

64650A General Purpose Preprocessor

Preprocessors and Interfaces

Preprocessors and interface modules tailor Model 64620S Logic State/Software Analyzer and Model 1630A/D Logic Analyzer for use with specific microprocessor systems. Preprocessors provide quick, convenient connections between target microprocessor systems and logic analyzers. Inverse assemblers translate collected state events into the microprocessor mnemonics for easy reading and analysis. The interface software automatically sets formats for the logic analyzer to match inputs from the processor under test.

Micro-processor	64620S SOFTWARE ANALYZER		1630A/D LOGIC ANALYZER	
	64650A Interface Model No.	Clock Speed	10269A Interface Option No.	Clock Speed
8086/8088	64653A	10 MHz	053	10 MHz
8085	64655A	5 MHz	055	5 MHz
68000	64670A	8 MHz	070	12 MHz
6800/6802	64672A	2 MHz	072	2 MHz
Z8001	64680A	6 MHz	080	8 MHz
Z8002	64681A	6 MHz	081	8 MHz
Z80	64683A	6 MHz	083	8 MHz
General Purpose	64651B	10 MHz	100	25 MHz

Model 64650A General Purpose Preprocessor for a 60-channel 64620S Software Analyzer replaces a set of three 64635A Data Probes and one 64636A Clock Probe. Model 10269A Probe Interface, the preprocessor for the 1630A/D Logic Analyzer, has sockets for up to five probes. Interface circuits are contained on the interface modules, and the module boards are installed in the preprocessor units. Both microprocessor-specific and user-definable, wire-wrapping modules are available.

A dual-in-line probe from the interface module plugs directly into the target system, and the target processor plugs in the top of the same probe.

Preprocessors and interface modules reduce logic analysis set-up time by eliminating the need to manually connect each logic probe line separately. State listings in the microprocessor mnemonics correlate directly to the program listings, omitting the step of interpreting the processor code. Automatic formatting is another time-saving convenience.

General purpose, wire-wrapping interface modules include the hardware, chip sockets and interface board to create unique interfaces for microprocessors and minicomputer buses. For the 64620S Software Analyzer, a matching inverse assembler may be written using the Inverse Assembly Language software, Model 64856A.

Minicomputer Interfaces

Three interfaces access bus signals on minicomputers: Model 10275A PDP-11 Unibus[®] Interface, Model 10276A LSI-11 Q-Bus[®] Interface, and Model 52126A Intel MULTIBUS[™] Interface. Active circuits on the interface assure that bus-loading specifications are not exceeded and generate a clock signal for a logic analyzer. Minicomputer interface boards plug directly into the minicomputer.

Switches on each interface board are used to qualify information routed to the preprocessor by selected activity type. Any combination of monitored activities may be selected for a measurement.

Computer Activity	10275A	10276A	52126A
Reads	X	X	X
Writes	X	X	X
Interrupt vectors	X	X	
DMA transfers	X	X	
Refresh activity		X	
I/O transfers			X

Minicomputer bus activity may be monitored directly from the minicomputer interface boards using individual logic analyzer probe leads. In general, it is more convenient to take advantage of GP interfaces, Model 64650A with the 64651B interface module installed or Model 10269A Option 100. Bus signal routing can be defined on the preprocessor general-purpose interface board.

[®]Registered, Digital Equipment Corporation

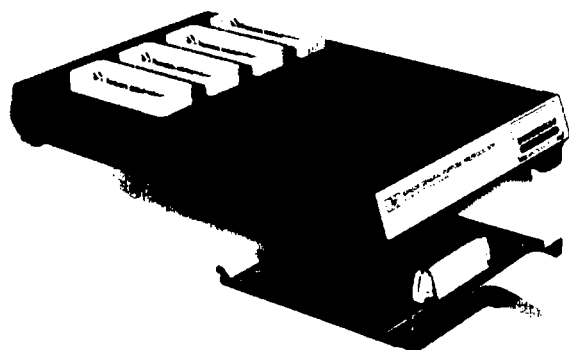
[™]Registered, Intel Corporation



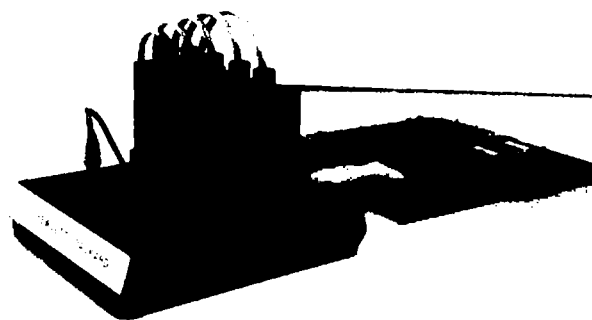
LOGIC ANALYZERS & DEVELOPMENT SYSTEMS

Preprocessors and Interfaces

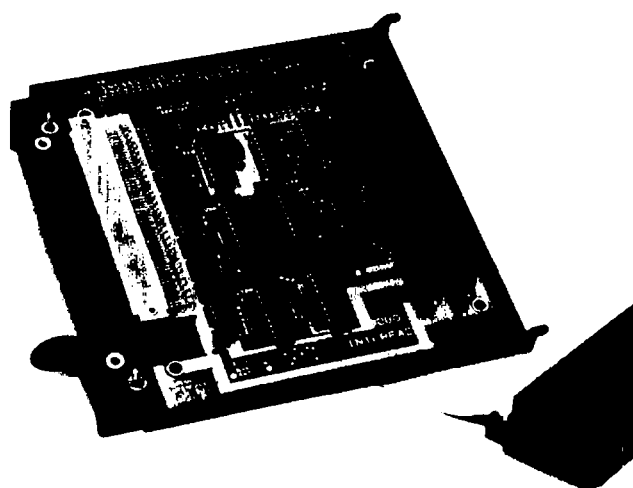
Models 64650A and 10269A (cont.)



64650A



10269A



Interface Board

64650A Specifications

Channel width: 60 channels.

Qualified clock rate: 10 MHz.

Input

RC: 100 kΩ shunted by < 20 pF at interface module connector.

Maximum: ±40 V.

Dynamic range: threshold ±10 Vdc in 0.1 V increments.

Minimum single swing: 600 mV.

Minimum clock pulse width: > 20 ns.

Setup and Hold Times

Clock qualifier setup time: 20 ns min.

Clock qualifier hold time: zero.

Data setup time: 37 ns min; clocked by preprocessor, 23 ns min.

Data hold time: zero; when clocked by the preprocessor, 7 ns min.

Power

Consumption: 0.8 A max at +5 V; 2.5 V max at -5.2 V.

Available for interface module: 1.0 A max at +5 V.

Note: all power supplied by the software analyzer subsystem.

Environmental

Temperature: operating, 0° to 55° C (+32° to +131° F); non-operating, -40° to +75° C (-40° to +167° F).

Altitude: operating, 4600 m (15 000 ft); nonoperating, 15300 m (50 000 ft).

Humidity: operating, to 90% noncondensing.

10269A Specifications

Channel width: 43 data channels and 3 clock channels.

Qualified clock rate: 25 MHz max.

Input

Impedance: 100 kΩ < 20 pF at interface module connector.

Maximum: ±40 Vdc.

Dynamic range: threshold ±10 V in 0.1 V increments.

Minimum clock pulse width: 10 ns.

Setup and Hold Times

Setup time: 20 ns min.

Hold time: zero.

Power

Power available for interface module: 1.0 A max at +5 Vdc, supplied by 1630A/D Logic Analyzer.

Environmental

Temperature: operating, 0° to +55° C (+32° to +131° F); non-operating, -40° to +75° C (-40° to +167° F).

Humidity: to 90% at +40° C, noncondensing.

Altitude: operating, 4600 m (15 000 ft); nonoperating, 15 300 m (50 000 ft).

Ordering Information

	Price
10269A Probe Interface	\$460
Opt 053 8086/8088 Interface Module	add \$1320
Opt 055 8085 Interface Module	add \$960
Opt 070 68000 Interface Module	add \$1060
Opt 072 6800/6802 Interface Module	add \$1100
Opt 080 Z8001 Interface Module	add \$1060
Opt 081 Z8002 Interface Module	add \$1060
Opt 083 Z80 Interface Module	add \$960
Opt 100 Wire-wrapping Interface Module	add \$250
Opt 101 Microprocessor Interface Kit for Opt 100	add \$225
Opt 102 40-pin Cable and Connector for Opt 100	add \$400
Opt 103 48-pin Cable and Connector for Opt 100	add \$460
Opt 104 64-pin Cable and Connector for Opt 100	add \$560
10275A PDP-11 Unibus Interface board	\$460
10276A LSI-11 Q-Bus Interface board	\$510
52126A Intel MULTIBUS Interface board	\$350
64650A General Purpose Preprocessor	\$3140
64651B Wire-wrapping Interface Module	\$250
Opt 001 Microprocessor Interface Kit for 64651B	add \$225
Opt 010 40-pin Cable and Connector for 64651B	add \$400
Opt 011 48-pin Cable and Connector for 64651B	add \$460
Opt 012 64-pin Cable and Connector for 64651B	add \$560
64653A 8086/8088 Interface Module	\$1210
64655A 8085 Interface Module	\$860
64670A 68000 Interface Module	\$960
64672A 6800/6802 Interface Module	\$1100
64680A Z8001 Interface Module	\$960
64681A Z8002 Interface Module	\$960
64683A Z80 Interface Module	\$860
64856F User-defined Inverse Assembler on flexible disc	\$1270