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

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.

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The 100 kOhm Termination Module

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.
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
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
### 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 kΩ. |
| Equivalent Load: | Figure 3 shows the equivalent load of the 100 kOhm Termination Module when the logic analyzer probe is connected. |
| 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. |
Figure 3. Equivalent Load
The 100 kOhm Termination Module is made up of 18 R/C networks as shown in figure 4.

**Figure 4. Schematic**
Figure 5 shows the pinouts for the 100 kOhm Termination Module. Figure 6 shows the corresponding pinouts for the logic analyzer cable.

### Connector Pinouts

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+5V</td>
</tr>
<tr>
<td>3</td>
<td>CLK1</td>
</tr>
<tr>
<td>5</td>
<td>CLK2</td>
</tr>
<tr>
<td>7</td>
<td>D15</td>
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<td>9</td>
<td>D14</td>
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<td>D13</td>
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<td>D1</td>
</tr>
<tr>
<td>37</td>
<td>D0</td>
</tr>
<tr>
<td>39</td>
<td>+5V</td>
</tr>
<tr>
<td>40</td>
<td>-</td>
</tr>
</tbody>
</table>

Figure 5. Pinouts for the Termination Module

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

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Figure 6. Pinouts for the Logic Analyzer Cable

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Note

HP 100 kOhm Termination Module
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.
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 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.