

RouteAbout Access TW

Installation

Order Number: EK-DEWTR-IN A01

July 1995

This manual tells you how to install the RouteAbout Access TW.

Revision/Update Information: This is a new manual.

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Preface

Manual Content

This manual describes how to install and set up the RouteAbout Access TW 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 TW.

Organization

This manual is organized as follows:

Section	Description
Chapter 1	Provides an overview of the RouteAbout Access TW and describes its features.
Chapter 2	Provides installation instructions.
Chapter 3	Provides set up information.
Appendix A	Provides installation-specific problem-solving information using the LEDs.
Appendix B	Provides connector and pin assignment information.

Section	Description
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.
Boldface	Boldface type in examples indicates user input.
<Return>	Indicates that you should press the Return key.

Documentation Comments

If you have any comments or suggestions to improve the quality and usability of this book or any of the RouteAbout documents, please send them to the Network Products Business Group.

FAX: (508) 486-6093

Attention: Documentation Project Manager

E-Mail: DOC_QUALITY@LKG.MTS.DEC.COM

Associated Documents

The following documents provide related information about the module. Ordering information is provided at the back of this manual.

Title and Order Number	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 900 MultiSwitch Owner's Manual</i> EK-DH2MS-OM	Provides installation, use, security, and troubleshooting information for the DEChub 900.
<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:

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

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. [Page A-1.]
VORSICHT!	Versuchen Sie auf gar keinen Fall, das Modul zu öffnen - es besteht Verletzungsgefahr. Module dürfen nur von entsprechend ausgebildetem Kundendienstpersonal geöffnet werden.
DANGER!	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.
¡AVISO!	No se debe abrir el módulo bajo ninguna circunstancia; pueden ocurrir lesiones físicas. Sólo se autoriza al personal cualificado abrir el módulo.

Chapter 1

RouteAbout Access TW Description

Overview

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

What is the RouteAbout Access TW?

Features

Front Panel LEDs and Connectors

Back Panel Features

What is the RouteAbout Access TW?

The RouteAbout Access TW Remote Access Router (referred to as the RouteAbout Access TW or “the module” throughout this manual) delivers cost effective, multi-protocol solutions for linking remote Token Ring LANs to corporate networks. The RouteAbout Access TW offers flexible software support that can be tailored to the needs of specific remote environments. It operates in a DEChub 900 MultiSwitch backplane or as a standalone bridging router. (The RouteAbout Access TW can not be installed in a DEChub 90). The base configuration supports one Token Ring and two serial lines (up to T1/E1 speed). With an industry-proven Motorola 68360, the RouteAbout Access TW can handle both current and future needs of remote office environments.

The RouteAbout Access TW comes standard with FLASH EPROM technology for reduced software maintenance and server costs

The following sections describe the features of the RouteAbout Access TW, summarize its installation procedures, and describe its LEDs and connectors.

Features

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

- one console port
- one external, shielded Token Ring interface
 - Shielded Twisted Pair (STP) with external Unshielded Twisted Pair (UTP) filter
- two synchronous serial ports

The console port is an asynchronous RS232 serial port. The Token Ring port is an IEEE 802.5 compliant network interface that supports 4MBPS and 16 MBPS ring speeds. The two synchronous serial ports support any of six standards as determined by the cable attached to the serial port (see the LEDs and Connectors section).



The RouteAbout Access TW module is managed by SNMP through HUBwatch or other network management systems, and by a management console that can be directly attached or connected remotely across the network using the Telnet protocol.


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

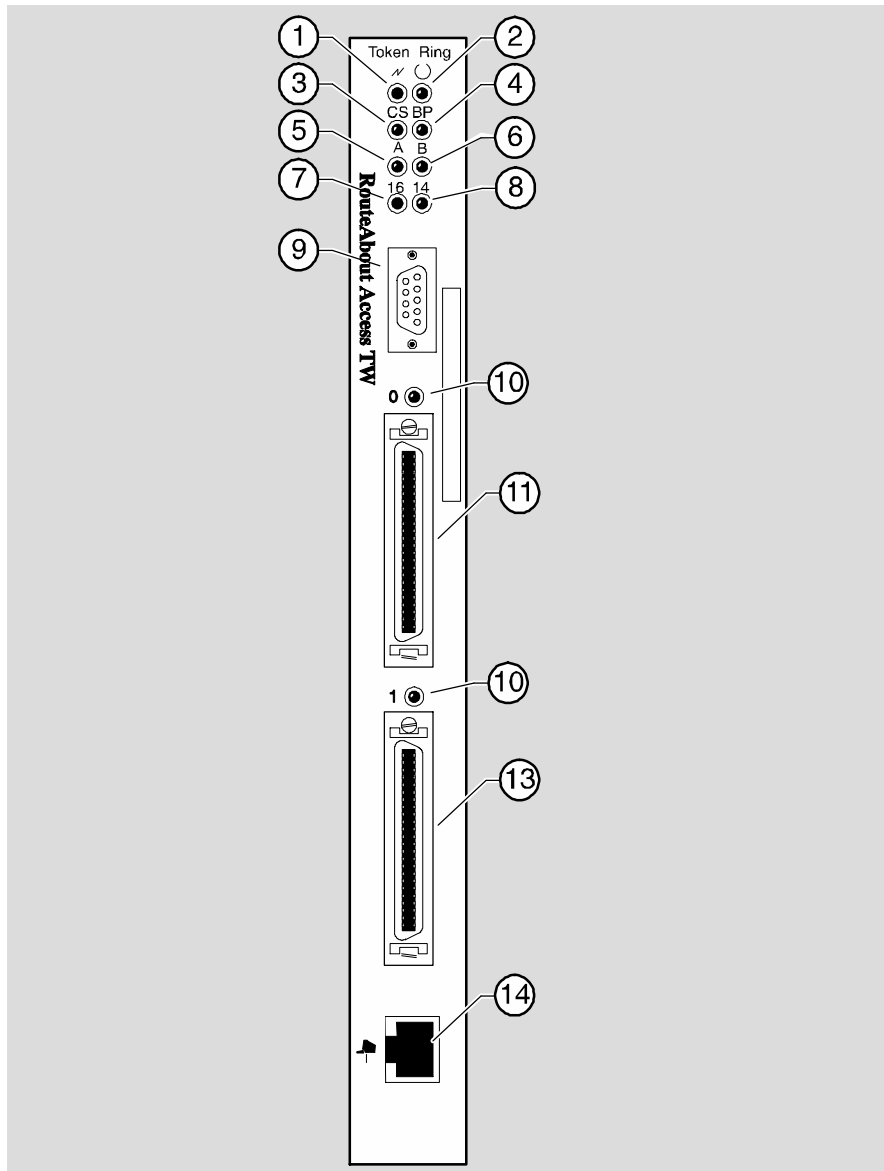
Front and Side Panels – LEDs and Connectors

The LED indicators and connectors on the front and side panels of the RouteAbout Access TW 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 No.	Icon	Name	Description
1		Power LED	On: indicates the module has power.
2		Module OK LED	On: indicates the module passes self-test. If the module fails self-test, this LED remains off.
3	CS	Connector Select LED (TR)	On: indicates front panel Token Ring interface selected.
4	BP	Back Plane Select LED	When On: indicates backplane token ring interface selected.
5	A	Ring A LED	On: indicates backplane ring A selected.
6	B	Ring B LED	On: indicates backplane ring B selected.
7	16	16 MBPS TR LED	On: indicates Token Ring interface configured for 16 MBPS.
8	4	4 MBPS TR LED	On: indicates Token Ring interface configured for 4 MBPS.
9		Token Ring Connection	Supports IEEE 802.5, STP interface connector (DB9). NOTE: Connect the UTP interface (MJ8 connector) through the external media adapter filter.
10		WAN 0 Activity LED	Blinking: indicates network activity. Off: indicates no network activity.

Item No.	Icon	Name	Description
11		Synchronous Serial Port 0 connection	This port supports the EIA 232/V.28, V.35, and X.21 leased Lines (LL) standards.
12		WAN 1 Activity LED	Blinking: indicates network activity. Off: indicates no network activity.
13		Synchronous Serial Port 1 connection	This port supports the EIA 232/V.28, V.35, and X.21 leased Lines (LL) standards.
14		Console Port Connection	Connects a console terminal that is used for managing the RouteAbout Access TW. The console port uses an MJ8 connector.



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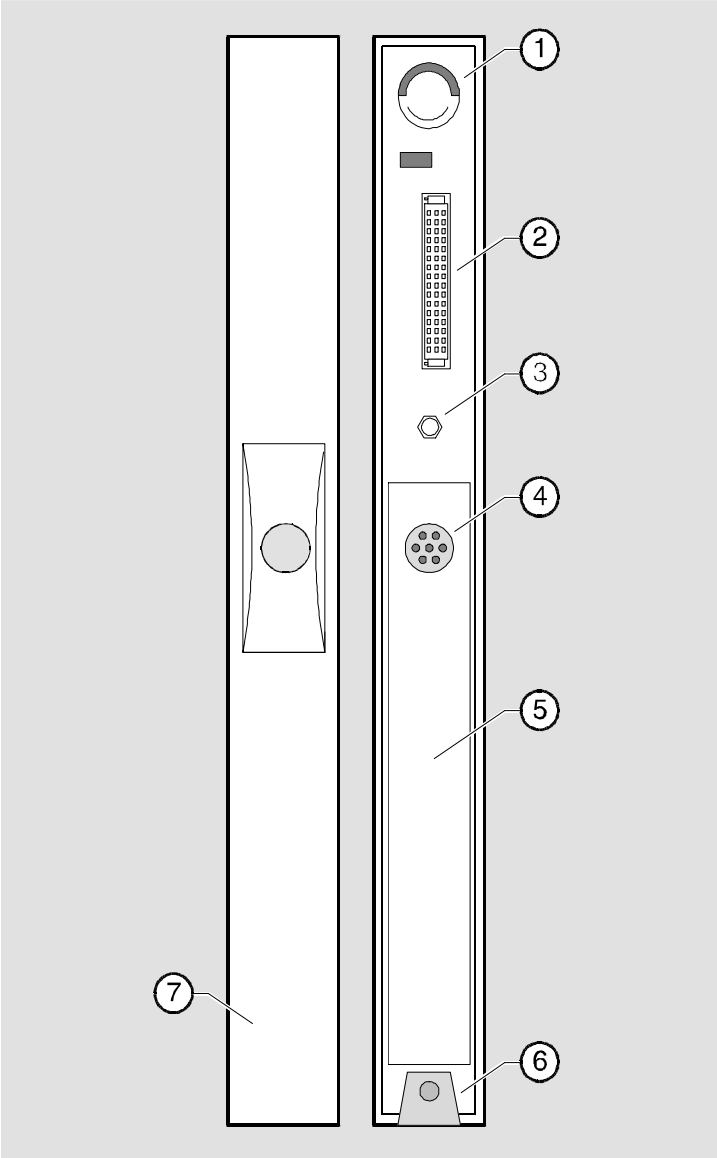
Figure 1-1 LEDs and Connectors on Front Panel

Back Panel Features

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

Table 1-2 Back Panel Features

Item No.	Name	Description
1	Locking tab	Locks the module into the DEChub 900 backplane.
2	48-pin connector	Provides network and power connections to the module when the module is installed in a DEChub 900.
3	Grounding bolt	Provides a chassis grounding connection to the module when the module is installed into a DEChub 900.
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 900.
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

Installing the RouteAbout Access TW

Overview

This chapter tells you how to install the RouteAbout Access TW as a standalone unit or into 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 900




Removing the Module from a DEChub 900

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

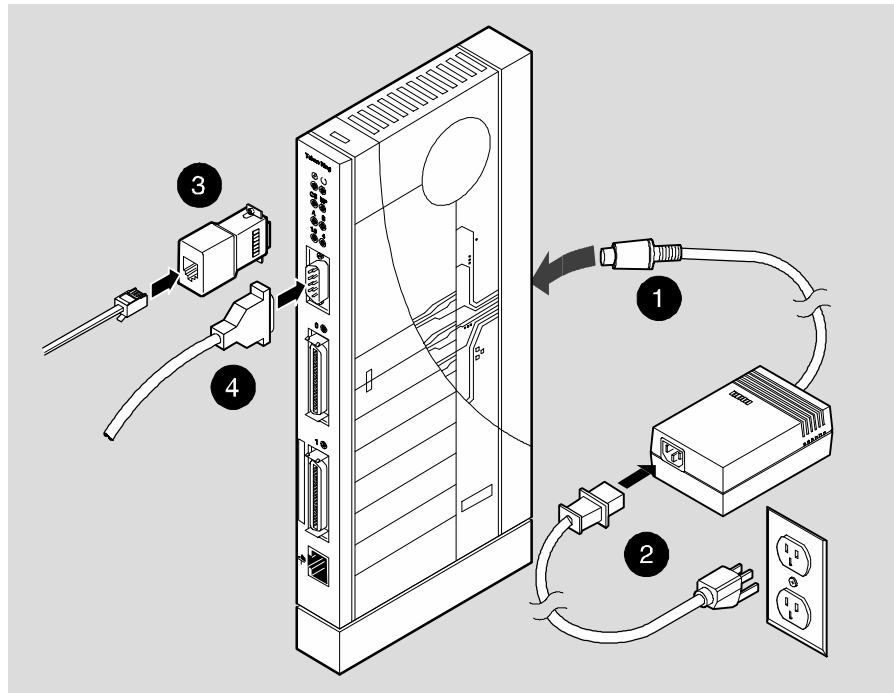
If your module does not have a back cover and you are installing the module into a DEChub 900, go to the section titled Installing the Module into a DEChub 900.

Installing the Module as a Standalone Unit

You can use the RouteAbout Access TW as a standalone unit by placing it onto a table, mounting it onto 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, do the following (refer to Figure 2-1).

Step	Action
1	<p>UTP Token Ring Connection ①: Plug the Token Ring cable into the MJ8 connector of the Token Ring media filter (supplied with module). Then plug the media filter into the 9-pin DB9 Token Ring connector.</p> <p>STP Token Ring Connection ②: Plug the Token Ring cable directly into the 9-pin DB9 Token Ring connector.</p>
2	Attach the serial cables to Ports 0 and 1 of the module. Refer to Table D-3 in Appendix D to determine which cable is correct for your network environment.
3	Connect the console cable using the MJ8 connector. Use the H-8584-AC adapter if necessary.
4	Connect the cable from the power supply to the power connector ③ on the back of the module.
5	Plug the ac power supply cable ④ into the power supply, then into a wall outlet.
6	Upon receiving power, verify that the module's Power LED  lights immediately. The module will then perform a self-test which should complete in 25 seconds. During the course of the self-test, all of the LEDs will turn on briefly. After the successful completion of the self-test, the Power LED  and the Module OK LED  remain lit.
7	Verify the operation of each port by sending information to it. The LED associated with the serial line ports will flash to indicate network activity. The BP Token Ring LED will remain on.

Step	Action
Note:	If the LEDs do not operate as described, refer to Appendix A, Problem-Solving Using the LEDs.
8	After successful installation and power-up, configuration information will appear on the console monitor. Included will be questions about your network topology. At this point, refer to Chapter 3, RouteAbout Access TW Set-Up for further guidance on how to configure your module.



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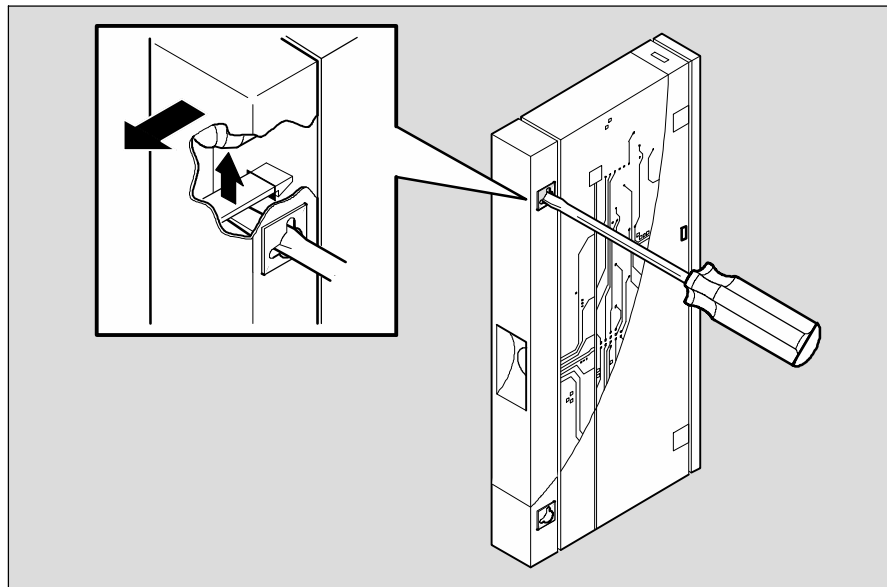
Figure 2-1 Installing the Module as a Standalone Unit

Removing the Back Cover

If you are installing a module into a DEChub 900, 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.

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



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Figure 2-2 Removing the Back Cover

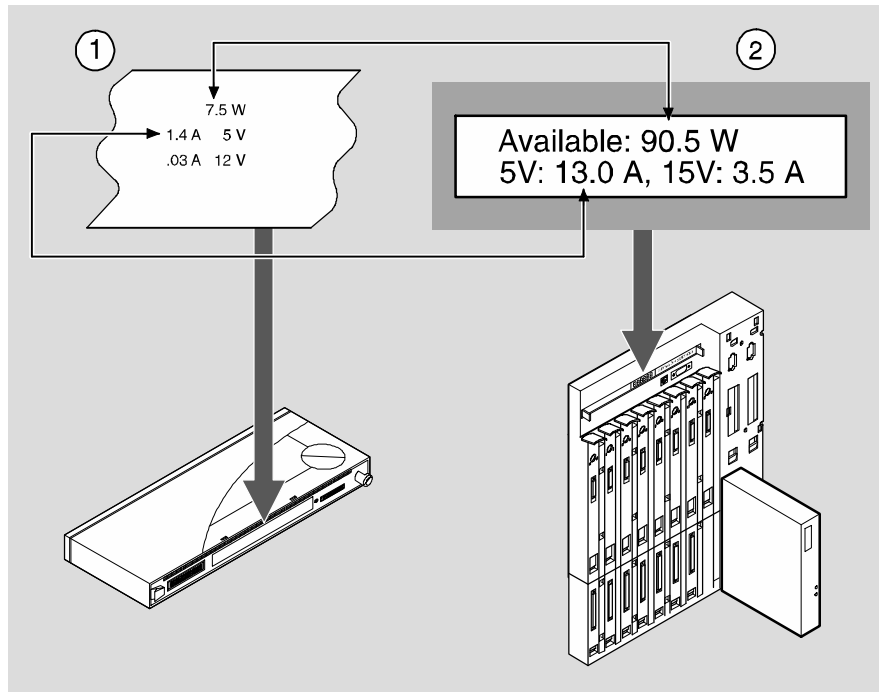
Installing the Module into a DEChub 900

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

Task	Described in...
Compare the power ratings.	Task 1
Seat the module into the DEChub 900.	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 2-3).



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Figure 2-3 Compare the Power

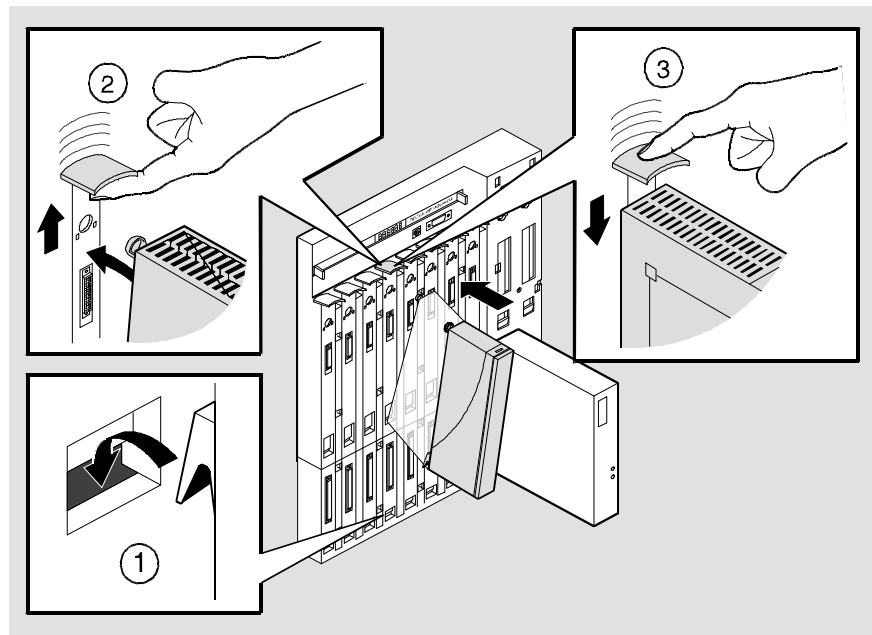
If the power values on the module's manufacturing label do not exceed the values shown in the Hub Manager status display, go to Task 2 to seat the module into the DEChub 900.

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 (refer to the *DEChub 900 MultiSwitch Owner's Manual*.)

**Task 2:
Seat the Module
into the DEChub 900 MultiSwitch**

To seat the module, complete the following steps. Refer to Figure 2-4.

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






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Figure 2-4 Seating the Module into the DEChub 900

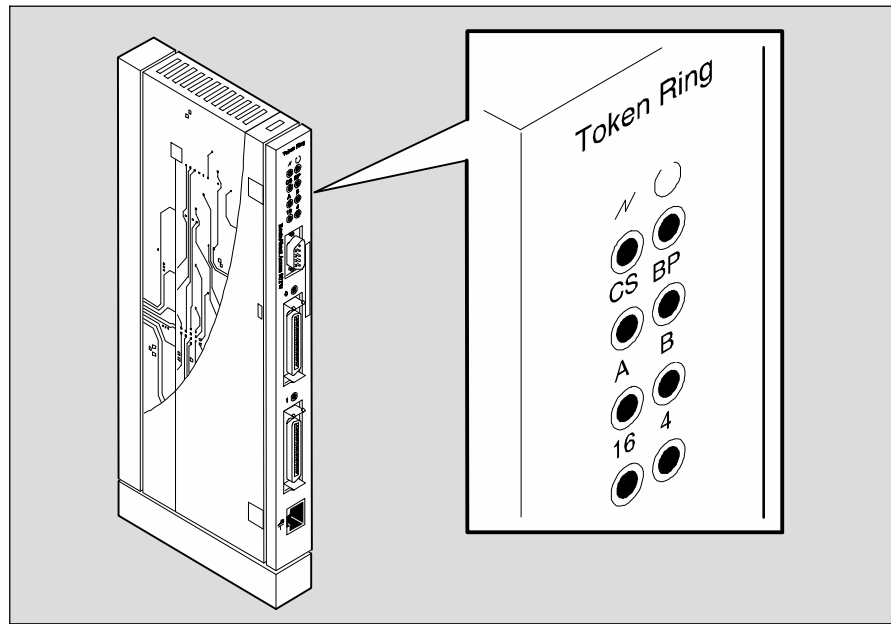
Task 3: Verify Initial LED Operation

If this is a new installation, turn on the power to the DEChub 900. If the module was installed while the DEChub 900 was already powered up, seating the module will initiate the module's power-up sequence.

The LED operation is described in the following table. Refer to Figure 2-5.

Stage	Description
1	Upon receiving power, verify that the module's Power LED  lights immediately. The module will then perform a self-test which should complete in 25 seconds. 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,  and the Module OK LED,  remain lit.

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



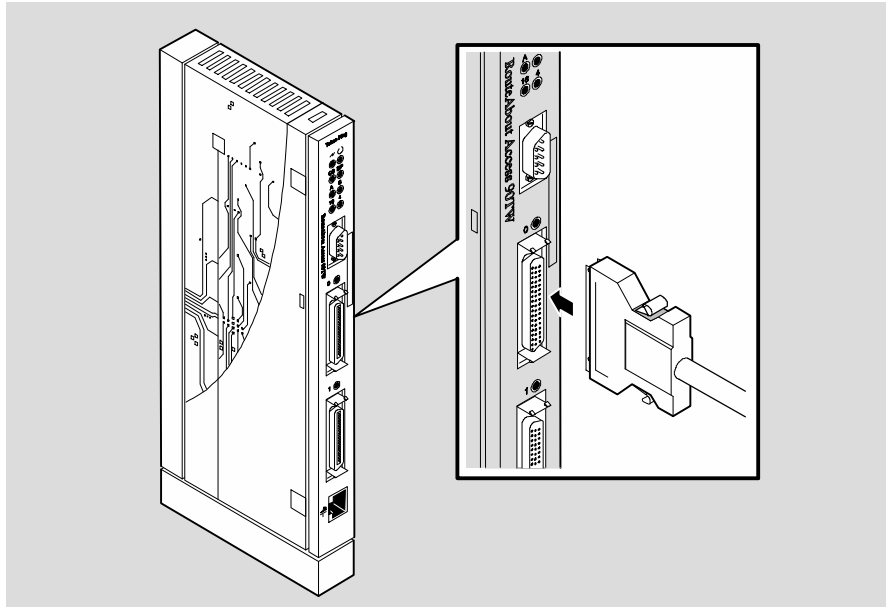
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Fig 2-5 LED Indicators

Task 4: Connecting the Cables

After the RouteAbout Access TW has been installed in the DEChub 900 MultiSwitch, complete the following steps to connect the cables (refer to Figure 2-6):

Step	Description
1	If the front panel Token Ring interface is to be used, attach the Token Ring cable to its front panel connector. If the cable is unshielded, use the supplied media filter.
Note: Do not connect a cable to the Token Ring connector (Item 9 in Figure 1-1) when the module is installed in the DEChub 900 MultiSwitch.	
2	Attach the WAN interface cable to Port 0 and/or Port 1.



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Figure 2-6 Cable Connection

After the module is successfully installed, the DEChub 900 MultiSwitch message screen, or MAM, will display a message similar to the following:

```
3: RtAbt Acces TW/MP
up
```

The 3 in the above example indicates that the module is installed in slot 3 of the DEChub 900 MultiSwitch. The /MP in the above example indicates the module is configured for Multi Protocol. If /IP were displayed, it would indicate an Internet Protocol configured module.

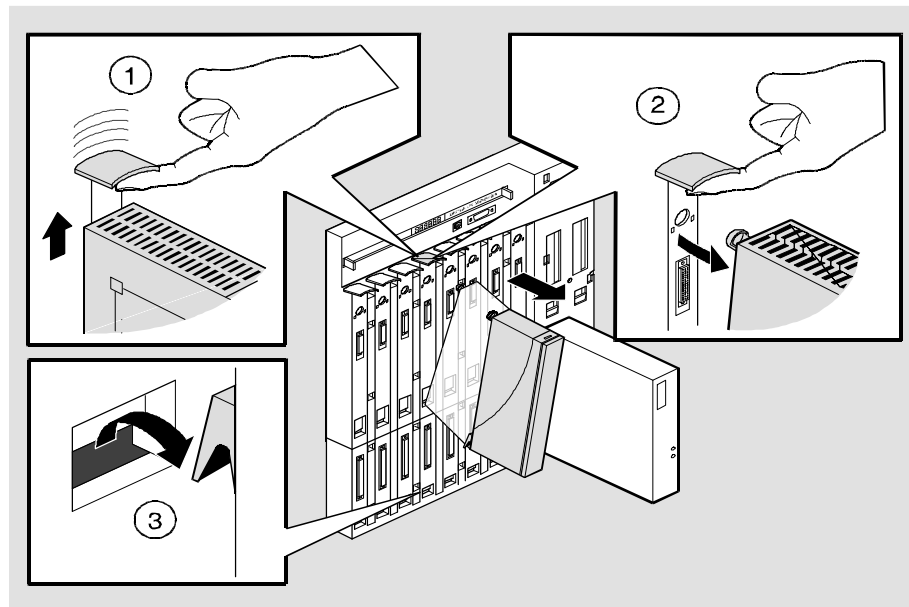
The above message means only that the DEChub 900 MultiSwitch recognizes the *presence* of the module. It does not mean that the module is ready to run.

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. At this point, refer to Chapter 3, RouteAbout Access TW 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 (refer to Figure 2-7).

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.
3.	Lift the release lever ① located at the top of the DEChub 900 slot.
4.	While holding up the release lever, pivot the module back on its bottom mounting tab ②.
5.	Lift the module from the backplane ③.



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Figure 2-7 Removing the Module from the DEChub 900 MultiSwitch

Chapter 3

RouteAbout Access TW Set-Up

Overview

After successfully installing the RouteAbout Access TW, the module needs to be setup. This includes setting an IP address so that the desired protocols can be configured. The instructions in this chapter tell you how to set up your module and assign an IP address to either a standalone module or to a module that is installed in a DEChub 900 MultiSwitch.

If you have installed the RouteAbout Access TW as a standalone unit, go to the section titled Standalone Set-Up. If you have installed the module in a DEChub 900 MultiSwitch, go to the section titled Set-Up Port - DEChub 900 MultiSwitch.

This chapter is comprised of the following subsections:

Standalone Set-Up

Set-Up Port - DEChub 900 MultiSwitch

Standalone Set-Up

If you have installed the module as a standalone unit, you must now set up the module and set an IP address. Once the IP address is set, the desired protocols can be configured through the console configuration interface which is accessed through a terminal connected to the console port.

NOTE

The RouteAbout Access TW module will not insert into a Token Ring until the IP Address has been set.

The sequence of tasks that make up the procedure for setting up a module that has been installed as a standalone unit are as follows:

Task	Description
1	Install the RouteAbout Access TW module as a standalone unit.
2	Select the IP configuration option from the RouteAbout Access TW set-up menu.
3	Set the in-band IP address.
4	Set the default gateway, if necessary.
5	Set the module-specific options.
6	Restart the RouteAbout Access TW with the current settings.
7	Configure the desired protocols via local console.

The examples of the set-up screen displays shown in this section describe the options that are available. Because they are examples only, the displays may vary slightly from the actual displays on your port device. **Boldface type** in the display examples indicates user input.

RouteAbout Access TW Installation Menu

Upon applying power to the module, the first menu you see on the console terminal is the RouteAbout Access TW Installation Menu (shown below). This section defines each of the options available from this menu.

```
RouteAbout Access TW/MP
=====
RouteAbout Access TW 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>
```

[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.

NOTE

This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost. To retain the current settings, use option [2], Restart with Current Settings.

The following example shows the dialog associated with this option.

```
Enter selection : 1

RtAbt Acces TW/MP
=====

                        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
```

The RouteAbout Access TW Installation Menu returns after the completion of this dialog.

[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.

```
RtAbt Acces TW/MP

=====

                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
```

The RouteAbout Access TW Installation Menu returns after the completion of this dialog.

[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.

```
RtAbt Acces TW/MP
=====
RtAbt Acces TW/MP, 2 WAN 1 TR Brouter, #1052, sw=x01.0.055
SysUpTime                : 00:00:02   1 restarts
SNMP Read/Write Community : Not Available
Default Gateway           : Not Configured
-----
Interface   IP Address   Subnet Mask   Other Info
Token Ring
-----
Front Port Token Ring Speed      : 16 Mb/sec
NOTE: CHANGES ONLY BECOME VALID AFTER REBOOT (RESTART)
=====
                          Press Return for Main Menu ...  <Return>
```

[4] IP Configuration

The IP Configuration option provides you with four selections. The selections in this menu allow you to set the IP address of a standalone module. This menu is shown below:

```
RtAbt Acces TW/MP
=====
                                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 Default Gateway
                                [4] Return to Main Menu
=====
Enter selection number : [n] <Return>
```

The following pages describe each of the the IP Configuration menu selections.

[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.

```
RtAbt Acces TW/MP
=====
                        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 and subnet mask for the in-band interface. (The in-band interface is the same as the Token Ring interface).

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.

```
RtAbt Acces TW/MP
=====
                               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
Token Ring
-----
=====
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)

[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.

```
RtAbt Acces TW/MP
=====
                        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 [16.20.40.155] : 16.20.40.157 <Return>

Default Gateway Address set.

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

[5] Go To Local Console

The fifth menu option from the RouteAbout Access TW Installation Menu sends you to the Quick Config feature of your module. Quick Config will prompt you with questions about your network topography. Also, the desired protocols can be configured through the console configuration interface. The configuration interface will prompt you for all the information required.

Refer to the *Routing Protocols User's Guide* for additional information on how to configure the module.

[6] Module-Specific Options

The sixth menu option from the RouteAbout Access TW Installation Menu allows you to set the Token Ring speed of your module to either 16Mb/sec (the default value) or to 4 Mb/sec.

The following example shows the dialog associated with this option.

```
Rbt/Access TW/MP
=====
                RouteAbout Access TW Specific Menu

[1] Set Token Ring Speed
[2] Return to Main Menu
=====
Enter Selection:  1
Enter Token Ring Speed [16]: <Return>
Press Return for Main Menu .....
```

Post Set-Up

After completing the set-up procedure, re-start the RouteAbout Access TW with the current settings by selecting option 2 from the RouteAbout Access TW Installation Menu, Restart with Current Settings. The desired protocols can now be configured by selecting option 5 from the RouteAbout Access TW Installation Menu, Go to Local Console. Refer to the *Routing Protocols User's Guide* for additional information on how to configure the module.

Set-Up Port - DEChub 900 MultiSwitch

If you have installed the module in a DEChub 900 MultiSwitch, you must now set up the module and set an IP address. Once the IP address is set, the desired protocols can be configured through a Telnet session that connects the module to a remote HUBwatch system.

NOTE

The RouteAbout Access TW module will not insert into a Token Ring until the IP Address has been set.

The sequence of tasks that make up the procedure for setting up a module that has been installed in a DEChub 900 MultiSwitch hub manager are as follows:

Task	Description
1	Install the RouteAbout Access TW module as a standalone unit.
2	Redirect the DEChub 900 MultiSwitch hub manager set-up port to the RouteAbout Access TW set-up port.
3	Select the IP configuration option from the RouteAbout Access TW set-up menu.
4	Set the in-band IP address.
5	Set the default gateway, if necessary.
6	Set the module-specific options.
7	Restart the RouteAbout Access TW with the current settings.
8	Telnet into the RouteAbout Access TW from the management station.

The set-up port on the DEChub 900 MultiSwitch allows you to access and set RouteAbout Access TW parameters. The examples of the set-up screen displays shown in this section describe the options that are available. Because they are examples only, the displays may vary slightly from the actual displays on your port device. **Boldface type** in the display examples indicates 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:

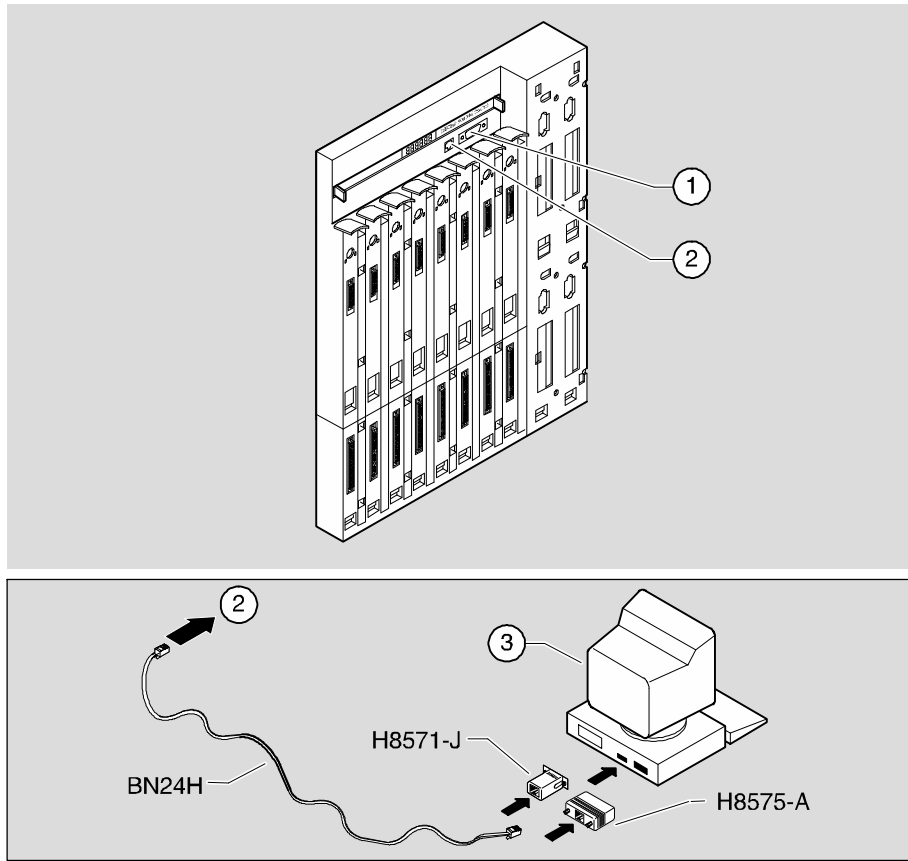
IF the set-up port device is...	Use this cable...	With this adapter...
PC with a 9-pin D-Sub communications port	BN24H-xx ¹	H8571-J
Terminal with a 25-pin D-Sub connector	BN24H-xx ¹	H8575-A
Terminal with a 6-pin MMJ connector	BN24H-xx ¹	Not required.

¹ xx indicates cable length in meters.

Connecting the Set-up Port

To connect the set-up port on the RouteAbout Access TW 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, 8 bit character, no parity, and 1 stop bit.
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-0194-951

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

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

RouteAbout Access TW Installation Menu – DEChub 900 MultiSwitch Options

This section shows the options available from the RouteAbout Access TW 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 RouteAbout Access TW installation menu.

```
RtAbt Acces TW/MP - slot 8
=====
RouteAbout Access TW INSTALLATION MENU

[1] Restart with Factory Defaults
[2] Restart with Current Settings
[3] Show Current Settings
[4] IP Configuration
[5] Module-Specific Options

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

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

[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.

NOTE

This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost. To retain the current settings, use option [2], Restart with Current Settings.

The following example shows the dialog associated with this option.

```
RtAbt Acces  TW/MP - 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>

                                Module Removed! Connection Closed!

                                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.

```
RtAbt Acces TW/MP - slot 8
```

```
=====
```

```
RESTART WITH CURRENT SETTINGS
```

```
This selection will restart your system with the  
current configuration settings.
```

```
=====
```

```
Press Y to confirm [N] : Y <Return>
```

```
Module Removed! Connection Closed!
```

```
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.

```
RtAbt Acces TW/MP - slot 8
=====
RouteAbout Acces TW/MP, 2 WAN 1 TR Brouter, #1249, SW=X01.0.071
SysUpTime                : 00:00:02   1 restarts
SNMP Read/Write Community : Not Available
Default Gateway           : Not Configured
-----
Interface   IP Address   Subnet Mask   Other Info
Token Ring
  Out-of-Band
-----
Front Port Token Ring Speed      : 16 Mb/sec
NOTE: CHANGES ONLY BECOME VALID AFTER RESTART ROUTER
=====
                          Press Return for Main Menu ...
```

[4] IP Configuration

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

```
RtAbt Acces TW/MP - 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

RtAbt Acces TW/MP - 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 and subnet mask for the in-band interface. (The in-band interface is the same as the Token Ring interface.)

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.

```
RtAbt Acces TW/MP - 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
Token Ring
Out-of-Band
-----
=====

IP address []:  16.20.40.156  <Return>
Subnet Mask [] : 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 on OBM IP address.

The following example shows the dialog associated with this option.

```
RtAbt Acces TW/MP - 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
Token Ring
Out-of-Bane
-----

=====

IP address []:  16.20.54.156  <Return>
Subnet Mask [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. A default gateway does not need to be set when communicating with a management station on the same subnet. 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.

```
RtAbt Acces TW/MP - 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  [ ] : 16.20.40.257 <Return>

                Default Gateway Address set.

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

[5] Module-Specific Options

This option from the RouteAbout Access TW Installation Menu allows you to set the Token Ring speed of your module to either 16Mb/sec (the default value) or to 4 Mb/sec. The following examples shows the dialog associated with this option.

```
RtAbt Access TW/MP - slot 8

=====

                RouteAbout Access TW Specific Menu

[1] Set Token Ring Speed

[2] Return to Main Menu

=====

Enter Selection:      1

Enter Token Ring Speed [16]: <Return>

Press Return for Main Menu...
```

Post Set-Up

After completing the set-up procedure, restart the RouteAbout Access TW with the current settings (Option 2 from the RouteAbout Access TW Installation Menu). The RouteAbout Access TW is now ready to be configured via a Telnet session from the management station.

Refer to the *Routing Protocols User's 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.

Normal Power-Up

LED Descriptions

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. Refer to Table 1-1 for the meaning of each LED's activity (On, Off, or Flashing).

Normal Powerup


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

1. Upon receiving power, verify that the module's Power LED  lights immediately. The module will then perform a self-test which should complete in 25 seconds. During the course of the self-test, all of the LEDs will light briefly.
2. After the successful completion of self-test, the Power LED  and the Module OK LED  remain lit. The Serial Port Activity LEDs blink at a rate proportional to the amount of activity on the port. The BP Token Ring LED will remain on.
3. The remaining LEDs indicate their operational status, as described in Table 1-1.

Problem Solving Using the LEDs

When attempting to diagnose a problem with the module, note that the problem is often indicated by the states of the module LEDs. Table A-1 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-1 Problem Solving Using the LEDs

Symptom	Probable Cause	Corrective Action
All LEDs are off.	The module does not have power.	<p>If the module is installed as a standalone unit:</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 by plugging in 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>If the problem persists, replace the power supply or the module.</p> <p>If the module is installed in the DEChub 900 MultiSwitch:</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.
	The module is not receiving +5.0 V.	Check the power LED on the DEChub 900 MultiSwitch power supply.

Symptom	Probable Cause	Corrective Action
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> .
	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> .
	If the power LED turns on when reseated in the same slot, then the RouteAbout Access TW was not properly seated.	Make sure the RouteAbout Access TW 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> .
	If the module does not turn on in a known good slot, then the module is defective.	Replace the RouteAbout Access TW.
Module OK () LED is off.	Self-test failed.	If the LED does not light after 25 seconds, reseal the module to repeat the self-test. If the self-test fails again, replace the module.

Symptom	Probable Cause	Corrective Action
Serial Port 0 or Port 1 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 TW 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 TW.
Console terminal doesn't appear to work.	No power to console terminal.	Be sure console terminal is powered up and functions normally in other applications.
	Wrong cable.	Try connecting the console terminal to the RouteAbout Access TW using a null modem cable with the appropriate MJ8 RS232 connector on the brouter end.

Symptom	Probable Cause	Corrective Action
Console terminal doesn't appear to work (cont).	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 TW.
After correctly installing the module on a DEChub 900, the information display does not read:	Defective module.	Replace the RouteAbout Access TW.
RouteAbout Access up		
After correctly installing the module on a DEChub 900, the hub manager does not display configuration information.	Defective module.	Replace the RouteAbout Access TW.

Appendix **B**

Connector and Pin Assignments

Overview

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

Cable Connections

The following tables list the proper cable connections for the X.21, V.35, and V.28/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
5	2	T(A) TX Data A
30	9	T(B) TX Data B ¹
6	5	I(A) DCD A
31	12	I(B) DCD B ²
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 ²
17	6	S(A) TX Clock A
42	13	S(B) TX Clock B ²
13, 15	–	RX Clock A DTE Clock A ¹
38, 40	–	RX Clock B DTE Clock B ¹
37	8	G DTE Ground

¹ Contacts tied together.

² 120 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 V.35 Connection (BC12G-06, 17-03766-01)

From Pin Connector (P1)	To V.35 Pin Connector (P2)	Signal Name
1, 26	–	Code Ground ¹
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
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 ¹
44	H	DTR
Shell	Braid Strap	Overall Cable Shield
20	K	Local Loop

¹Contacts tied together.

Table B-3 V.28/EIA232 Cable Connections (BC12L-06, 17-03762-01)

From Pin Connector (P1)	To V.24/EIA232 Pin Connector (P2)	Signal Name
1, 2	–	Code Ground ¹
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 (Not Implemented)	25	Test Indicate
19	24	Clock
20	18	Local Loop
32	4	RTS
12, 29, 31, 34, 35, 37, 38, 42	7	DTE Ground ¹
41 (Not Implemented)	23	Speed Select
44	20	DTR
45 (Not Implemented)	21	Remote Loop

¹Contacts tied together.

Table B-4 Console Port Pin Assignments

Pin No.	Description
1	Ground
2	RXD
3	Ground
4	LTS
5	RTS
6	TXD
7	DTR
8	DSR

Table B-5 Token Ring Put Pin Assignments

Pin No.	Description
1	Ring Receive
2	NC
3	NC
4	NC
5	Ring Transmit
6	Ring Receive
7	NC
8	NC
9	Ring Transmit

Appendix **C**

Installation Information - United Kingdom

Overview

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

Service Categories

Host Power Rating

Module Isolation

Safety Status

Cable Approval

Supported Cables

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

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.	Adapters: BC12L-06,	2400	Yes	Yes	Yes
				17-03762-01	4800 9600 19200	Yes Yes No	Yes Yes No	Yes Yes Yes
				Extension: BC22F-xx ² BC13P-10 (10 feet)				
2	X.21 bis	V.35	ISO 2593, BS.6623: part 4, 1986.	Adapters: BC12G-06,	48K	Yes	Yes	Yes
				17-03766-01	56K 64K 2048K	Yes No No	No No No	Yes Yes No
				Extension: BC19L-xx (xx feet) ²				

¹ BT – British Telecommunications plc.

Hull – Kingston Communications (Hull) plc.

MCL – Mercury Communications Limited.

² 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

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

¹ 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:

- 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**

Product Specifications

Overview

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

Operating

Environmental

Acoustical

Parts List

Operating Specifications

Table D-1 lists the operating specifications for the RouteAbout Access TW 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
<i>Operating Environment</i>	
Operating Temperature ¹	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	7.5 W, total power 1.4 A, 5Vdc 0.03 A, 12Vdc 0.0 A, 15Vdc
<i>Connectors</i>	
1 DB9 Token Ring connector	
1 MJ-8 console connector	
2 50-pin WAN connectors	
<i>Physical</i>	
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.
<i>Certification</i>	
CE, CSA, FCC, TÜV, UL, VCCI	

¹For 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 7779¹

Product	Sound Power Level L_{WAd} , B	Sound Pressure Level L_{nAm} , dBA (bystander positions)
	<i>Idle/Operate</i>	<i>Idle/Operate</i>
DEWTR	4.9	35
DEWTR with H7867-AA	4.9	36

Schallemissionswerte Werteangaben nach ISO 9296 und ISO 7779/DIN EN27779²

Produkt	Schalleistungspegel L_{WAd} , B	Schalldruckpegel L_{nAm} , dBA (Zuschauerpositionen)
	<i>Leerlauf/Betrieb</i>	<i>Leerlauf/Betrieb</i>
DEWTR	4,9	35
DEWTR with H7867-AA	4,9	36

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

² 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 TW.

Table D-3 RouteAbout Access TW Parts List

Replacement Part	Part Number
RouteAbout Access TW	DEWTR
Power Supply Class B, +5 volts and +12 volts	H7867-AA, 30-41713-01 (Use only this power supply with the RouteAbout Access TW.)
Media Filter	30-36893-01
Power Cord, term, 110 Vac	17-00083-39
Power Cord, 220 Vac	
Pwr cord, term 3.100MM 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
The following cables are not packaged with the module. They must be purchased separately:	
Cable, RS232/V.28	BC12L-06, 17-03762-01
Cable, V.35	BC12G-06, 17-03766-01
Cable, X.21 (LL)	BC12F-06, 17-03580-01

