

EtherWORKS Hub 8T

Installation and Configuration

Part Number: EK-DEL08-IN. A01

March 1996

This book explains how to install and configure the EtherWORKS Hub 8T repeater.

Revision/Update Information: This is a new document.

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Achtung!

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention!

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

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EtherWORKS Hub 8T

Preface

This manual describes how to install an EtherWORKS Hub 8T repeater, hereafter referred to as the Hub 8T. It also describes how to configure networks using the Hub 8T. It is intended for use by personnel who will install and use the Hub 8T.

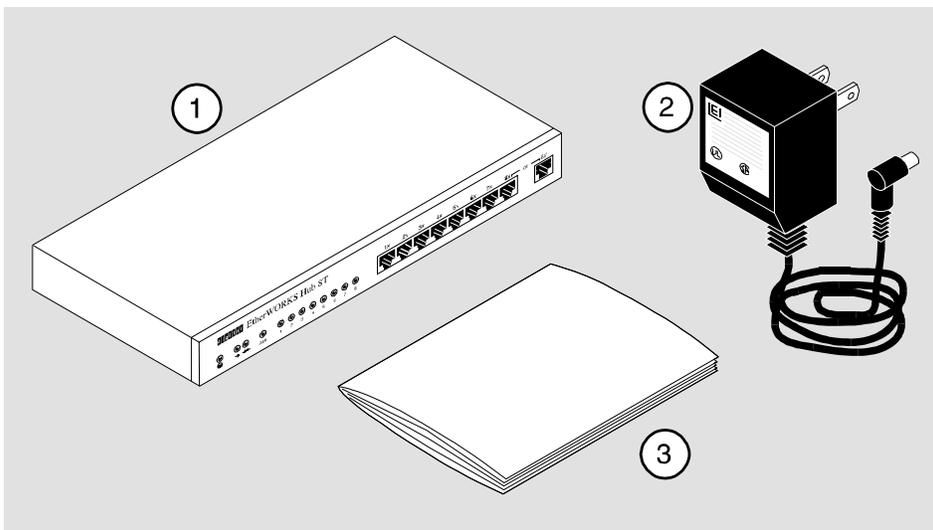
Hub 8T Features

The main features of the Hub 8T are as follows:

- Ethernet 802.3-compliant repeater with 9 ports and 10 connectors.
 - Seven ports with 8-pin MJ twisted-pair, crossover-wired connectors, using Category 3 or better UTP or STP cable
 - One port with both an 8-pin MJ crossover-wired connector and a straight-wired connector for multiple repeater configurations
 - One port with an Attachment Unit Interface (AUI) connector for media adaptation through a Media Attachment Unit (MAU)
- Conforms to the IEEE 802.3 repeater specification and the 10BaseT standard
- LED panel includes power, activity, collision, and port status indicators
- Automatically partitions bad ports to protect the network system
- Easy desktop installation
- External 20-VAC, .9A, power adapter
- Transmits data at 10 Mb/s
- Ready to run with all network operating systems and protocols

Package Contents

The following figure shows the items you should find in the Hub 8T's package.



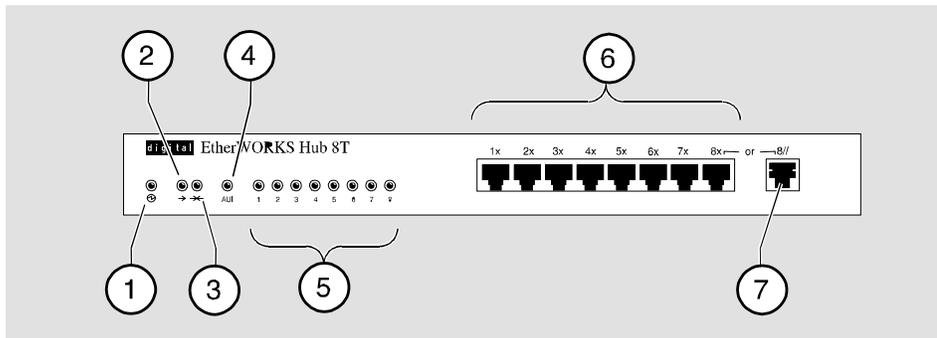
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The package contents are as follows:

Number	Item
1	Hub 8T
2	Power adapter
3	This manual

Front Panel Description

The following figure shows the Hub 8T's front panel.



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The items on the front panel are as follows:

Number	Function
1	Power LED
2	Network activity LED
3	Collision detected LED
4	AUI port status LED <ul style="list-style-type: none">• On - Enabled and available for connection• Off - Disabled or unavailable for connection
5	10BaseT Port status LEDs <ul style="list-style-type: none">• Blinking - Link but autopartitioned• Off - No link• On - Link and not autopartitioned
6	Crossover-wired 8-pin MJ connectors
7	Straight-wired 8-pin MJ connector

When the Hub 8T is powered up, all the LEDs come on momentarily.

Back Panel Description

The following figure shows the Hub 8T's back panel.



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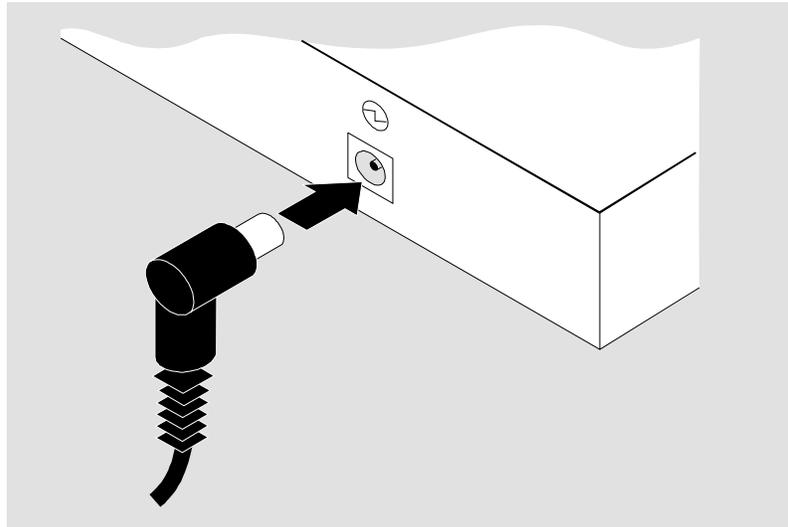
The items on the back panel are as follows:

Number	Function
1	AUI connector
2	Power connector

Connecting the Power Adapter

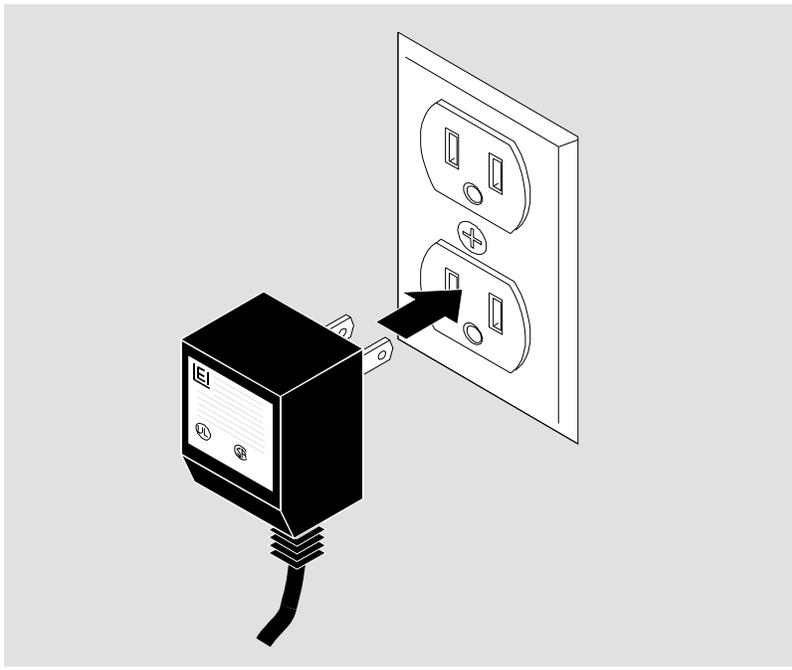
Perform the following steps to connect the power adapter:

Step	Action
1	Connect the barrel plug end of the power adapter cord to the power receptacle on the back panel.



NPG-037

Step	Action
2	Connect the body of the power adapter into an electric outlet.



NPG-I

Result: The power LED on the front panel lights.

You are now ready to make your network connections.

NOTE

Ensure that the environment in which you are using the Hub 8T conforms to the specifications, including the specifications for your electric power source, listed in the Product Specifications section.

Rules for Repeater Configurations

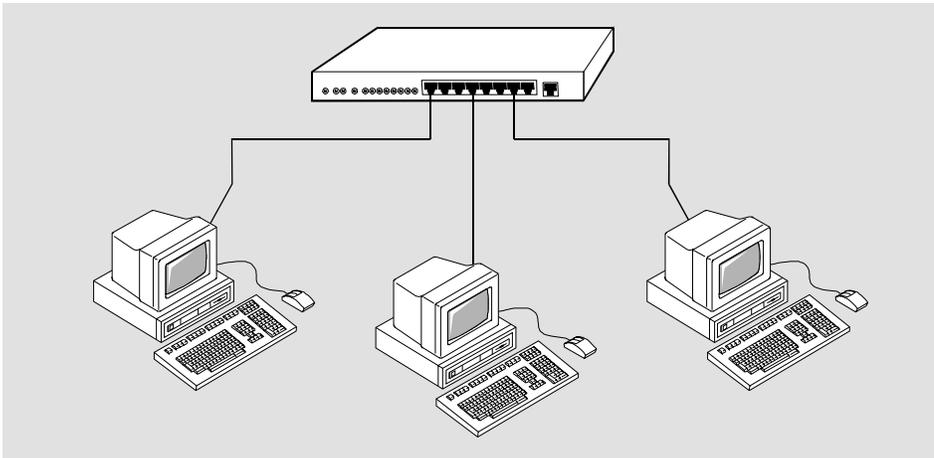
Observe the following rules for all network configurations using the Hub 8T.

- The maximum length of a UTP segment is 100 meters.
- AUI drop cables can be no longer than 50 meters.

Single-Repeater Configurations

You can attach eight Ethernet stations to the 8-pin MJ connectors using straight-wired cable.

The following figure illustrates a typical single-repeater configuration.



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Rules for Multiple Repeater Configurations

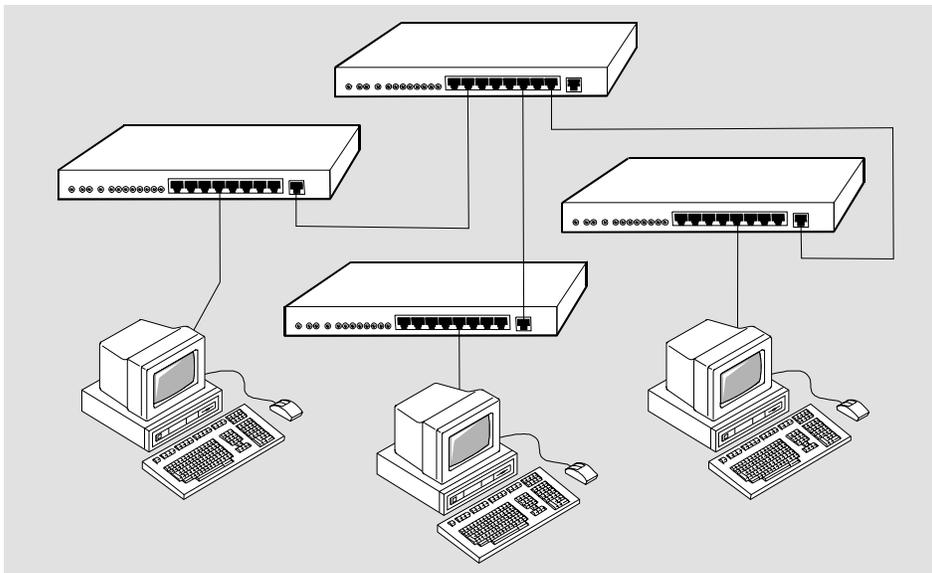
Observe the following rules, when you use the Hub 8T to create network configurations with more than one repeater.

- The maximum number of repeaters between any two network nodes is four. Additional repeaters must be connected by a switch or router.
- In a daisy-chain configuration, the maximum number of cable segments between any two network nodes is five.
- You cannot use the straight-wired connector (8//) and port 8's crossover-wired connector (8X) at the same time.

Tree Configurations

You can connect up to eight repeaters to a Hub 8T using a tree configuration. Use straight-wired UTP cables to connect crossover-wired connectors on the root Hub 8T to straight-wired connectors on the other repeaters.

The following figure illustrates a tree configuration.

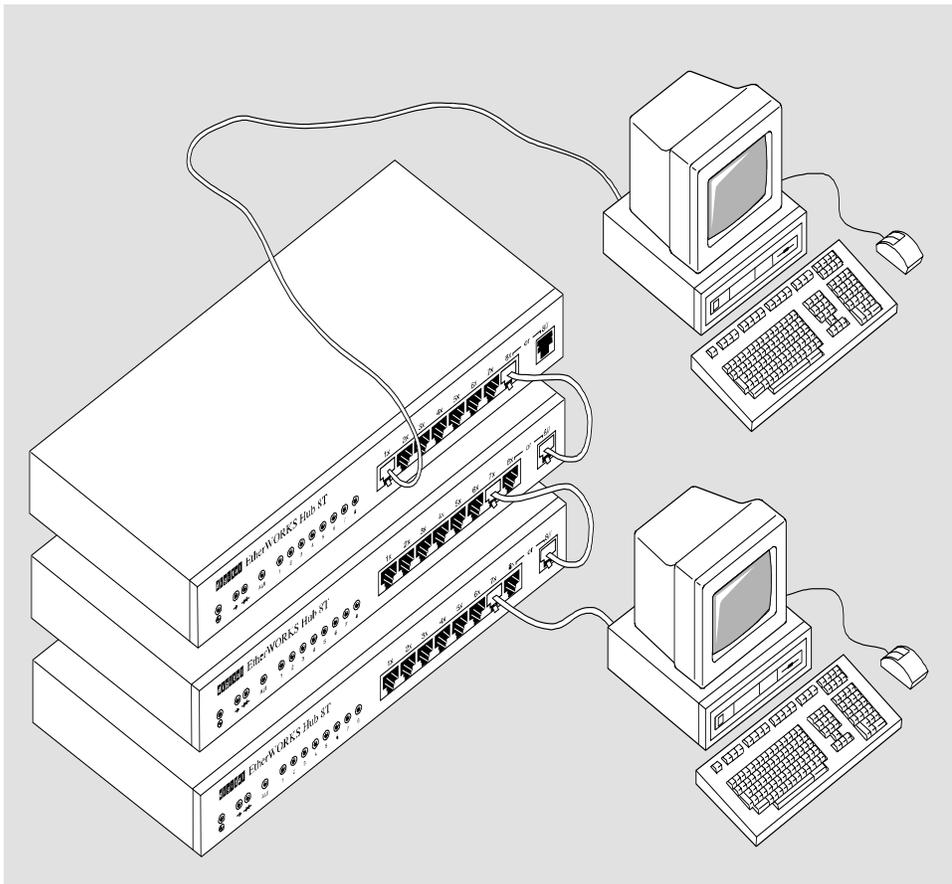


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Daisy-Chain Configurations

You can use the Hub 8T's straight-wired connector (8//) to create a daisy-chain configuration of compatible 10BaseT repeaters. Use a straight-wired UTP cable to connect connector (8//) to a crossover-wired connector on the other repeater.

The following figure illustrates a daisy-chain configuration.

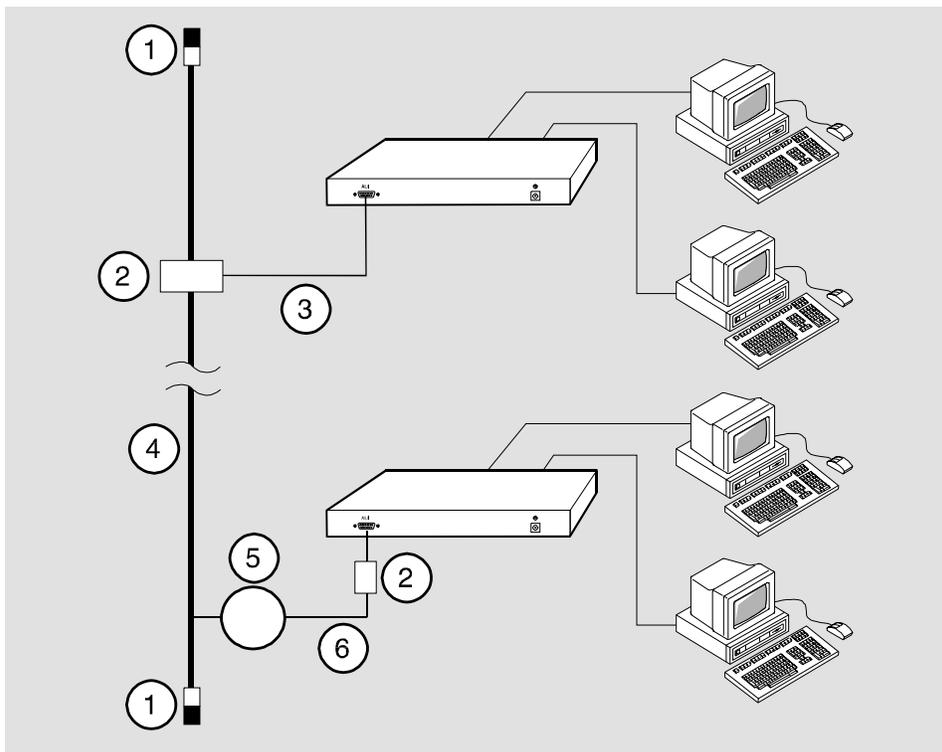


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Backbone Configurations Using the AUI Port

You can connect the AUI port to an AUI drop cable or to an Ethernet MAU. Using AUI connections, you can interconnect repeaters through a backbone network connection.

The following figure illustrates a typical backbone configuration using the AUI port.



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The components of this configuration are as follows:

Number	Component
1	Terminator
2	MAU
3	AUI cable
4	Backbone Ethernet cable
5	Repeater
6	UTP, fiber optic, or thinwire coaxial cable

NOTE

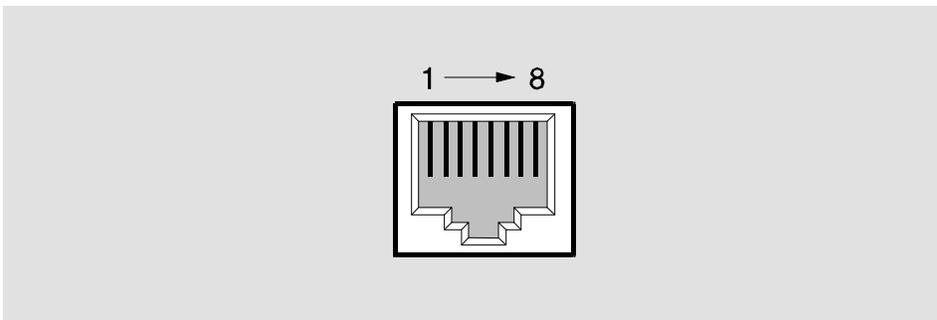
For proper network operation, you must disable the SQE (Signal Quality Error) test on a MAU before connecting it to a Hub 8T's AUI port directly or with an AUI drop cable.

8-Pin MJ Connector Pin Assignments

The crossover-wired and straight-wired 8-pin MJ connector pin assignments are as follows:

Pin	Crossover-wired Signaling (X)	Straight-wired Signaling (//)	Pin
1	RD +	TD +	1
2	RD -	TD -	2
3	TD +	RD +	3
4	Not used	Not used	4
5	Not used	Not used	5
6	TD -	RD -	6
7	Not Used	Not used	7
8	Not used	Not used	8

The 8-pin MJ connector pin locations are as follows:



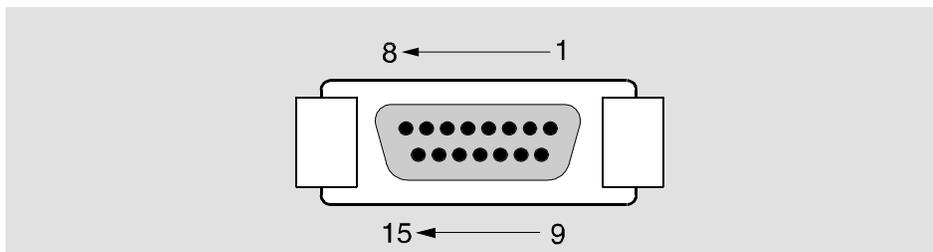
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AUI Connector Pin Assignments

The AUI pin assignments are as follows

Pin	Assignment
1	Ground
2	CI +
3	DO +
4	Ground
5	DI +
6	Power rtn
7	NC
8	Ground
9	CI -
10	DO -
11	Ground
12	DI -
13	Power (12V)
14	Ground
15	NC

The AUI pin locations are as follows:



Product Specifications

The product specifications for the Hub 8T are as follows:

Parameter	Specifications
<u>Hub 8t Dimensions</u>	
Size	10.75 x 5.5 x 1.25", 27.3 x 14 x 68.7 cm
Weight	2.45 lbs, 1.1 kg
 <u>Maximum Power Adapter Dimensions (excluding prongs)</u>	
Height	2.8", 72 mm
Width	2.5", 63 mm
Depth	1.6", 49 mm
 <u>Operating Environment:</u>	
Operating Temperature	50 - 104° F, 10-40° C
Relative humidity	10-90%
Power	5W
 <u>Connectors:</u>	
8 UTP ports with crossover-wired, shielded 8-pin MJ connectors	
1 UTP port with a straight-wired 8-pin MJ connector	
1 DB-15 AUI connector	

Straight-Wired UTP Cable

The Digital order number for the industry-standard, straight-wired UTP cable required by the Hub 8T is BN26S. Contact your Digital representative for more information.

Correspondence

Documentation Comments

If you have comments or suggestions about this document, send them to the Network Products Business Organization.

Attn: Documentation Project Manager
FAX: (508) 486-6093
E-MAIL: doc_quality@lkg.mts.dec.com

Online Services

To locate product specific information, refer to the following online services:

BBS

To read the Bulletin Board System, set your modem to 8 bits, no parity, 1 stop bit and dial 508-486-5766 (U.S.)

WWW

The Digital Equipment Corporation Network Products Business Home Page on the World Wide Web is at the following addresses:

North America: <http://www.networks.digital.com>

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