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The HP E2474A 200 MHz State Analysis Module

Technical Specifications



Figure 1 E2474A State Analysis Module

The HP E2474A State Analysis Module is designed to assist high-end computer designers in debugging high speed host and cache buses. It offers up to 200 MHz of state acquisition speed while requiring only a 1 ns setup/hold time window.

Specifications

Setup/Hold (Note 1)

Setup/Hold Window	1 ns (with manual deskew) 2 ns (without manual deskew)
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Placement Range	+4.0/-2.0 to -2.0/+4.0 ns
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State Clock Requirements(Note2)

Single Edge Rate	60 MHz to 200 MHz
Both Edge Rate	60 MHz to 100 MHz

Characteristics

Input DC Resistance	700 Ω
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Input Capacitance	< 2 pF
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Minimum Input Overdrive	250 mV or 30% of input (whichever is greater)
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Maximum Input Voltage	7 V, CAT 1
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Threshold Range	+/- 4.3 V
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Threshold Accuracy	Depends on user's source impedance
Threshold Resolution	10 mV increments
Threshold Data Granularity	Adjust per 17 bit pod
Clock Threshold	No threshold adjustment (clock is AC-coupled)
Trigger (Note 3) Sequencer Speed	100 MHz
Modes Supported	State
Minimum Input Voltage Swing	500 mV peak to peak
Channel Count	170 per HP E2474A (Max 680 with 4 E2474As)
Setup/Hold (Note 1)	
Resolution Bits Granularity	50 ps increments Adjustable in 8/9 bits
State Clock Input	1 located on Master Pod1/Pod2 connector
State Clock Duty Cycle Range	45 - 55%

Note1: Minimum setup/hold time measured with 800 mV p-p swing, 500 ps rise time, with threshold centered in waveform, and clock = 50% duty cycle

Note 2: Source may be differential or single ended. Must be free running, periodic. No bursting. Maximum state speed measured with the same conditions as Note 1 above)

Note 3: The E2474A trigger sequencer speed is effectively 200 MHz. The trigger sequencer will capture all single-level sequences, and multi-level sequences provided at least one state separates the multi-level sequences. The sequencer will sometimes miss "A followed immediately by B", regardless of user's clock rate.

HP recommends you use the following "Probe Load Equivalent Circuit" diagram.

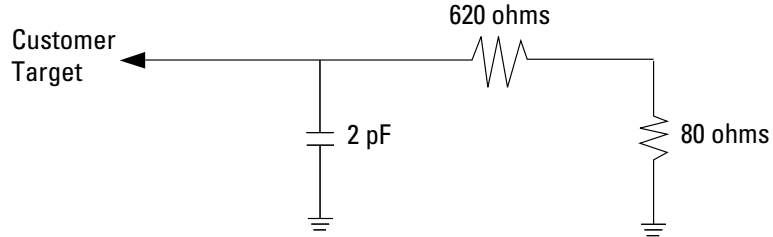


Figure 3. HP E2474A loading effect on target system

HP requires that you use an AMP Mictor-38 connector (AMP #2-767004-2) on your target for connection. The HP part number is E5346-68701. The pin out for connection to the HP E2474A is as follows:

HP E2474A Connector Pinout

Pod 2 Side			Pod 1 Side	
+5 VDC	p1	█	█	p2 NC
GND DC	p3	█	█	p4 NC
LCLK	p5	●	█	p6 HCLK
D15 even	p7	█	█	p8 D15 odd
D14 even	p9	█	█	p10 D14 odd
D13 even	p11	█	█	p12 D13 odd
D12 even	p13	█	█	p14 D12 odd
D11 even	p15	█	█	p16 D11 odd
D10 even	p17	█	█	p18 D10 odd
D9 even	p19	⊗	█	p20 D9 odd
D8 even	p21	█	█	p22 D8 odd
D7 even	p23	█	█	p24 D7 odd
D6 even	p25	█	█	p26 D6 odd
D5 even	p27	█	█	p28 D5 odd
D4 even	p29	█	█	p30 D4 odd
D3 even	p31	█	█	p32 D3 odd
D2 even	p33	█	█	p34 D2 odd
D1 even	p35	█	█	p36 D1 odd
D0 even	p37	█	█	p38 D0 odd
		●		
				AC GND

Figure 4. Pinout connection for HP E2474A cables

Configuration Information

The HP E2474A configuration uses a HP 16505A prototype analyzer, HP 16500 mainframe, and your choice of HP 16555A/D or HP 16556A/D logic analyzer module. The system is connected to the target in the following manner.

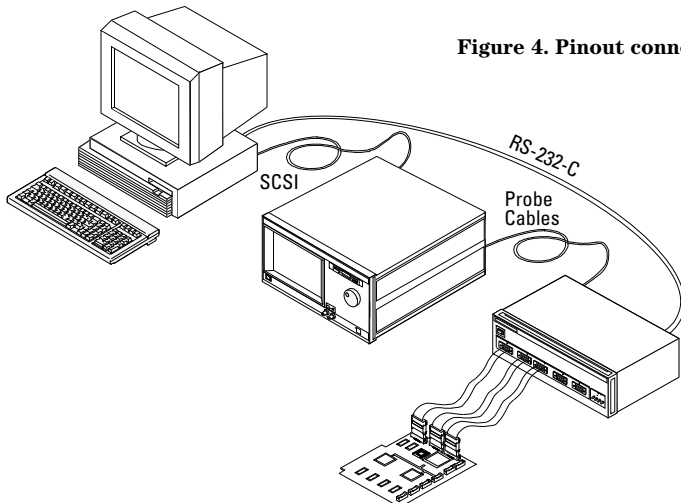


Figure 2. Logic analysis configuration with E2474A

HP E2474A Dimensions

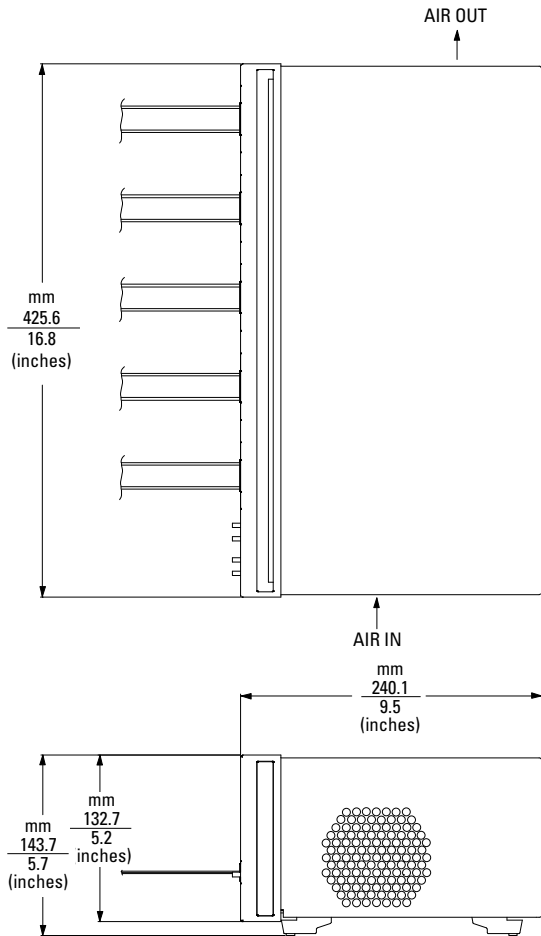


Figure 5. Physical measurements

Supplied Accessories

Description	Part Number
User's Guide	HP E2474-97000
Tip Network Adapter	HP E5365A
RS-232-C Cable	HP C2932A
SMB Cable	HP E2474-61605



Figure 6. Accessories that ship standard with the HP E2474A

Related HP Literature

Title	Description	HP Pub Number
HP E2474A Product Overview	Product Overview	5965-7666E
The HP 16500C Logic Analysis System Mainframe and HP 16501A Expansion Frame	Technical Specifications	5965-3184E
HP 16500C Logic Analysis System - HP 16505A Prototype Analyzer	Product Overview	5965-3187E
HP 16500C Logic Analysis System and Measurement Modules - HP 16505A Prototype Analyzer and Tool Sets	Configuration Guide	5965-3185E
HP 16505A Prototype Analyzer	Color Brochure	5963-1857E
A Family of State and Timing Analyzers for the HP 16500C Logic Analysis System	Product Overview	5962-7245E

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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