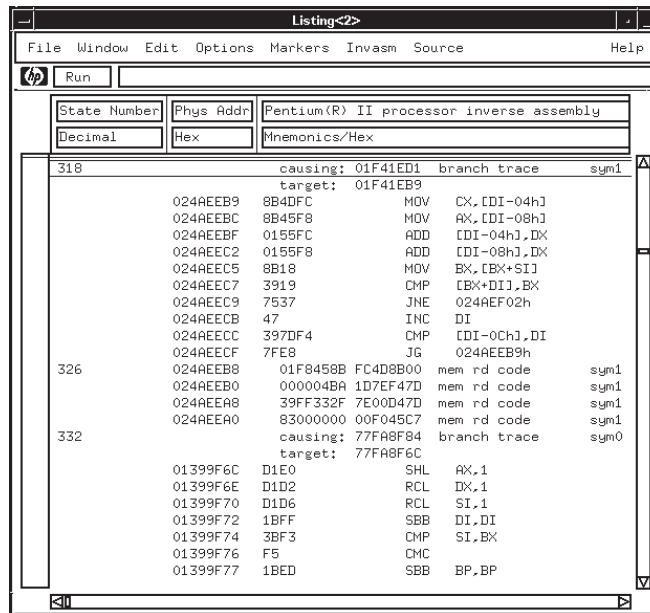


# HP E2466C

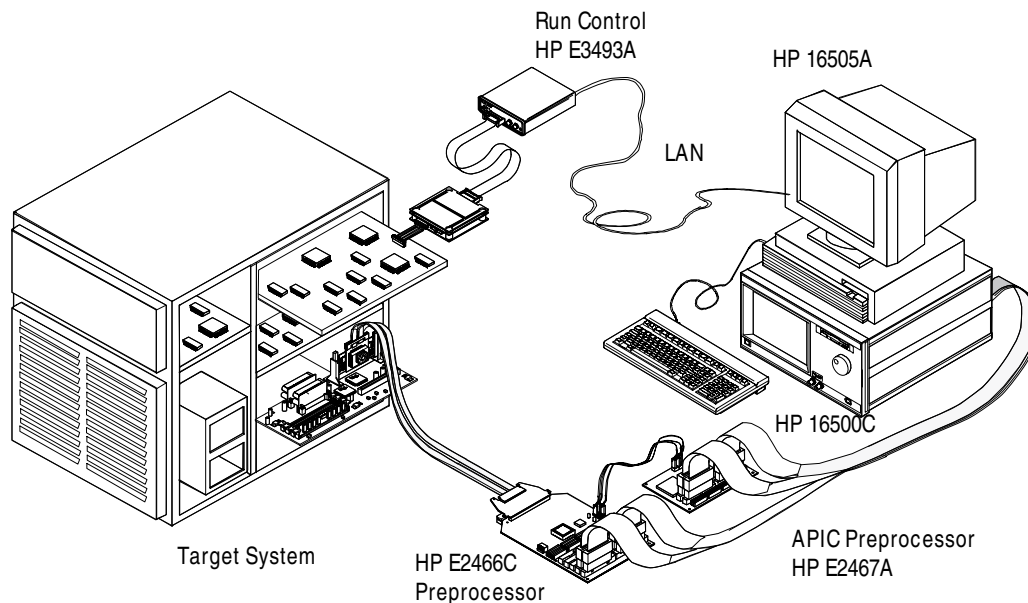
## Preprocessor Interface for the Intel Pentium® II Processor

**For use with the HP 16500 logic analysis system**

The HP E2466C preprocessor interface provides a fast, reliable connection to a Pentium® II processor-based system and allows system design engineers to easily trace system operation. The preprocessor and its inverse assembler software for the HP 16500 logic analysis system simplify the analysis of multiprocessor systems that use Pentium II processors. Program execution is decoded into familiar Intel Architecture mnemonics with MMX™ technology extensions. Bus timing diagrams displayed as waveforms are labeled by signal name for quickly identifying bus conditions. In addition, time to insight into critical Pentium II system problems is reduced since the HP E2466C uses the power of the HP 16505A prototype analyzer in conjunction with the HP 16500C logic analysis system.



**Figure 1.**  
Inverse assembly listing



**Figure 2.**  
The HP E2466C provides easy connection from the HP 16500 logic analysis system to the target system.

## Capturing Instruction Flow

The HP E2466C inverse assembler displays only those Pentium® II processor instructions that are executed by the processor(s). The inverse assembler software provided uses the Pentium II processor's Branch Trace Messages (BTM), to determine which instructions are fetched and executed. Instructions fetched but not executed are not displayed. Displaying only those instructions executed saves you time, by making it easy for you to follow program flow.

## Identifying Processor

The HP E2466C inverse assembler highlights the instructions executed by each processor in color. Determining which processor executed a particular code segment in a multiprocessor system is simple. As you follow the instruction listing on the display of the HP 16505A prototype analyzer, the color of the trace changes when another processor takes an execution branch. Additional information provided in the listing display includes priority agent (I/O) activity displayed in color.

## Selecting Transactions

Focus your analysis of the activities on the Pentium II processor bus by choosing to display those operations, in color, that give you the best view of the problem. The inverse assembler allows you to use color to emphasize transaction type or agent activity. Included with the HP E2466C is a complete set of filters that allow you to selectively list transactions by agent and transaction type. For example, you can list only branch trace messages originating from agent 0.

## Viewing Bus Timing

Visibility into bus timing of the Pentium II processor is made easy with the HP E2466C preprocessor. Configuration software provided with the HP E2466C presets the HP 16500C logic analyzer's timing display into Pentium II processor bus-specific-signal groupings. Bus timing measurements are made simply and directly using markers active in the logic analyzer timing display.

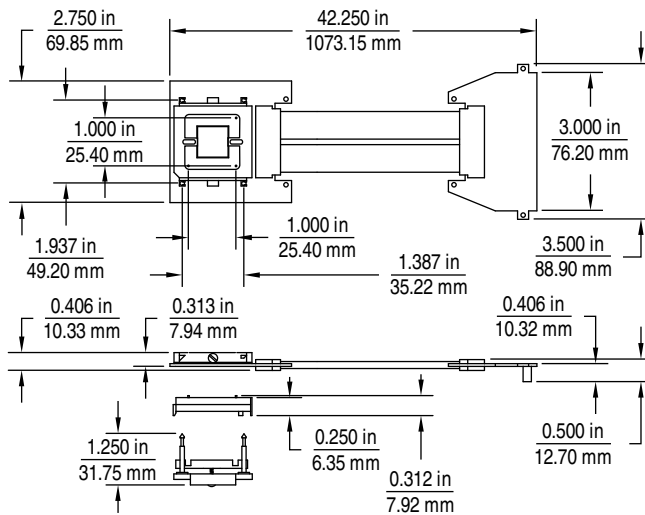


Figure 3.  
HP E2466C  
cable  
mechanical  
dimensions

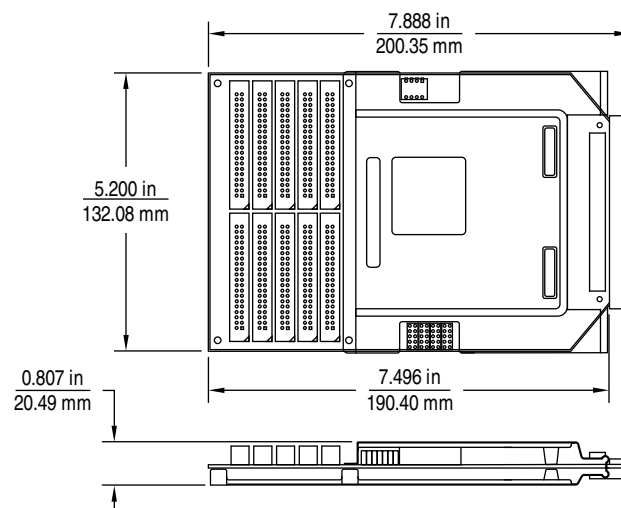


Figure 4.  
HP E2466C  
board  
mechanical  
dimensions

## Features

### Display Filter Options

Selectively display the most important transactions by using state listing filters.

### Agents

Symmetric 0:	Show/Suppress
Symmetric 1:	Show/Suppress
Symmetric 2:	Show/Suppress
Symmetric 3:	Show/Suppress
Priority:	Show/Suppress

### Transaction Types

Deferred Replies:	Show/Suppress
Interrupt Acknowledge:	Show/Suppress
Special Transactions:	Show/Suppress
Branch Trace Messages:	Show/Suppress
I/O Reads:	Show/Suppress
I/O Writes:	Show/Suppress
Memory Read & Invalidate:	Show/Suppress
Memory Reads - Data:	Show/Suppress
Memory Reads - Code:	Show/Suppress
Memory Writes:	Show/Suppress
Memory Writebacks:	Show/Suppress

Note: Agents and transaction type filter terms are combined in display by “ANDing.”

### Clock Qualification

**Expanded Mode:** Enables logic analyzer clocking while transactions are outstanding on the Pentium II processor bus.

**Compacted Mode:** Maximizes logic analyzer memory utilization by only enabling clocking during transaction phases and transfer of reset configuration information on the Pentium II processor bus.

## Configuration and Connectivity

The configuration and inverse assembly software provided with the HP E2466C supports the following HP 16500 logic analysis system configurations:

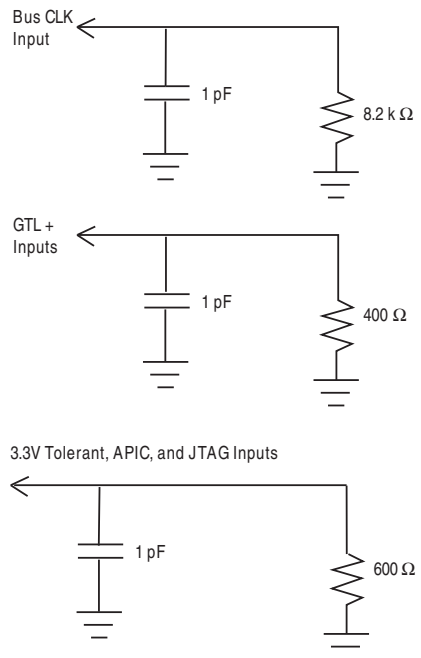
Mainframe	HP 16500B/C
Prototype analyzer	HP 16505A
Logic analyzer cards	HP 16550A (qty. 2) HP 16554A (qty. 2) HP 16555A/D (qty. 3) HP 16556A/D (qty. 3)
Processor run control	HP E3493A
Pentium II processor preprocessor	HP E2466C

To see a system connection setup, see Figure 2.

## Specifications

<b>Processor</b>	Pentium II processor
<b>Package</b>	Single Edge Connector (S.E.C.) Cartridge
<b>Logic Analysis Probes Required</b>	10 (compatible with HP 16550A, 16554A, 16555A/D, and 16556A/D logic analyzer modules for the HP 16500C Logic Analysis system)

### Signal Line Loading



<b>Clock Frequency</b>	66 MHz maximum for external BCLK
<b>Target Signal Amplitude</b>	800 mV p-p minimum for all GTL+ signals
<b>Timing Analysis</b>	3 ns channel-to-channel skew (typical)
<b>Power Requirements</b>	Supplied by the logic analyzer

### Environmental Temperature

<b>Operating</b>	0 to 55 °C (+32 to +131 °F)
<b>Nonoperating</b>	- 40 to 75 °C (- 40 to +167 °F)
<b>Altitude</b>	
<b>Operating</b>	4,600 m (15,000 ft)
<b>Nonoperating</b>	15,300 m (50,000 ft)
<b>Humidity</b>	Up to 90% noncondensing. Avoid sudden, temperature changes that could cause condensation within the instrument.

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## Ordering Information

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**HP E2466C**

Preprocessor interface for the Intel Pentium II processor (requires HP 16500B/C mainframe and the HP 16505A prototype analyzer)

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**HP 16500C**

Logic analysis system mainframe

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**HP 16505A**

Prototype analysis system

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**HP E2479A**

Upgrades an HP 16500A or HP 16500B mainframe to an HP 16500C mainframe

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**State and Timing Logic Analyzer Modules (require an HP 16500B/C mainframe)**

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**HP 16550A**

100-MHz state/500-MHz timing logic analyzer module

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**HP 16554A**

500K-Sample, 70-MHz state/250-MHz timing logic analyzer module

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**HP 16555A/D**

1M/2M-Sample, 110-MHz state/500-MHz timing logic analyzer module

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**HP 16556A/D**

1M/2M-Sample, 100 MHz state/400 MHz timing logic analyzer module

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**HP E3493A**

Intel Pentium Pro and Pentium II processor run control

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**HP E2467A**

APIC bus preprocessor

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**HP B4600A**

System Performance Analysis tool set (for use with the HP 16505A prototype analyzer)

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## Warranty Information

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

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## Related HP Literature

*HP 16500C Logic Analysis System and HP 16505A Prototype Analyzer, 5965-3187E*

*HP E2467A Intel APIC Bus Preprocessor Interface, 5965-3000E*

*HP E3493A Pentium® Pro Processor Probe, 5965-6036E*

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<http://www.hp.com/go/tmdir>

<http://www.hp.com/go/logicanalyzer>

<http://www.hp.com/go/emulator>

You can also contact one of the following centers and ask for a test and measurement sales representative.

**United States:**

Hewlett-Packard Company  
Test and Measurement Call Center  
P.O. Box 4026  
Englewood, CO 80155-4026  
1 800 452 4844

**Canada:**

Hewlett-Packard Canada Ltd.  
5150 Spectrum Way  
Mississauga, Ontario  
L4W 5G1  
(905) 206 4725

**Europe:**

Hewlett-Packard  
European Marketing Centre  
P.O. Box 999  
1180 AZ Amstelveen  
The Netherlands  
(31 20) 547 9900

**Japan:**

Hewlett-Packard Japan Ltd.  
Measurement Assistance Center  
9-1, Takakura-Cho, Hachioji-Shi,  
Tokyo 192, Japan  
Tel: (81) 426 56 7832  
Fax: (81) 426 56-7840

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