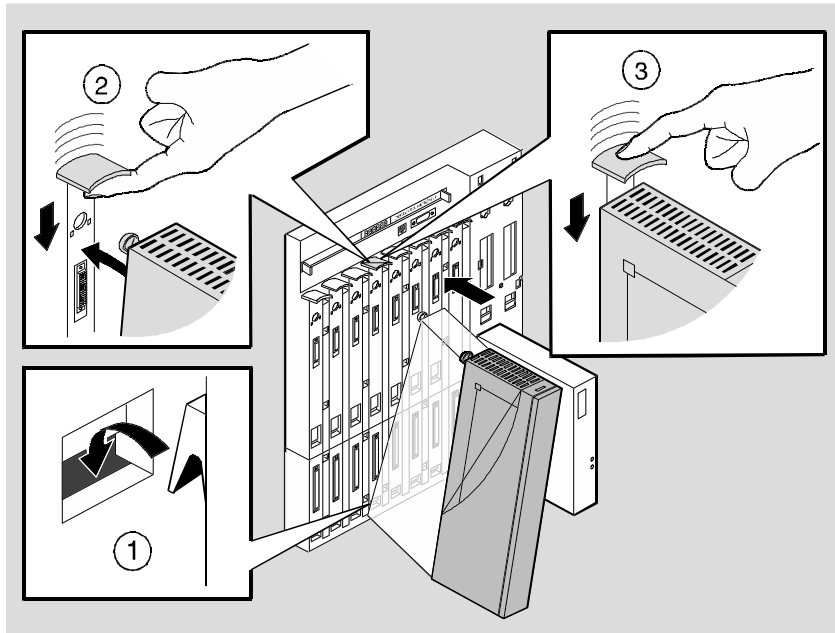
**Task 2:  
Seat the Module**

To seat the module into the DEChub 900 MultiSwitch, complete the following steps. Refer to Figure 2-8.

---

Step	Action
1	Place the module's mounting tab ① into a mounting slot on the DEChub 900 MultiSwitch.
2	Pull up on the release lever ② to its unlocked position.
3	Pivot the module on the mounting tab and align the connectors.
4	Firmly push the module onto the backplane connectors.
5	Press down on the release lever ③ to ensure that it is locked.

---









NPG-0004-951

**Figure 2-8 Seating the Module in the DEChub 900 MultiSwitch**

### Task 3: Verify Initial LED Operation

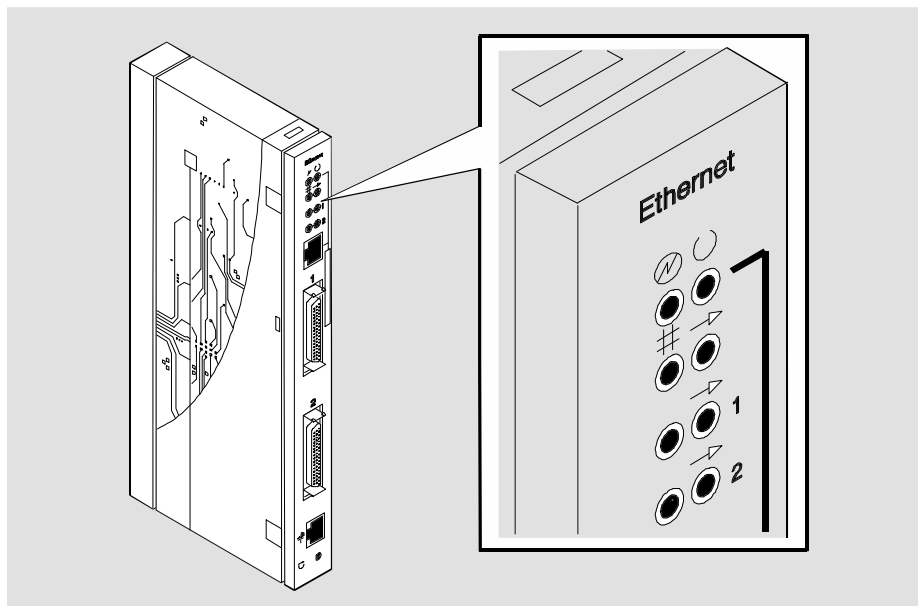
If this is a new installation, turn on the power to the DEChub 900 MultiSwitch. If the module was installed while the DEChub 900 MultiSwitch was powered up, seating the module will initiate the module's power-up sequence. Refer to Figure 2-9 to see the location of the LED indicators.

---

Stage	Description
1	Upon receiving power, verify that the module's Power LED  lights immediately and that the Module OK LED  lights within five seconds. Also upon receiving power, the module performs a self-test. The self-test should complete in 25 seconds for a module with 4MB of memory and 67 seconds for a module with 16MB of memory.
2	After the module completes self-test, the Power LED  , the Module OK LED  , and the Network OK LED  remain lit. The Network Activity LED  blinks at a rate proportional to the amount of activity on the port.

**NOTE:** If the LEDs do not operate as described, refer to the section titled Problem Solving Using the LEDs.

---



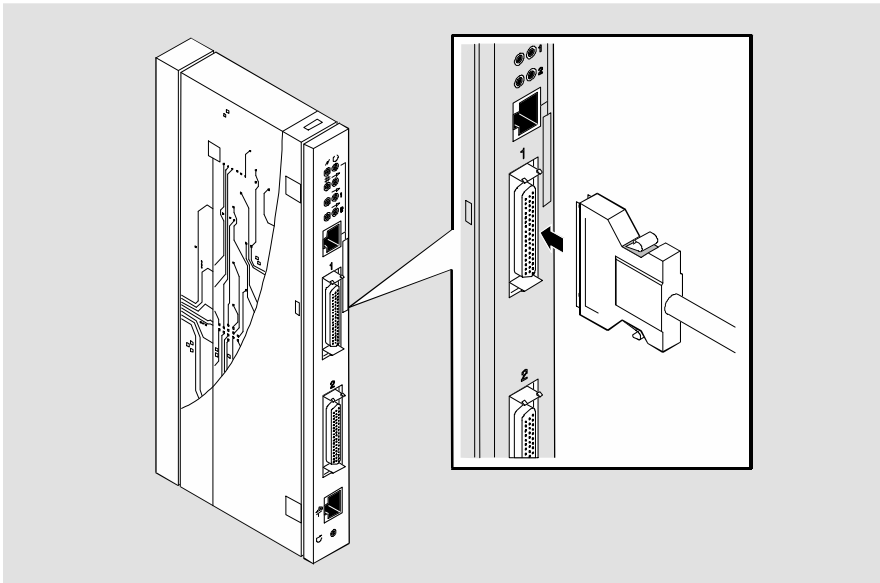
NPG-0025-95F

**Figure 2-9 Location of LED Indicators**

**Task 4:  
Connect the Cables**

After the RouteAbout Access EW has been installed in the DEChub 900 MultiSwitch, complete the following steps to connect the cables (refer to Figure 2-10):

Step	Action
1	Attach the serial cable to Port 1 of the RouteAbout Access EW.
2	Verify the operation of each port by sending information to it. The LED associated with the port will flash to indicate network activity.
3	If the module will not be configured through a hub manager, connect the console using an RS232 MJ8 connector.



NPG-0027-95F

**Figure 2-10 Cable Connection**

After the module is successfully installed, the DEChub 900 MultiSwitch message screen, or MAM, will read:

```
RtAbt Acces EW/MP
up
```

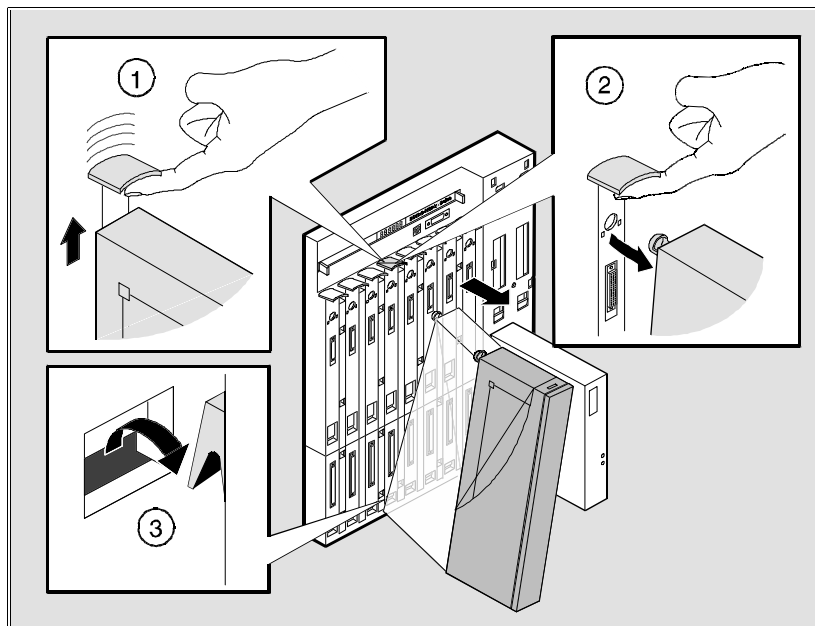
This message means that the DEChub 900 MultiSwitch only recognizes the *presence* of the module. It does not mean that the module is ready to run.

After successful installation and power-up, configuration information will appear on the hub manager screen and, if connected, on the module console. Included will be questions about your network topology. Refer to Chapter 3, *RouteAbout Access EW Set-Up*, for further guidance on how to set up your module.

## Removing the Module from the DEChub 900 MultiSwitch

To remove the module from the DEChub 900 MultiSwitch, complete the following steps.

Step	Description
1.	Disconnect the serial port cables by pressing the release tab on the cable plug and then removing the plug.
2.	Remove the RS232 MJ8 console connector from the unit. <ol style="list-style-type: none"><li>Lift the release lever ① located at the top of the DEChub 900 MultiSwitch slot.</li><li>While holding up the release lever, pivot the module back on its bottom mounting tab ②.</li></ol>
3.	Lift the module from the backplane ③.



NPG-0008-95F

Figure 2-11 Removing the Module from the DEChub 900 MultiSwitch



# Chapter 3

---

## RouteAbout Access EW Set-Up

---

### Overview

This chapter tells you how to set up your module after you have installed it. This chapter is comprised of the following subsections:

---

#### **Set-Up Introduction**

#### **Set-up Port Description**

#### **Accessing the Set-Up Port**

#### **RouteAbout Access EW Installation Menu - DEChub 900 MultiSwitch Options**

---

### Set-Up Introduction

After successfully installing the RouteAbout Access EW, you'll need to configure the desired protocols. This is done through either a.) a Telnet session or b.) the console configuration interface which is accessed through a terminal connected to the console port.

The instructions provided in this chapter tell you how to assign an IP address to an interface in order to set up a Telnet session which, in turn, allows a Management Station operator to configure the desired protocols. After setting up the Telnet session, refer to the *System Software Guide* for detailed configuration instructions.

The sequence of events that make up this procedure are as follows:

1. Install the RouteAbout Access EW module.
2. Redirect the DEChub 900 MultiSwitch Hub Manager set-up port to the RouteAbout Access EW set-up port.
3. Select the IP configuration option from the RouteAbout Access EW Set-Up Menu.
4. Set the In-Band IP address.
5. Set the Default Gateway, if necessary.
6. Restart the RouteAbout Access EW with the current settings.
7. Telnet into the RouteAbout Access EW from the Management Station.



---

## Set-Up Port Description

The set-up port on the DEChub 900 MultiSwitch allows you to access and set RouteAbout Access EW parameters. This section describes how to access the module and set the parameters.

Examples of the actual set-up screen displays are provided in this section to aid in the description of the set-up port and to display the options that are available. Because they are examples only, the displays can vary slightly from the actual screen displays on your set-up port device. **Boldface type** in the screen display examples indicate user input.

## Signaling Standards

Signals from the DEChub 900 MultiSwitch Hub Manager set-up port conform to the EIA-232D signaling standard at 9600 baud. To the user, the port appears as a data terminal equipment (DTE) device.

The DEChub 900 MultiSwitch Hub Manager set-up port is compatible with devices that use the EIA-423 signaling standard.

## Set-up Port Device Cabling

The set-up port (see Figure 3-1) on the DEChub 900 MultiSwitch can be connected to a set-up port device (a terminal or personal computer), using the following cables and adapters:

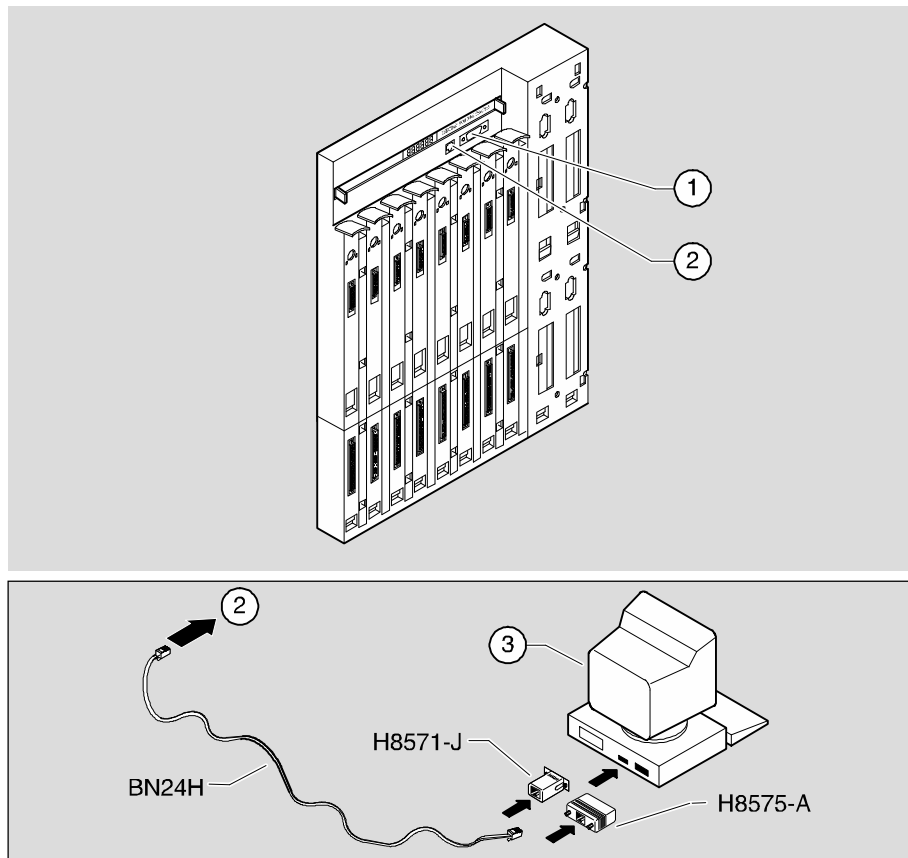
<b>IF the set-up port device is...</b>	<b>Use this cable...</b>	<b>With this adapter...</b>
PC with a 9-pin D-Sub communications port	BN24H-xx <sup>1</sup>	H8571-J
Terminal with a 25-pin D-Sub connector	BN24H-xx <sup>1</sup>	H8575-A
Terminal with a 6-pin MMJ connector	BN24H-xx <sup>1</sup>	Not required.

<sup>1</sup> xx indicates cable length in meters.

## Connecting the Set-up Port

To connect the set-up port on the RouteAbout Access EW module, perform the following steps:

Step	Action
1.	Ensure that the transmit and receive baud rates on the set-up port device are set to 9600 baud.
2.	Connect the set-up port device to the set-up port connector on the DEChub 900 MultiSwitch. (See Figure 3-1; the legend below Figure 3-1 identifies the Set-Up Port cabling.)



NPG-0194-95I

**Figure 3-1 Set-up Port Cabling Components**

Item	Description
1	OBM Port
2	Set-up Port
3	Set-up Port Device

---

## Accessing the Set-Up Port

To access the set-up port on the RouteAbout Access EW module, press the Return key on the set-up port device a few times until the DEChub 900 MultiSwitch INSTALLATION MENU appears (shown below). This example shows the dialog associated with this option.

```
DEChub 900 MultiSwitch
=====
DEChub 900 MultiSwitch INSTALLATION MENU

[1] Reset with Factory Defaults
[2] Reset with Current Settings
[3] Show Current Settings
[4] Configure IP...
[5] Dump Error Log
[6] Downline Upgrade
[7] Configure Out-of-Band Port...
[8] Start Event Display Mode
[9] Start Redirect Mode...
=====
Enter selection number: 9 <Return>
```

Enter **9** to select Start Redirect Mode... and then press the Return key.

The Start Redirect Mode option redirects the DEChub 900 MultiSwitch Hub Manager set-up port to the set-up port of any network module (such as the RouteAbout Access EW) that is installed into the DEChub 900 MultiSwitch. Choosing this option allows you to set-up or obtain the status of an installed network module by accessing the specified network module's installation menu.

After you choose the `Start Redirect Mode` option from the `RouteAbout Access EW INSTALLATION MENU`, the screen display prompts you for a slot number as shown in the following example. After you enter the number of the slot in which the `RouteAbout Access EW` is installed, the console is redirected to this slot.

The following example shows the dialog associated with this option.

```
Enter selection: 9
=====
Enter the slot number for redirection (1-8): 8 <Return>

Console redirected to 8: RouteAbout Access EW

Attempting connection [Ctrl/C to abort]...
```

If the redirection is successful after you press the `Return` key, the `RouteAbout Access EW INSTALLATION MENU` appears on your screen. Go to the next section titled `RouteAbout Access EW Installation Menu – DEChub 900 MultiSwitch Options`.

---

## RouteAbout Access EW Installation Menu – DEChub 900 MultiSwitch Options

This section shows the options available from the RouteAbout Access EW INSTALLATION MENU when the module is installed in the DEChub 900 MultiSwitch. The slot where the module is installed is shown at the top of the menu.

The following example shows the dialog associated with this option.

```
RouteAbout Access EW - slot 8
=====
RouteAbout Access EW INSTALLATION MENU

  [1] Restart with Factory Defaults
  [2] Restart with Current Settings
  [3] Show Current Settings
  [4] IP Configuration

  [Ctrl/C] Return to Hub Manager Installation Menu
=====
Enter selection number:  1 <Return>
```

Each of the above menu options are described in the following section.

### Description of Menu Options – DEChub 900 MultiSwitch

This section describes the options that are available from the RouteAbout Access EW INSTALLATION MENU when the module is installed in the DEChub 900 MultiSwitch.

## [1] Restart with Factory Defaults

This option restarts the module, causing the module's configured Nonvolatile Random Access Memory (NVRAM) parameters to be initialized to factory default values.

### CAUTION

This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost.

The following example shows the dialog associated with this option.

```
Enter selection : 1
RouteAbout Access EW - slot 8
=====
                        RESTART WITH FACTORY DEFAULTS
* * * * *
*           IMPORTANT!   IMPORTANT!   IMPORTANT!           *
* * * * *
* This selection will delete the current configuration      *
* settings and restart the system with the factory default*
* settings. All configuration settings will be lost       *
* * * * *
=====
Press Y to confirm [N]: <Return>
Press Return for Main Menu
```

## [2] Restart with Current Settings

This option restarts the module but leaves the module's configured Nonvolatile Random Access Memory (NVRAM) parameters at their current values.

The following example shows the dialog associated with this option.

```
Enter selection: 2
RouteAbout Access EW - slot 8
=====
                RESTART WITH CURRENT SETTINGS
This selection will restart your system with the
current configuration settings.
=====
Press Y to confirm [N] : <Return>
Press Return for Main Menu
```



### [3] Show Current Settings

This option shows the module's current settings. If the module is being configured for the first time, some of the fields will be blank. The following example shows the dialog associated with this option.

```
Enter selection : 3
RouteAbout Access EW - slot 8
=====
RouteAbout Access EW, Access: 1 Enet 2T1,HW=1,RO=1,#395,SW=V01.0.000
SysUpTime                : 00:00:02   1 restarts
SNMP Read/Write Community : public
Default Gateway           : 16.126.16.254
-----
Interface   IP Address      Subnet Mask      Other Info
Ethernet    16.126.16.116   255.255.255.0
Out Of Band 16.126.16.114   255.255.255.0
-----
=====
Press Return for Main Menu ...
```

## [4] IP Configuration

The IP Configuration option provides you with four selections. The following example shows the dialog associated with this option.

```
Enter selection: 4

RouteAbout Access EW - slot 8
=====

                                IP CONFIGURATION
* * * * *
*      Configuration will not take effect until module is      *
*      restarted.                                              *
* * * * *

          [1] Set SNMP Read/Write Community
          [2] Set In-Band Interface IP Address
          [3] Set Out-of-Band Interface IP Address
          [4] Set Default Gateway
          [5] Return to Main Menu

=====

Enter selection number : [n] <Return>
```

The following pages describe the IP Configuration options.

## [4] IP Configuration (Cont'd)

### [1] Set SNMP Read/Write Community

This option prompts you to enter the module's read/write community name. The following example shows the dialog associated with this option. In this example, the SNMP read/write community name is public.

```
Enter selection: 1

RouteAbout Access EW - slot 8
=====

                SET SNMP READ/WRITE COMMUNITY

Format:  The format for a community name is a string, consisting of 4
to 31 printable ASCII characters, that describes the relationship
between an SNMP agent and one or more SNMP managers. The string defines
the authentication mechanism that is employed to validate the use of
the community by the sending SNMP entity.
=====

Enter the community string [public]: public <Return>

                SNMP Read/Write community string set.

                Press Return for IP Configuration Menu ...
```

## [4] IP Configuration (Cont'd)

### [2] Set In-Band Interface IP Address

This option prompts you to change or enter the IP address, subnet mask, and default gateway for the in-band interface. The module does not need to be configured with a subnet mask for SNMP communications with management stations located on the same subnet as the module.

The format for these values is the standard 4-octet dotted decimal notation, where each octet of the address is represented as a decimal value, separated by a decimal point (.). The following example shows the dialog associated with this option. In the example, the IP address is 16.20.40.156.

```
Enter selection: 2
RouteAbout Access EW - slot 8
=====
                        IN-BAND INTERFACE IP ADDRESS CONFIGURATION

Format: The standard 4 octet dotted decimal notation in which each
octet of the address is represented as a decimal value, separated by a
'.' character.

                        example: 16.20.40.156

To delete the address, enter 0 in the appropriate address field.

-----
Interface      IP Address      Subnet Mask      Other Info
Ethernet       16.126.16.116   255.255.255.0
Out of Band    16.126.16.114   255.255.255.0
-----
=====

IP address [16.20.216.91]:  16.20.40.156  <Return>
Subnet Mask [255.255.255.0] : 255.255.255.0  <Return>
                        Press Return for IP Configuration Menu ...
```

## [4] IP Configuration (Cont'd)

### [3] Set Out-of-Band Interface IP Address

This option prompts you to change or enter the IP address and subnet mask for the out-of-band interface. When the module is installed in a DEChub 900 MultiSwitch, the OBM feature allows you to manage your module through the OBM port located on the DEChub 900 MultiSwitch. To enable out-of-band management, you need to assign an OBM IP address.

The following example shows the dialog associated with this option.

```
Enter selection : 3
RouteAbout Access EW - slot 8

=====
OUT-OF-BAND INTERFACE IP ADDRESS CONFIGURATION

Format: The standard 4 octet dotted decimal notation in which each
octet of the address is represented as a decimal value, separated by a
'.' character.

example: 16.20.40.156

To delete the address, enter 0 in the appropriate address field.

-----
Interface      IP Address      Subnet Mask      Other Info
Ethernet       16.126.16.116   255.255.255.0
Out of Band    16.126.16.114   255.255.255.0
-----

=====

IP address [16.20.66.156]: 16.20.54.156 <Return>
Subnet Mask [255.255.255.0]: 255.255.255.0 <Return>
Press Return for IP Configuration Menu ...
```

## [4] IP Configuration (Cont'd)

### [4] Set Default Gateway

This option sets the default gateway, if necessary. This is the address of a router that the module will use when communicating to a remote host. The default gateway address must be an address in the same subnet as your in-band address. The following example shows the dialog associated with this option.

```
Enter selection : 3
RouteAbout 90EWM - slot 8
=====
                SET IN-BAND INTERFACE DEFAULT GATEWAY ADDRESS
Format: The standard 4 octet dotted decimal notation in which each
octet of the address is represented as a decimal value, separated by a
'.' character.
                example: 16.20.40.156
To delete the address, enter 0 in the appropriate address field.
=====
                Default Gateway [ ] :
```

## Post Set-Up

After completing the set-up procedure, re-start the RouteAbout Access EW with the current settings (Option 2 from the RouteAbout Access EW Installation Menu). The RouteAbout Access EW is now ready to be configured via a Telnet session from the Management Station. Refer to the *System Software Guide* for additional information on how to configure the module.

# Appendix **A**

---

## Problem-Solving Using the LEDs

---

### Overview

This appendix describes the LED functions and provides problem solving information. The sections of this appendix are listed below.

---

#### LED Descriptions

#### Normal Power-Up

#### Problem-Solving Using the LEDs

---

**Warning** 

Do not attempt to open the module under any circumstances – physical injury may occur. Only qualified service personnel are authorized to open the module.

The LED's on the front of the module, with this appendix, provide all the information you will need to correct possible problems.

## LED Descriptions

The LEDs on the front of the module provide dynamic indications of module status. Flashing LEDs indicate special situations. Refer to Figure 1-1 in Chapter 1 to see the LED locations on the RouteAbout 90 EW.

Table A-1 shows the states that are possible for each of the module LEDs.







**Table A-1 Module LED States**

LED Name	Off	On	Flashing
<b>Power</b>	⊘ No power to Module.	Module receiving power.	Faulty power connection or insufficient power.
<b>Module OK</b>	○ Self-test failed.	Module passed self-test	N/A
<b>Network OK</b>	⊞ ThinWire 10Base2 port or twisted pair 10BaseT port is not connected to a properly terminated and operational LAN.	ThinWire 10Base2 port or twisted pair 10BaseT port is connected to a properly terminated and operational LAN.	N/A
<b>Network Activity</b>	→ No network activity.	There is heavy traffic on the network.	Flashes more rapidly and appears brighter as network traffic increases.
<b>Serial Line 1 or Port 2 OK</b>	→ Indicates self-test failure.	Indicates normal operation.	Indicates self-test mode.
<b>Serial Line 1 or Port 2 Activity</b>	→ No traffic on the port.	There is traffic on the port.	Flashes more rapidly and appears brighter as network traffic increases.



## Normal Powerup

When power to the module is initially applied, the following events occur:

Event	Description
1.	Upon receiving power, the module's Power LED  lights immediately and the Module OK LED  lights within five seconds. Also upon receiving power, the module performs a self-test. The self-test should complete in 25 seconds for a module with 4MB of memory and 67 seconds for a module with 16MB of memory. During the course of the self-test, all of the LEDs will turn on briefly.
2.	After the module completes self-test, the Power LED  , the Module OK LED  , and the Network OK LED  remain lit. The Network Activity LED  blinks at a rate proportional to the amount of activity on the port.
3.	The remaining LEDs indicate their operational status, as described in Table A-1.


### Note



During Set-Up and Configuration, the Module OK LED  will not be lit until Set-Up is completed or Configuration is exited.



## Problem Solving Using the LEDs

When diagnosing a problem with the module, note that the problem is often indicated by the states of the module LEDs. Table A-2 lists the states of the LEDs for various error conditions that can occur during initial installation of the device, along with probable causes and corrective actions to take.

**Table A-2 Problem Solving Using the LEDs**

Symptom	Probable Cause	Corrective Action
All LEDs are off.	The module does not have power.	<p><b>If the module is installed as a standalone unit:</b></p> <p>Secure the power cables at the back cover and between the power supply and the wall outlet.</p> <p>Check the wall outlet using another appliance or light, or plug the power cord into another outlet. If no power is available, check the wall outlet's circuit breaker.</p> <p>Wrong power supply.</p> <p>In standalone operation, be sure to use only the H7867-AA power supply.</p> <p>If the problem persists, replace the power supply or the module.</p> <p><b>If the module is installed in a DEChub 90 or DEChub 900 MultiSwitch:</b></p> <p>Reseat the module.</p> <p>Remove the module and inspect the module's 48-pin connector for bent, broken, or dirty pins. If no pins are broken or bent, reinstall the module.</p> <p>If the problem persists, replace the module.</p>
Power  LED is off.	Bad power LED.	Replace the module.

Symptom	Probable Cause	Corrective Action
	The module is not receiving +5.0 V.	Check the power LED on the DEChub 90 or DEChub 900 MultiSwitch power supply.
Power  LED is off. (Cont'd)	If the power LED on the DEChub power supply is off, then there is a problem with the DEChub power supply.	See the troubleshooting procedures in the <i>DEChub 900 MultiSwitch Owner's manual</i> or <i>DEChub 90 Owner's Guide</i> .
	If the power LED on the DEChub power supply is on and the other power LED components are off, then the DEChub has a power problem.	See the troubleshooting procedures in the <i>DEChub 900 MultiSwitch Owner's manual</i> or <i>DEChub 90 Owner's Guide</i> .
	If the power LED turns on when reseated in the same slot, then the RouteAbout Access EW was not properly seated.	Make sure the RouteAbout Access EW is properly seated in the slot.
	If the power LED turns on when reseated in another slot, then the problem is with the DEChub.	See the troubleshooting procedures in the <i>DEChub 900 MultiSwitch Owner's manual</i> or <i>DEChub 90 Owner's Guide</i> .
	If the module does not turn on in a known good slot, then the module is defective.	Replace the RouteAbout Access EW .
Module OK  LED is off.	Self-test failed.	If the LED does not light after 5 seconds, reseat the module to repeat the self-test. If the self-test fails again, replace the module.

Symptom	Probable Cause	Corrective Action
Network OK LED  does not stay on after the functional code begins execution.	The network interface self-test has failed.	Refer to the <i>System Software Guide</i> to determine the network interface status and to display any logged network interface events.
The Network Activity LED  is off.	There is low network activity or no network activity.	Ensure that network activity is present. If the Network Activity LED still fails to turn on, then turn the unit off momentarily by removing it from the power supply. Check that the Network Activity LED blinks momentarily during the LED powerup self test.
	The module or any other unit in the DEChub may not be connected to an active segment.	Connect a known active segment to any unit in the DEChub.
	If the module is connected to a known active segment and the Network Activity LED is off, then the RouteAbout Access EW is defective.	Replace the RouteAbout Access EW.
The Serial Port 1 (or 2) OK LED does not stay on after the functional code begins execution.	Serial Port 1 (or 2) interface self-test has failed.	Refer to <i>the System Software Guide</i> to determine the serial port interface status and to display any logged serial port interface events.

<b>Symptom</b>	<b>Probable Cause</b>	<b>Corrective Action</b>
Serial Port 1 (or 2) Activity LED → is off.	There is low serial port activity or no serial port activity.	<p>Ensure that serial port activity is present. If the Serial Port Activity LED still fails to turn on, then turn the unit off momentarily by removing it from the power supply. Check that the Serial Port Activity LED blinks momentarily during the LED powerup self test.</p> <p>If the Serial Port Activity LED blinks momentarily, then the Serial Port Activity LED portion of testing has passed. If the Serial Port Activity LED still fails to turn on, then the RouteAbout Access EW is defective.</p>
	Ensure that the cable has activity on it. If the LED still fails to turn on, then the port is defective.	Replace the RouteAbout Access EW.
Console terminal doesn't appear to work.	Wrong cable.	Try connecting the console terminal to the RouteAbout Access EW using a null modem cable with the appropriate MJ8 RS232 connector on the module end.
	Wrong baud rate.	Send a BREAK to the console and then press <Return> several times until the console responds. Proper baud rates are 300, 1200, 2400, 4800, 9600, 18200, and 38400.
	Defective module.	Replace the RouteAbout Access EW.

<b>Symptom</b>	<b>Probable Cause</b>	<b>Corrective Action</b>
<p>After correctly installing the module on a DEChub 900 MultiSwitch, the information display does not read:</p> <p>RtAbt Acces EW/MP up</p>	Defective module.	Replace the RouteAbout Access EW.
<p>After correctly installing the module on a DEChub 900 MultiSwitch, the hub manager does not display configuration information.</p>	Defective module.	Replace the RouteAbout Access EW.

# Appendix **B**

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## Connector and Pin Assignments

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### Overview

This appendix provides connector and pin assignments for the RouteAbout Access EW.

### Cable Connections

The following tables list the proper cable connections for the X.21, EIA422, V.35, EIA530A, EIA423, and V.24/EIA232 standards.

**Table B-1 X.21 Cable Connections (BC12F-06, 17-03580-01)**

From Pin Connector (P1)	To X.21 Pin Connector (P2)	Signal Name
1, 2, 26	–	Code Ground <sup>1</sup>
5	2	T(A) TX Data A
30	9	T(B) TX Data B
6	5	I(A) DCD A
31	12	I(B) DCD B <sup>2</sup>
8	3	C(A) RTS A
33	10	C(B) RTS B
10	4	R(A) RX Data A
35	11	R(B) RX Data B <sup>2</sup>
17	6	S(A) TX Clock A
42	13	S(B) TX Clock B <sup>2</sup>
13, 15	–	RX Clock A DTE Clock A <sup>1</sup>
38, 40	–	RX Clock B DTE Clock B <sup>1</sup>
37	8	G DTE Ground

<sup>1</sup> Contacts tied together.

<sup>2</sup> 120 OHM resistor, 1/2w between pins 6 and 31, 10 and 35, 17 and 42. The resistors are located at the P1 end of the cable.



**Table B-2 EIA422/V.11/V.36 Cable Connections  
(BC12H-06, 17-03767-01)**

<b>From Pin Connector (P1)</b>	<b>To EIA422 Pin Connector (P2)</b>	<b>Signal Name</b>
1, 27	–	Code Ground <sup>1</sup>
4	11	DSR A
29	29	DSR B
5	4	TX Data A
30	22	TX Data B
6	13	DCD/I A
31	31	DCD/I B
8	7	RTS/C A
33	25	RTS/C B
9	9	CTS A
34	27	CTS B
10	6	RX Data A
35	24	RX Data B <sup>2</sup>
11	15	Ring Indicate
12	20	DCE Ground
13	8	RX Clock A
38	26	RX Clock B <sup>2</sup>
14	12	DTR A
39	30	DTR B
15	17	Clock A
40	35	Clock B
17	5	TX Clock A

From Pin Connector (P1)	To EIA422 Pin Connector (P2)	Signal Name
42	23	TX Clock B <sup>2</sup>
18	18	Test Indicate
37	19, 37	DTE Ground <sup>1</sup>
20	10	Local Loop
41	16	Speed Select
45	14	Remote Loop
Shell	Shell	Shield Braid

<sup>1</sup> Contacts tied together.

<sup>2</sup> 120 OHM resistor, 1/2w between pins 10 and 35, 13 and 38, 17 and 42. The resistors are located at P1 end of cable.

**Table B-3 V.35 Connection (BC12G-06, 17-03766-01)**

From Pin Connector (P1)	To V.35 Pin Connector (P2)	Signal Name
1, 26	–	Code Ground <sup>1</sup>
4	E	DSR A
6	F	DCD/I A
9	D	CTS A
11	J	Ring Indicate
21	Y	TX Clock A
46	A	TX Clock B
22	U	Clock A
47	W	Clock B
23	R	RX Data A
48	T	RX Data B
24	P	TX Data A

<b>From Pin Connector (P1)</b>	<b>To V.35 Pin Connector (P2)</b>	<b>Signal Name</b>
49	S	TX Data B
25	V	RX Clock A
50	X	RX Clock B
32	C	RTS
12, 29, 31, 34, 37	B	DTE Ground <sup>1</sup>
44	H	DTR
Shell	Braid Strap	Overall Cable Shield
20	K	Local Loop

<sup>1</sup>Contacts tied together.

**Table B-4 EIA530A Cable Connections (BC12J-06, 17-03760-01)**

<b>From Pin Connector (P1)</b>	<b>To EIA530A Pin Connector (P2)</b>	<b>Signal Name</b>
1, 26, 27	–	Code Ground <sup>1</sup>
4	6	DSR A
5	2	TX Data A
30	14	TX Data B
6	8	DCD/I A
31	10	DCD/I B
8	4	RTS/C A
33	19	RTS/C B
9	5	CTS A
34	13	CTS B
10	3	RX Data A
35	16	RX Data B <sup>2</sup>

<b>From Pin Connector (P1)</b>	<b>To EIA530A Pin Connector (P2)</b>	<b>Signal Name</b>
11	22	Ring Indicate
12	23	DCE Ground
13	17	RX Clock A
38	9	RX Clock B <sup>2</sup>
15	24	Clock A
40	11	Clock B
17	15	TX Clock A
42	12	TX Clock B <sup>2</sup>
18	25	Test Indicate
20	18	Local Loop
29, 37	7	DTE Ground <sup>1</sup>
44	20	DTR
45	21	Remote Loop
Shell	Shell	Shield Braid

<sup>1</sup>Contacts tied together.

<sup>2</sup> 120 OHM resistor, 1/2W between pins 10 and 35, 13 and 38, 17 and 42. The resistors are located at P1 end of cable.

**Table B-5 EIA423/V.10 Cable Connections (BC12K-06, 17-03761-01)**

<b>From Pin Connector (P1)</b>	<b>To EIA423 Pin Connector (P2)</b>	<b>Signal Name</b>
1, 2, 27	–	Code Ground <sup>1</sup>
4	11	DSR A
29	29	DSR B
6	13	DCD/I A
31	31	DCD/I B
7	4	TX Data
9	9	CTS A
34	27	CTS B
10	6	RX Data A
35	24	RX Data B
11	15	Ring Indicate
12	20	DCE Ground
13	8	RX Clock A
38	26	RX Clock B
17	5	TX Clock A
42	23	TX Clock B
18	18	Test Indicate
20	10	Local Loop
32	7	RTS/C
37	19, 22, 25, 30, 35, 37	DTE Ground <sup>1</sup>
41	16	Speed Select
44	12	DTR
45	14	Remote Loop

<b>From Pin Connector (P1)</b>	<b>To EIA423 Pin Connector (P2)</b>	<b>Signal Name</b>
Shell	Shell	Shield Braid
19	17	Clock

<sup>1</sup>Contacts tied together.

**Table B-6 V.28/EIA232 Cable Connections (BC12L-06, 17-03762-01)**

<b>From Pin Connector (P1)</b>	<b>To V.24/EIA232 Pin Connector (P2)</b>	<b>Signal Name</b>
1, 2	–	Code Ground <sup>1</sup>
4	6	DSR A
6	8	DCD/I A
7	2	TX Data
9	5	CTS A
10	3	RX Data A
11	22	Ring Indicate
13	17	RX Clock A
17	15	TX Clock A
18	25	Test Indicate
19	24	Clock
20	18	Local Loop
32	4	RTS
12, 29, 31, 34, 35, 37, 38, 42	7	DTE Ground <sup>1</sup>
41	23	Speed Select
44	20	DTR
45	21	Remote Loop

<sup>1</sup>Contacts tied together.

**Table B-7 Console Port Pin Assignments**

<b>Pin No.</b>	<b>Description</b>
1	Ground
2	RXD
3	Ground
4	nc
5	RDY_OUT L
6	TXD
7	RDY_OUT L
8	RDY_IN L





# Appendix **C**

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## Installation Information – United Kingdom

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### Overview

This appendix contains the following installation information, which is required for the United Kingdom only:

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**Service Categories**

**Host Power Rating**

**Module Isolation**

**Safety Warnings (For UK Installations Only)**

**Cable Approval**

**Supported Cables**

**Equipment Between the Approved Module and a Digital Circuit (PTT)**

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## Service Categories

Table C-1 lists the BABT-approved service specifications for the RouteAbout Access EW for UK compliance.

**Table C-1 BABT-Approved Service Specifications**

Service Requirements					Public Telecommunications Operators			
Service Category	Interface Type	Electrical	Physical	Approved Cables	Data Rate (bps)	BT	Hull	MCL
1	X.21 bis	V.24/ V.28	ISO 2110, BS.6623: part 1, 1985.	<b>Adapters:</b> BC12L-06,	2400	Yes	Yes	Yes
				17-03762-01	4800 9600 19200	Yes Yes No	Yes Yes No	Yes Yes Yes
				<b>Extension:</b> BC22F-xx <sup>2</sup> BC13P-10 (10 feet)				
2	X.21 bis	V.35	ISO 2593, BS.6623: part 4, 1986.	<b>Adapters:</b> BC12G-06,	48K	Yes	Yes	Yes
				17-03766-01	56K 64K 2048K	Yes No No	No No No	Yes Yes No
				<b>Extension:</b> BC19L-xx (xx feet) <sup>2</sup>				

<sup>1</sup> BT – British Telecommunications plc.

Hull – Kingston Communications (Hull) plc.

MCL – Mercury Communications Limited.

<sup>2</sup> xx represents the cable length in feet. The total length of cable used must not exceed 27 feet.

## Host Power Rating

Digital has designed all permutations of the host configuration to operate within the limits of the host power rating as shown in Table C-2.

**Table C-2 Module Power**

Input Voltage	Max. Input Current (Amperes)
+5.25Vdc	1.0 amps

## Module Isolation

No special clearances or creepage distances need to be maintained as the RouteAbout Access EW is contained within its own cabinet, which meets all clearances for PTT approval.

## Safety Status

All interconnection points on this product are SELV circuits and should only be connected to products with like SELV circuits.

## Cable Approval

The module is approved for direct connection to a particular digital circuit. This approval includes an interconnecting cable with mating connectors that conform to the British standard BS6623, parts 1 and 4. If the module is connected to the service with anything other than its own approved cables, those cables must benefit from relevant general approval NS/G/1235/100009 or conform to any other applicable requirements, or both.

## Supported Cables

Digital supports all of the cables in Table C-3. The approved module may not use all of these cables; therefore, check the instructions to determine which interface types are supported.

**Table C-3 Cables Supported by the Approved Module**

<b>Interface</b>	<b>Cable Type</b>	<b>Name</b>	<b>Molding</b>	<b>Pins</b>
V.24/V.28	Adapter	BC12L-06	Straight	50-25
V.24/V.28	Extension	BC22F-xx <sup>1</sup>	–	–
V.24/V.28	Extension low cap.	BC13P-10 <sup>1</sup>	–	–
V.10	Adapter	BC12K-06	Straight	50-37
V.35	Adapter	BC12G-06	Straight	50-34
V.35	Extension	BC19L-xx <sup>1</sup>	–	–
X.21	Adapter	BC12F-06	Straight	50-15
X.21	Extension	BC22Z-xx <sup>1</sup>	–	–

<sup>1</sup> Where xx is the length in feet. Total cable length with extension should never exceed 27 feet.

## **Equipment Between the Approved Module and a Digital Circuit (PTT)**

If you are going to connect any other equipment, including cables or wiring, between the approved module and the point of connection to any particular digital circuit, then that equipment must conform to the following requirements:

- The overall transmission characteristics of all other equipment must not have any material effect on the electrical conditions between the equipment and the digital circuit.
- The equipment must be approved, which may be subject to limitations on its use, for the purpose of connection between it and a particular digital circuit.
- Cable or wiring must comply with a code of practice for the installation of equipment covered by this standard or other requirements that may be applicable.

# Appendix **D**

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## Product Specifications

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### Overview

This appendix lists the following specifications for the RouteAbout Access EW:

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**Operating**

**Environmental**

**Acoustical**

**Parts List**

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### Operating Specifications

Table D-1 lists the operating specifications for the RouteAbout Access EW module. Note the additional parameters (listed in the table) to consider when the module is installed as a standalone unit.

**Table D-1 Operating Specifications**

Parameter	Specification
<b><i>Operating Environment</i></b>	
Operating Temperature <sup>1</sup>	10° C to 40° C (50 ° F to 104 ° F)
Relative Humidity	10% to 95% noncondensing
Altitude	Sea level to 4900 m (16,000 ft)
Power	5 W, total power 1.0 A, 5Vdc 0.0 A, 12Vdc 0.0 A, 15Vdc
<b><i>Connectors</i></b>	
1 MJ-8 (8-pin MJ 10BaseT twisted pair) connector	
1 MJ-8 console connector	
2 50-pin WAN connectors	
<b><i>Physical</i></b>	
Height	31.12 cm (12.25 in)
Width	3.2 cm (1.25 in)
Depth	11.2 cm (4.4 in); 13.5 cm (5.3 in) when installed as a standalone unit.
Weight	0.82 kg (1.5lb); 1.09 kg (2.0 lb) when installed as a standalone unit.
<b><i>Certification</i></b>	
CE, CSA, FCC, TÜV, UL, VCCI	

<sup>1</sup>For sites above 4900 m (16,000 ft), decrease the operating temperature specification by 1.8° C for each 1000 m or 3.2°F for each 3200 ft.

## Environmental Specifications

The module is designed to operate in an office environment or equipment room environment such as telephone closets or satellite equipment rooms. It is not intended to operate in an air plenum.

## Acoustical Specifications

Table D-2 lists the acoustical specifications for the module.

**Table D-2 Acoustical Specifications**

Acoustics Declared Values per ISO 9296 and ISO 7779<sup>1</sup>

Product	Sound Power Level $L_{WAd}$ , B	Sound Pressure Level $L_{pAm}$ , dBA (bystander positions)
	<i>Idle/Operate</i>	<i>Idle/Operate</i>
DEX2R	4.5	0
DEX2R with H7867-AA	4.5	32

Schallemissionswerte Werteangaben nach ISO 9296 und ISO 7779/DIN EN27779<sup>2</sup>

Produkt	Schalleistungspegel $L_{WAd}$ , B	Schalldruckpegel $L_{pAm}$ , dBA (Zuschauerpositionen)
	<i>Leerlauf/Betrieb</i>	<i>Leerlauf/Betrieb</i>
DEX2R	4,5	0
DEX2R with H7867-AA	4,5	32

<sup>1</sup> Current values for specific configurations are available from Digital Equipment Corporation representatives. 1 B = 10 dBA.

<sup>2</sup> Aktuelle Werte für spezielle Ausrüstungsstufen sind über die Digital Equipment Vertretungen erhältlich. 1 B = 10 dBA.

## Parts List

Table D-3 provides a parts list for the RouteAbout Access EW.

**Table D-3 RouteAbout Access EW Parts List**

<b>Replacement Part</b>	<b>Part Number</b>
RouteAbout Access EW	DEX2R
Power Supply Class B, +5 volts and +12 volts	H7867-AA, 30-41713-01 (Use only this power supply with the RouteAbout Access EW.)
Console Port Adapter (8 pin to 6 pin)	H8584-AC
Power Cord, term, 110 Vac	17-00083-39
Power Cord, 220 Vac	
Pwr cord, term 3-1.0MM 250V 2.5M	17-00199-21
Pwr cord, term 3-1.0 MM	17-00364-18
Pwr cord, term 3-1.0 MM	17-00210-13
Pwr cord, term 3-1.0 MM 10A	17-00457-16
Pwr cord, term STR	17-00198-14
Pwr cord, term 3-1.0 MM 10A	17-00456-14
Cable, EIA530A	BC12J-06, 17-03760-01
Cable, RS232/V.28	BC12L-06, 17-03762-01
Cable, RS422/V.11	BC12H-06, 17-03767-01
Cable, RS423/V.10	BC12K-06, 17-03761-01
Cable, V.35	BC12G-06, 17-03766-01
Cable, X.21 (LL)	BC12F-06, 17-03580-01