

TRC-20 EMULATOR

WELCOME TO AMERICAN ARIUM'S STATE-OF-THE-ART FAMILY OF IN-CIRCUIT EMULATORS (ICEs). THE **TRC-20** REPRESENTS ONE OF ARIUM'S LATEST BEST-OF-BREED HARDWARE-ASSISTED DEBUG SOLUTIONS FOR **BIOS**, DEVICE DRIVERS, **OS** KERNELS, AND EMBEDDED APPLICATIONS. IT WAS DEVELOPED SPECIFICALLY FOR USE WITH **INTEL IA-32** PROCESSORS, INCLUDING **INTEL CELERON®**, **PENTIUM® II/III**, **MOBILE PENTIUM® II/III**, **MOBILE PENTIUM® III PROCESSOR-M**, **PENTIUM® 4**, AND **XEON™** PROCESSORS. DESIGNED TO HELP SHORTEN YOUR DEBUG CYCLE, THIS ICE FEATURES OUTSTANDING RUN CONTROL AND SUPERIOR TRACE FUNCTIONALITY FOR EXCEPTIONAL VISIBILITY TO AND CONTROL OF YOUR CODE.

TRACE CAPABILITY:

- 66/100/133 MHz bus acquisition
- 256K x 207 bits
- 31-bit, 10 ns timestamp provides time measure of events in trace
- BTM disassembly with cache enabled
- Combines requests and responses into bus cycles
- Displays in real time
- Links to source code display in Code view

SUPPORTED TOOLCHAINS:

- Wind River® Tornado® II C/C++
- Microsoft® Visual C/C++® V6/V7
- Borland® C
- CAD-UL C
- GNU C/C++
- Metaware® C

BREAKPOINT TYPES:

- 4 debug register
- 64 software
- 6 hardware events
- 4 sequence levels
- 1 counter
- SMM entry/exit
- Reset
- BNC external trigger in/out
- Deferred cycles supported
- 16 external probes (optional)

SOURCE CODE/SYMBOLIC DEBUG:

- Boot-loadable OMF-386
- DWARF2
- Intel Textsym
- Codeview
- a.out/Stabs

DOWNLOAD FORMATS:

- BIN
- OMF-386
- ELF32
- DOS EXE
- Intel Hex
- PE32/PE32+

REGISTER TYPES:

- 386
- System
- Control
- Debug
- MSRs
- Floating point
- MMX™ technology
- SSE

CONNECTION OPTIONS:

- Serial
- USB
- 10Base-T ethernet

OTHER IMPORTANT FEATURES:

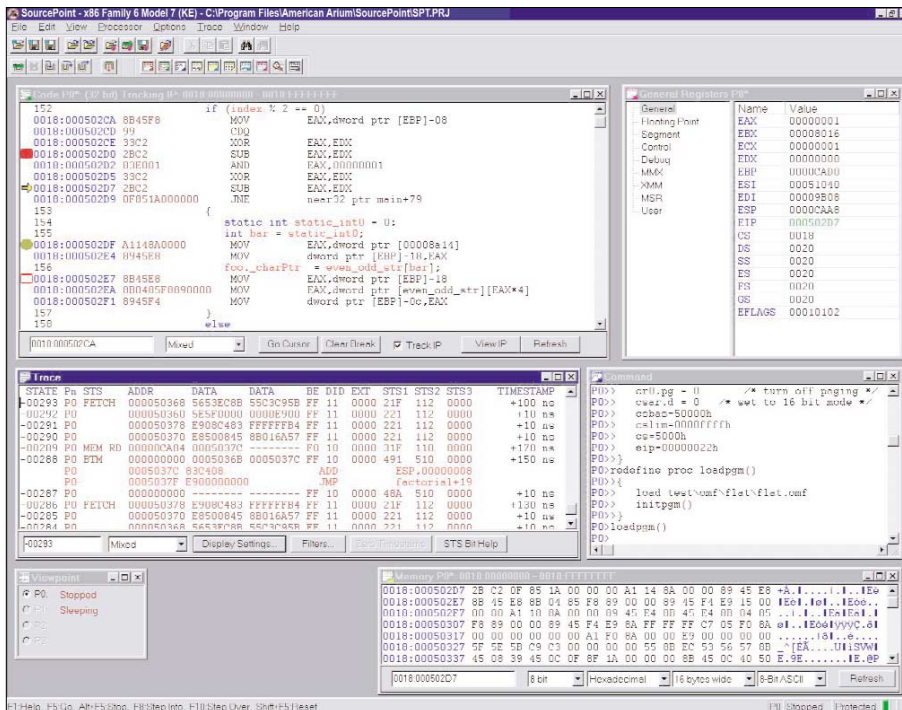
- Multi-processor support
- In-line assembly
- Translation support of all addresses



KEY BENEFITS

- **POWERFUL** - Arium probes and emulators are the only debug tools that allow you to debug hardware and software directly out of system reset.
- **RELIABLE** - The TRC-20 is one of the most reliable ICEs on the market today.
- **FLEXIBLE** - The TRC-20 offers a number of firmware- and software-related and customizable options to provide you with the type of debug environment that best meets your needs.
- **INTEGRATED & INTUITIVE** - The TRC-20, with its companion SourcePoint interface, provides a highly integrated, intuitive tool designed with your needs in mind.
- **UPGRADABLE** - Many of Arium's base units can be used with newly announced Intel processors.
- **FULLY SUPPORTED** - All Arium units produced for the IA-32 and IA-64 market are fully supported by our highly trained staff of design engineers, including legacy products.

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SOURCEPOINT INTERFACE

Included with the TRC-20 is American Arium's SourcePoint debugging software. The debugger interface is part of the company's core technology, developed specifically for high-end Intel Architecture (IA) design and debug. The 32-bit application runs on Microsoft® Windows® 95/98/ME/NT/2000/XP.

SourcePoint is used with all American Arium probes and emulators. Because we designed and developed the software specifically for the equipment, the tight integration of the hardware and software gives you one of the most robust debug interfaces on the market. Easy to install and use, SourcePoint has IA-32- and IA-64-specific features that cannot be found in any other debugger. Multi-processor control, complex breakpoints, source-level visibility, and other key features all add up to make SourcePoint the most powerful software interface in the industry today.

ORDERING INFORMATION

STANDARD

Includes in-circuit emulator base unit, PBD-S2V personality module, appropriate cables, power supply, SourcePoint software, documentation, and one year service agreement.

OPTIONS

TGI/TAP adapters:

TGI-S1H Intel Pentium II/III processor target interface adapter (Slot 1, 66/100/133 MHz FSB)

TGI-SAH Intel Celeron, Pentium III processor target interface adapter (370-pin PGA, 66/100/133 MHz FSB)

TGI-MMH Intel Mobile Pentium II/III processor target interface adapter (190-pin mProbe, 66/100 MHz FSB only)

TGI-TU Intel Pentium III processor target interface adapter (370-pin PGA, 1.13A-1.20+ GHz on 0.13-micron process)

TAP-TU Intel Pentium III (including the 1.13A-1.20+ GHz on 0.13 micron process), Celeron processor test access port adapter (370-pin PGA, run control only)

TGI-MT

Intel Mobile PIII Processor-M processor target interface adapter (uFCPGA)

Personality module:

PBDS-NW

Personality module set for Intel Xeon, Pentium 4, and future processors (no trace capability)

Other:

WDB-AGPH

Software option for Intel Pentium 4 processor when using Agilent Technologies 16700 Logic Analyzer for trace collection in conjunction with TRC-20

PRB-16

STAR-1

16-channel external probe Extended service agreement

PC HOST REQUIREMENTS

- PC host (Intel Pentium processor or higher)
- Microsoft Windows 95/98/ME/NT 4.0 (SP4 or later)/2000/XP
- SVGA monitor (1024 x 768 or higher)
- 20 MB hard disk space, 16 MB RAM
- 10Base-T ethernet or USB 1.1 connection

SPECIFICATIONS

Environmental

32-90° F (0-31° C)
Maximum humidity - 85%

Communications

10Base-T ethernet connection
USB 1.1 connection

BNC Trig In

50 Ohm, 155 ns maximum delay

BNC Trig Out

50 Ohm, 125 ns maximum delay

Probe Loading

5 pf + 1.3 inches of trace
~60 Ohm impedance
~180 psec/inch

Dimensions (in/cm)

(H) 4.5/11.5
(W) 10.3/26.3
(L) 11.5/29.5

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