VALID

SCALDsystem™

Valid's SCALDsystem™ Integrates Interactive Design and Interactive Validation
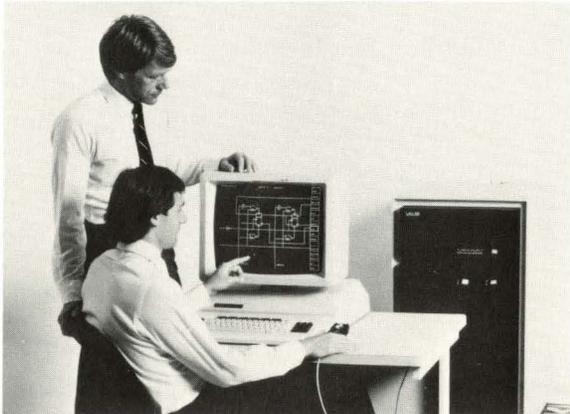
Interactive Engineering with SCALD makes it possible to design systems that are error-free. Designs are debugged before any hardware is built.

SCALD—the experience
Structured Computer-Aided Logic Design (SCALD) fully supports the concepts of Interactive Engineering and Structured Design. The success of SCALD is proven; manpower savings in excess of an order of magnitude have been achieved in actual use.

Interactive Engineering™—the method
Valid presents Interactive Engineering—a dramatic new method of designing logic FASTER and with LESS EFFORT. Engineers spend their time doing the creative work while computer-aided engineering tools handle the details. These tools assist the engineer throughout the design and validation process with:

INTERACTIVE DESIGN FACILITIES
- Schematic entry
- Component library
- Design database
- Hardcopy generation

INTERACTIVE VALIDATION FACILITIES
- Interface checking
- Worst-case timing analysis
- Logic simulation
- Fanout and load checking
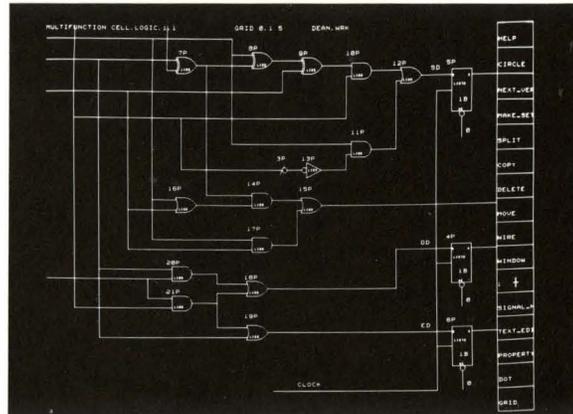
SCALDsystem™—the tools
SCALDsystem™ consists of a set of sophisticated hardware and software tools for the user to do logic design. These tools include:

- SCALD Design Validation Software
- SCALD S-32 Computer System
- SCALD Graphic Design Stations
- UNIX Operating System
- High Level Languages

SCALDsystem™ provides the engineer with a high performance Graphics Design Station for interactive design and validation of schematics. Component libraries and the Design Database are stored in the SCALD S-32 Computer System.

Designs can be transferred through a high speed link from the SCALD S-32 Computer to a host computer where the Interactive Validation programs run. Interaction with the host is provided by means of the same Design Station used for schematic entry.

Valid—the solutions
SCALDsystem™ is highly modular. Begin with the basic graphics system and add hardware and software to meet expanding needs for design and validation tools. This powerful combination of hardware and software will help with:

- Quality designs, the first time
- Faster development, at lower cost
- Better documentation
- Production quality schematics
- Faster response to new technologies
- Efficient project management

SCALDsystem™—supports a wide range of technologies

- Systems
- Boards
- Gate arrays
- Standard cell VLSI
- Custom VLSI

SOFTWARE:

The SCALDsystem™ software has been designed with the user in mind. This means understandable and convenient menus; simple yet effective commands; and an on line HELP program.

The Graphics Editor is the user interface to the system. The engineer draws schematics on a high-resolution CRT, using a keyboard and graphics tablet. Shapes of objects to be displayed on the schematic are obtained from a library or may easily be defined by the user. Wires, signal names, notes, and other items are quickly added to the schematic.

The Compiler expands the design to form a file called the Design Database. The Design Database explicitly shows the interconnection of components from the SCALD Device Libraries.

The Timing Verifier analyzes partial or complete designs for timing errors—and is the engineer's constant companion throughout the design cycle. The Timing Verifier takes into account the permissible range of delays for each element in the design and detects races, setup and hold errors, pulse width errors and clock glitches. These errors are most difficult to detect by conventional logic simulation and hardware debugging; they are frequently the cause of unexplained and often unrepeatable field failures of digital systems.

The Logic Simulator simulates the design at the component level. It uses the same Design Database for simulation as is used for implementation, making separate descriptions unnecessary.

The SCALD Logic Simulator is interactive, eliminating the need to devise a complete scenario for the simulation prior to its running. The engineer has full control over the simulation process and may direct his attention to just those signals of current interest.

The Post Processor is the interface between the SCALDsystem™ and the physical design system. The Post Processor has two parts: the Net List Generator that produces files for use by other systems, and the Net Verifier that may be used to perform technology-dependent checks on each net in a design.

The SCALDsystem™ Device Libraries include support for CMOS, MOS, TTL, STTL, LSTTL, 10K ECL, 100K ECL.
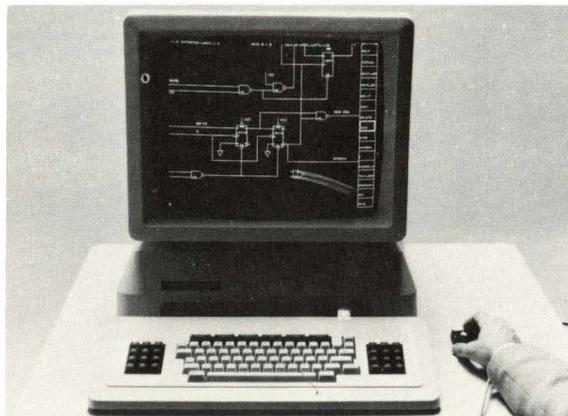
HARDWARE:

The SCALDsystem™ can support from one to four SCALD Graphics Design Stations either in a standalone or in a host configured arrangement.

The Design Station provides access to the SCALDsystem™. The Design Station has a high quality, high-resolution CRT display; graphics tablet with four-button cursor control; and a keyboard with programmable function keys. It is also equipped with its own 16-bit processor to insure instant response. The Graphics Design Station may be located up to 500 feet away from its associated SCALD S-32 Computer System. The human aspect of the design station has not been overlooked. The adjustable CRT viewing angle, moveable keyboard, and built-in graphics tablet are just a few of the human features.

The SCALD S-32 Computer System contains a 68000 microprocessor which runs the UNIX™ based Graphics Editor for up to four Design Stations. Up to 4 Mbytes of high speed memory is supported. It also controls a set of peripherals including a 33 Mbyte Winchester disk and ½-inch streaming tape drive

OPTIONS INCLUDE:
- Additional main memory (up to 4 Mbytes)
- Electrostatic plotter
- High speed printer
- Additional Graphics Design Stations
- Ethernet Network

SCALDsystem™ IS AVAILABLE:
- As a standalone unit
- In a host configuration
- Networked together

SCALDsystem™ specification:

SCALDsystem™ is available in either standalone or host based configurations.

Basic System Configuration:

SCALDsystem™ CONTAINS:
- SCALD Graphics Design Station
- SCALD S-32 Computer System
- 1 Megabyte RAM w/error detection/correction
- 33 Megabyte Winchester disk unit
- ½ in., 1600 bpi, streaming tape drive
- SCALD Graphics Editor
- UNIX™ operating system
- SCALDsystem™ documentation

Up to four design stations can be supported by each SCALD S-32 Computer. Additional main memory is required as design stations are added.

Options:

HARDWARE:
- Additional main memory—up to 4 Megabytes in 512K byte increments
- VAX-11™ interface
- VT100 Emulation interface
- IBM 370 interface
- IBM 3277 Emulation interface
- Electrostatic plotter (11 inch by 200 dots per inch)
- High-speed line printer (300 LPM)
- Ethernet interface
- Additional disk storage

SOFTWARE:
- SCALD Compiler
- SCALD Timing Verifier
- SCALD Simulator
- SCALD Post Processor
- SCALD Device Libraries include Low Power Schottky TTL, Schottky TTL and TTL; ECL 10K and 100K; memory devices, and CMOS
- Training courses
- Networking

Power: 115v 60Hz, 115v 50 Hz, or 220v 50Hz

Call your local Valid sales office or our headquarters to arrange a demonstration of these powerful tools.

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(617) 863-5333

Northern California sales office
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