

In-Circuit Emulator for Zilog Z8 Family

MAIN FEATURES

- ↪ Chameleon source level debugger for Z8 C compilers
- ↪ Memory display/edit while executing in real-time
- ↪ Trace display during execution
- ↪ Real-time transparent emulation up to 33-MHz
- ↪ 32K frames (80-bits wide) of execution Trace Buffer, with time stamp and 8-bit logic state analyzer
- ↪ Performance Analysis with bar graphs
- ↪ Execution Profiling to identify software bottlenecks
- ↪ In-line symbolic assembler and disassembler
- ↪ Up to 256K of dual-ported overlay memory
- ↪ Memory overlay resolution every 256-byte block
- ↪ Up to 256K of real-time hardware breakpoints
- ↪ Three Complex Events to trigger breakpoints or Trace logic
- ↪ Two 16-bit Pass Counters
- ↪ 8 level Hardware Event Sequencer
- ↪ 8 channel logic State Analyzer
- ↪ External trigger input
- ↪ Six trigger outputs
- ↪ Wide range of pods to emulate various Z8 family members
- ↪ Macros for automated testing
- ↪ Serial and parallel interface to host PC
- ↪ Made and supported in U.S.A.

CHAMELEON DEBUGGER

- Chameleon Debugger runs under Windows 95, 98, NT, ME and 2000 and provides the latest in debugging environment, including:
- ↪ Multiple pop-up windows for Source, Registers, Memory, Stack, Call Stack, Complex Events, Variables Watch, Locals, Commands, etc.
 - ↪ Multi-Core support for simultaneous debugging with other processors
 - ↪ C-level debugger window for major Z8 C compilers
 - ↪ Fly-over pop-ups display variable values in Source window
 - ↪ Drag-and-drop for variables between windows
 - ↪ Extensive Macro support for automated testing and setups

DUAL-PORTED MEMORY

Using dual-ported memory allows instant viewing and modification of emulation memory without stopping or slowing down the running target.

BREAKPOINTS

Breakpoints are used to stop user program execution while preserving the current program status. Breakpoints can be triggered from a combination of:

- Address or Range of Addresses • Complex Events
- External Input • Pass Counters • Sequencer
- Trace Buffer Full Condition



COMPLEX EVENTS

Complex Event is a set of conditions that may be used to qualify breakpoint, event sequencer, or trace filtering in real time. There are 3 complex event triggers that may be programmed using the following parameters:

- ↪ Up to 256K address breakpoints, including within and outside address ranges
- ↪ 8-bit data patterns with less than, greater than, equal, not equal, and don't care combinations
- ↪ RD, WR, Interrupt, instruction fetch and operand read qualifiers
- ↪ External input with programmable trigger polarity

All events may be counted or delayed by two 16-bit pass counters. Events may be also passed into the 8-level sequencer to trigger after a set of predefined sequences of events in real-time.

TRACE BUFFER

Trace Buffer is a high speed RAM used to capture in real-time all activity on the microprocessor bus and I/O pins. A dedicated start/stop logic is used for filtering unwanted information from the trace buffer. Trace Buffer will remember up to 32K samples (frames) comprised of the following:

- Address Bus • Data Bus • Control Signals • I/O Pins
- Real-Time Clock Stamp • User Logic Inputs (8 bits)

Trace Buffer can be started/stopped by the combination of:

- GO Command • Complex Events • Pass Counters
- Sequencer • Trace Full Condition

For better filtering, Trace Buffer is equipped with a special internal counter to allow tracing to stop after a specified number of frames is captured. This feature allows Trace to catch up to 32,000 of small fragments (snapshots) of executed program at full running speed. The trace contents may be examined during program execution without slowing down the microcontroller.

SIGNUM
SYSTEMS

For More Information, Please Call:
1-800-838-8012

Web Home Page — <http://www.signum.com>

IN-CIRCUIT EMULATOR FOR ZILOG Z8 FAMILY

| | |
|--------------------------------|---|
| Supported Z8 Microcontrollers: | Z86C04, Z86C08 |
| POD08 | Z86C00, Z86C10, Z86C11, Z86C20, Z86CX21, Z86E22, Z86C61, Z86C91 |
| POD12 | Z86C36, Z86E132/133/134/135/136, Z86E142/143/144/145/146 |
| POD36 | Z86C30/31/33/34/35/36, Z86C40/43/44/45/46, Z86C89/90, Z86C733/734 |
| POD50 | Z86C62, Z86C64, Z86C96 |
| POD64 | Z86C93, Z86C91 |
| POD93 | |
| Emulation speed | From 1 MHz to 16MHz, 24 MHz and 33 MHz |
| Overlay Program Memory Size | 64K Bytes standard, 256K Bytes optional |
| Program Memory Map Resolution | 256 Bytes |
| Overlay Data Memory Size | 64K Bytes |
| Data Memory Map Resolution | 256 Bytes |
| Pass Counters | Two, 16-bit each |
| Trace Buffer | 32 K Frames (80 bits wide) |
| Real-Time Stamp | 32-bits, 100 ns resolution |
| Sequencer | Hardware, 8-levels |
| User Probe | 8-channel logic input 1 trigger input with gate 6 trigger outputs (Events, Pass Counters, Sequencer) |
| Host interface | Serial (COM1-COM4), Parallel (LPT1-LPT4) optional |
| Language support | Zilog MUFOM, IEEE 695-1985, PLC, Bytecraft |
| Dimensions | 260 mm wide, 260 mm deep, 64 mm high |

CHAMELEON DEBUGGER FOR USP-Z8 EMULATORS

Execution Controls

Window Shortcuts

C/ASM level Debugger

Performance Analysis

Trace Buffer

Global Variables

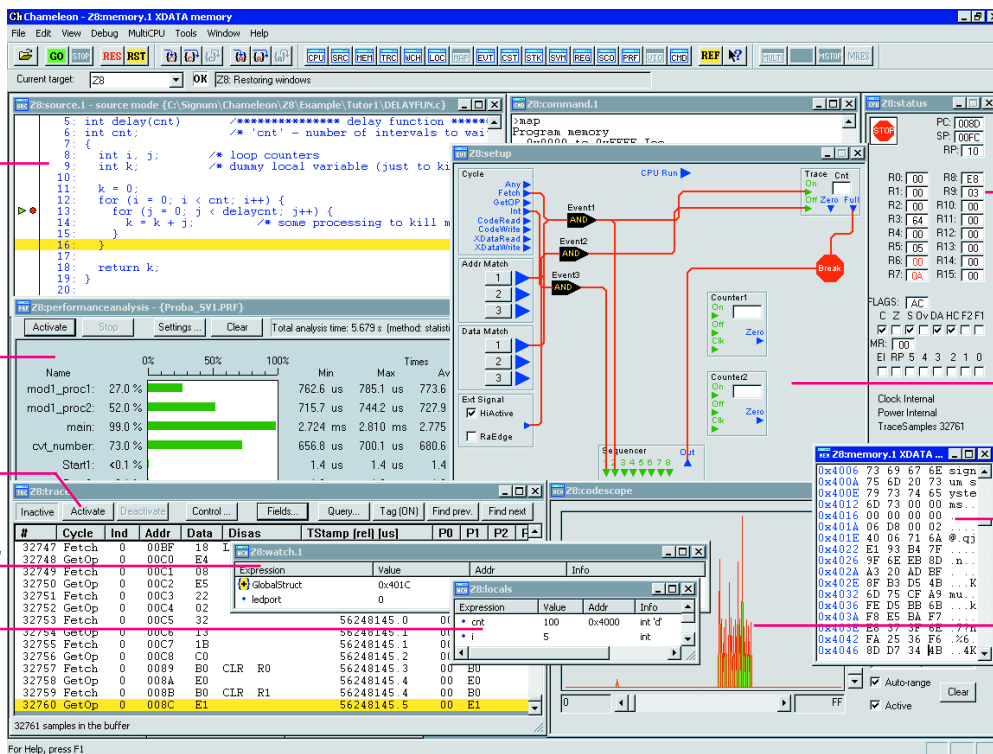
Local Variables

Status Window

Complex Events Setup

Memory Window

Execution Profiling



11992 Challenger Court
 Moorpark, CA 93021
 Phone: (805) 523-9774
 Fax: (805) 523-9776
 Email: sales@signum.com

For More Information
1-800-838-8012
 Web Home Page
<http://www.signum.com>