

User's Guide

100 kOhm  
Termination Module  
(HP Part Number 01650-63204)

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# **100 kOhm Termination Module (HP Part Number 01650-63204) User's Guide**

**for the HP 1650A, HP 1650B, HP 1651A, HP 1651B, HP 1652B,  
HP 1653B, HP 1654B, and HP 16500A Logic Analyzers**

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## Printing History

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New editions are complete revisions of the manual. Update packages, which are issued between editions, contain additional and replacement pages to be merged into the manual by the customer. The dates on the title page change only when a new edition is published.

A software code may be printed before the date; this indicates the version of the software product at the time the manual or update was issued. Many product updates and fixes do not require manual changes and, conversely, manual corrections may be done without accompanying product changes. Therefore, do not expect a one to one correspondence between product updates and manual updates.

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## List of Effective Pages

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The List of Effective Pages gives the date of the current edition and of any pages changed in updates to that edition. Within the manual, any page changed since the last edition is indicated by printing the date the changes were made on the bottom of the page. If an update is incorporated when a new edition of the manual is printed, the change dates are removed from the bottom of the pages and the new edition date is listed in the Printing History and on the title page.

Pages	Effective Date
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# Contents



- The 100 kOhm Termination Module**
- Introduction .....1
- Connecting to the Logic Analyzer .....2
- Connecting to the Preprocessor Interface .....3
- Operating Characteristics .....4
- Schematic .....6
- Connector Pinouts .....7
- Troubleshooting and Servicing .....8



## Product Warranty



# The 100 kOhm Termination Module

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## Introduction

This user's guide contains information on connecting the 100 kOhm Termination Module (HP part number 01650-63204) to your logic analyzer and preprocessor interface. It also includes a schematic of the module and a complete description of its pinouts.

The 100 kOhm Termination Module is connected between the logic analyzer and your preprocessor interface. The female end of the 100 kOhm Termination Module properly terminates the probe cables for the following logic analyzers when the probe tip assembly (HP part number 01650-61608) is removed:

- HP 1650A and HP 1650B
- HP 1651A and HP 1651B
- HP 1652B
- HP 1653B
- HP 1654B
- HP 16510A and HP 16510B
- HP 16511B
- HP 16540A/16541A

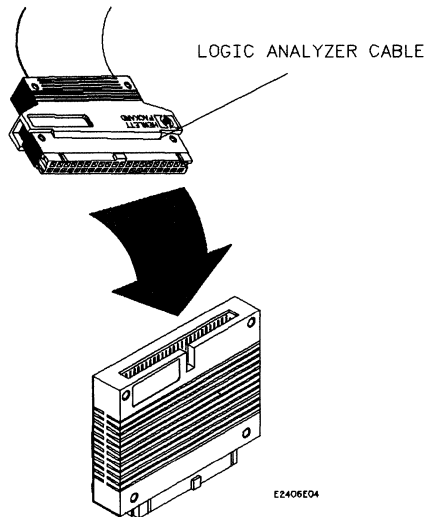
The male end of the 100 kOhm Termination Module terminates the ribbon cables on the preprocessor interface.

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## Connecting to the Logic Analyzer

To connect the 100 kOhm Termination Module to the logic analyzer:

1. Select the appropriate logic analyzer cable and remove the probe tip assembly (HP part number 01650-61608).
2. Connect the termination module to the logic analyzer cable by aligning the key on the end of the logic analyzer cable with the slot on the termination module and pushing them together (see figure 1).



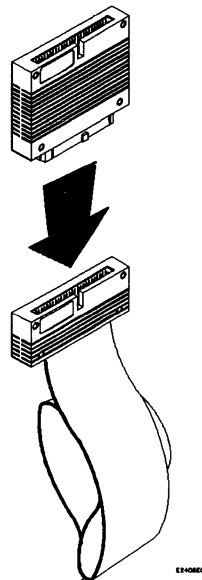
**Figure 1. Connecting to the Logic Analyzer**

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## Connecting to the Preprocessor Interface

To connect the 100 kOhm Termination Module to your preprocessor interface:

1. Select the appropriate cable on your preprocessor interface.
2. Align the key on the male end of the termination module with the slot on the connector of the appropriate preprocessor interface cable and push them together (see figure 2).



**Figure 2. Connecting to the Preprocessor Interface**



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## Operating Characteristics

The following operating characteristics are not specifications, but are typical operating characteristics for the 100 kOhm Termination Module. These characteristics are included as additional information for the user.

**Approximate Input Impedance:**

12 pF in parallel with 100 k $\Omega$ .

**Equivalent Load:**

Figure 3 shows the equivalent load of the 100 kOhm Termination Module when the logic analyzer probe is connected.

**Logic Analyzer Required:**

HP 1650A, HP 1650B, HP 1651A, HP 1651B, HP 1652B, HP 1653B, HP 1654B, HP 16510A, HP 16510B, HP 16511B, or HP 16540A/16541A.

**Maximum Current Available Through the Module:**

600 mA at 5 Vdc per module; 2 amp at 5 Vdc per analyzer.

**Environmental Temperature:**

Operating: 0° to +55° C  
(+32° to +131° F)

Nonoperating: -40° to +75° C  
(-40° to +167° F)

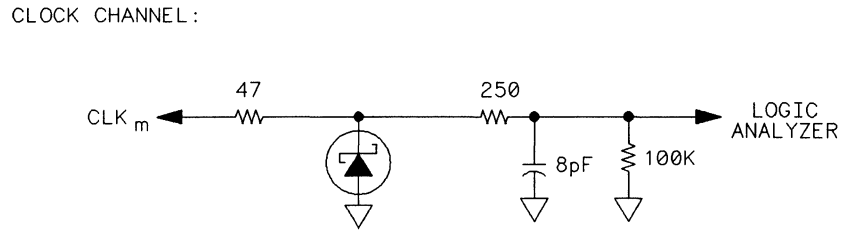
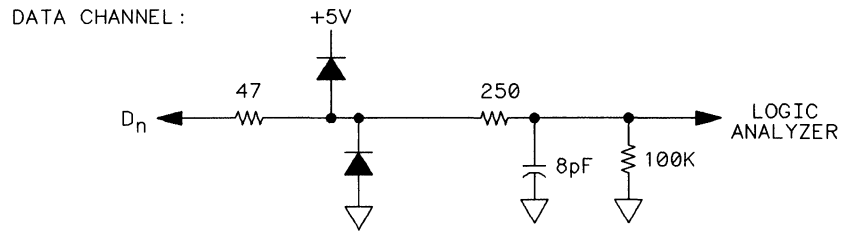
**Altitude:**

Operating: 4,600 m (15,000 ft)

Nonoperating: 15,300 m (50,000 ft)

**Humidity:**

Up to 90% noncondensing. Avoid sudden, extreme temperature changes which could cause condensation within the instrument.



E2406M02

**Figure 3. Equivalent Load**

## Schematic

The 100 kOhm Termination Module is made up of 18 R/C networks as shown in figure 4.

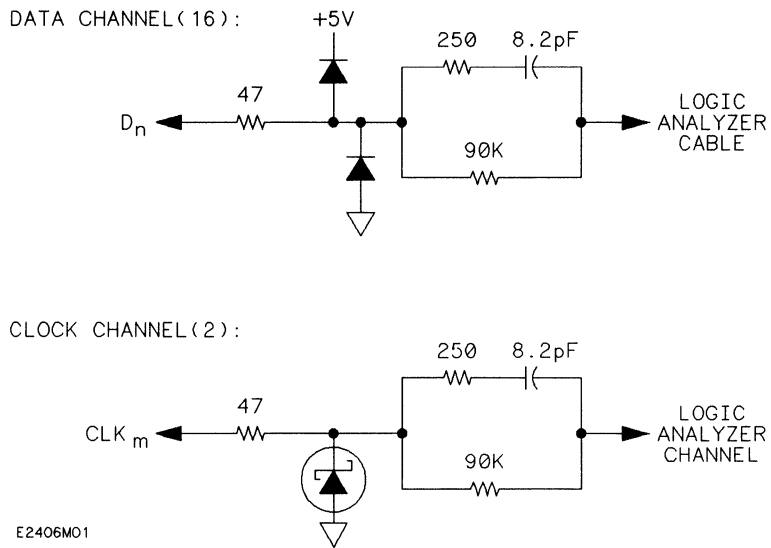
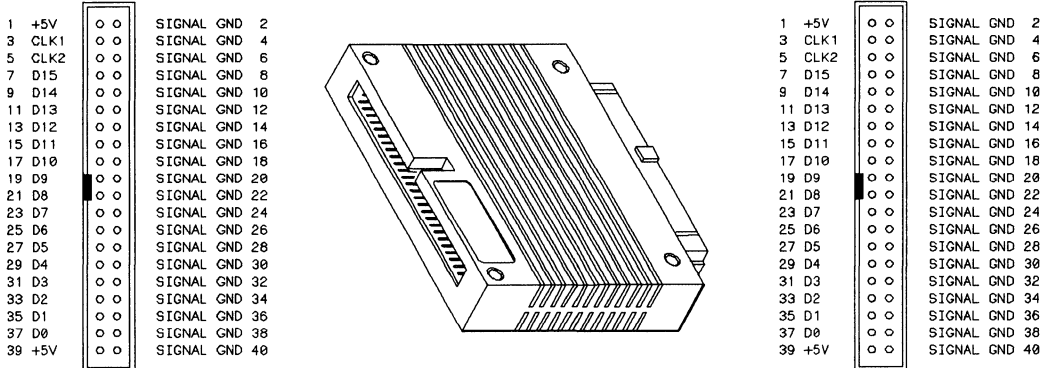


Figure 4. Schematic

## Connector Pinouts

Figure 5 shows the pinouts for the 100 kOhm Termination Module. Figure 6 shows the corresponding pinouts for the logic analyzer cable.



E2406E05

Figure 5. Pinouts for the Termination Module

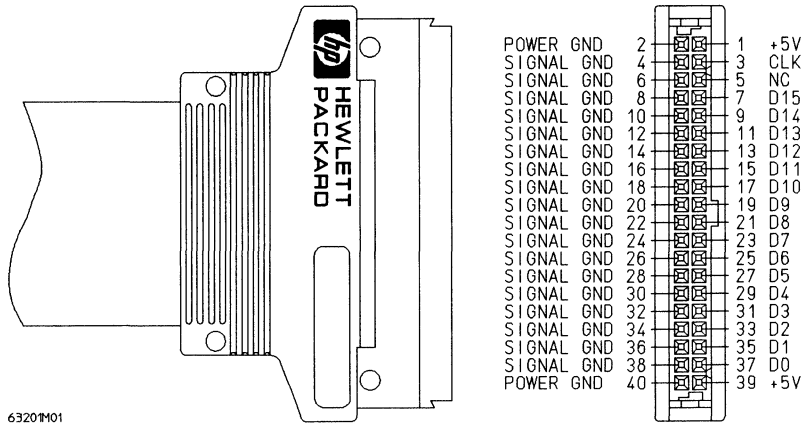


Figure 6. Pinouts for the Logic Analyzer Cable

Note 

On the HP 16540A logic analyzer cable, pin 5 is the K clock.

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## **Troubleshooting and Servicing**

If a failure is suspected in the 100 kOhm Termination Module, contact your nearest Hewlett-Packard Sales/Service Office for information on servicing the module.

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## **Product Warranty**

This Hewlett-Packard product has a warranty against defects in material and workmanship for a period of 1 year from date of shipment. During warranty period, Hewlett-Packard Company will, at its option, either repair or replace products that prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by Hewlett-Packard. However, warranty service for products installed by Hewlett-Packard and certain other products designated by Hewlett-Packard will be performed at Buyer's facility at no charge within the Hewlett-Packard service travel area. Outside Hewlett-Packard service travel areas, warranty service will be performed at Buyer's facility only upon Hewlett-Packard's prior agreement and Buyer shall pay Hewlett-Packard's round trip travel expenses.

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Hewlett-Packard warrants that its software and firmware designated by Hewlett-Packard for use with an instrument will execute its programming instructions when properly installed on that instrument.

Hewlett-Packard does not warrant that the operation of the instrument, software, or firmware will be uninterrupted or error-free.

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**Certification** Hewlett-Packard Company certifies that this product met its published specifications at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Bureau of Standards, to the extent allowed by the Bureau's calibration facility, and to the calibration facilities of other International Standards Organization members.

**Safety** This product has been designed and tested according to International Safety Requirements. To ensure safe operation and to keep the product safe, the information, cautions, and warnings in this user's guide must be heeded.