

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Mercury Computer Systems S2T64B* at our website: *Click HERE*

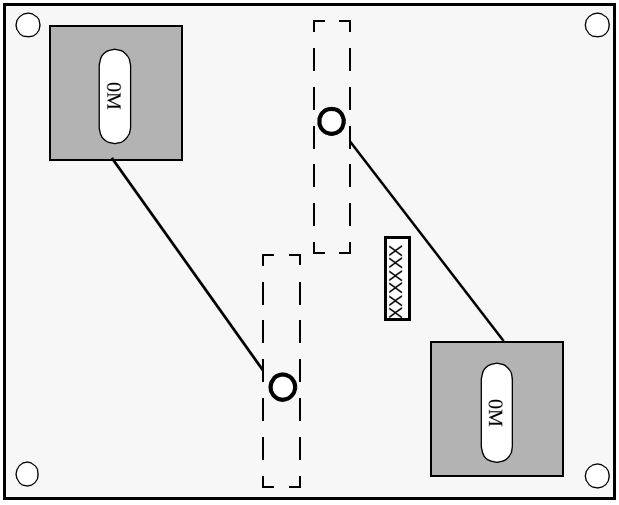
S2T Daughtercard

VME RACE 1.0 Six-processor SHARC Daughtercard

S2T Daughtercard Overview

The S2T daughtercard has two RACEway nodes. Each node consists of an ASIC, DRAM, crossbar port, and three SHARC DSP processors. Each processor has processing, memory, and I/O.

Layout



0M — *Node memory size label*

XXXXXX — *Serial number label (first two digits = model)*

Daughtercard connector (on opposite side of board)

Copyright © 1995-2003 Mercury Computer Systems, Inc. All rights reserved.

Indicators

None.

Switches

None.

S2T Daughtercard Specifications

Physical Dimensions

Dimensions (mm): 112.6 x 127 (4.435" x 5.0")

Weight (gm): approx. 198 (approx. 7.0oz)

Slot-to-Slot spacing (mm): 20.3 (0.8")

Node type: processor

Processor: ADSP-21060 or ADSP-21062

Number of processors: 3

DRAM (Mbytes per processor): 4, 8, 16, 32, or 64

Electrical Specifications

Input voltage (Vdc ±5%): 5V and 3.3V
(SHARC chips 5V, other components 3.3V)

Input current in amps (maximum): 1.2 Amps @ 3.3V, 2.0 Amps @ 5V

Power dissipation:

Commercial models: (W maximum, total @ 5.0V dc and @ 3.3V dc): 13.9
Rugged off the shelf models: (W maximum @ 5.0 Vdc): 10

Environmental Specifications

Commercial Models (PC, PN, PP, PR, PZ, SC, SH):

Operating temperature range (°C): 0 to 40

Storage temperature range (°C): -40 to +85

Cooling requirements: forced air @ 17 cubic ft / min (6,000 ft alt)

Relative humidity (% noncondensing): 10 to 90

Altitude (ft above sea level): 0 to 10,000

Rugged Off the Shelf Models (RW, SU, UC):

Operating temperature range (°C): -25 to 55

Storage temperature range (°C): -55 to 85

Cooling requirements: (see motherboard device notes)

Relative humidity (% noncondensing): 5 to 95

Altitude (ft above sea level): 0 to 30,000 (operating) and 0 to 50,000 (storage)

S2T Daughtercard Installation

Jumpers

None.

Assembly

Caution: Align connectors carefully, to avoid bending pins. **Also note** that daughtercard connectors with bent pins often bend the pins on other daughtercard connectors plugged into them later, causing the problem to **propagate**.

Daughtercard Removal

When removing daughtercards from motherboards, work slowly and make sure to keep the daughtercard parallel to the motherboard.

Caution: Avoid pivoting or rocking as much as possible, since this can damage the connectors.

S2T Daughtercard Configuration

The following sections provide configuration file directives used for this specific device. For general information about creating configuration files and the meaning of the configuration directives, see the *Mercury System Manager's Guide.* For configuration information for MC/OS 4.3.0 or earlier, use the online manual pages available through the manmc utility.

Board Directive

board S2T08B *user-assigned-name* [*optional_attributes*]
board S2T16B *user-assigned-name* [*optional_attributes*]
board S2T32B *user-assigned-name* [*optional_attributes*]
board S2T64B *user-assigned-name* [*optional_attributes*]

where:

user-assigned-name

A name assigned by the user.

optional_attributes

mem_size=*numM*

Specifies the on-board memory size for the board. The default is 8M.

Connect Directive

connect *user-assigned-name1.connector1 user-assigned-name2.connector2*

where:

user-assigned-name1
user-assigned-name2

Two names assigned by the user in a board directive: one for the S2T and the other for the hardware device being connected to.

connector1
connector2

Two connectors, one being a connector on the S2T and the other a connector on the hardware device being connected to. The S2T connector can be:

DC_A—Node connector 1

DC_B—Node connector 2

CE Directive

CE *user-assigned-name.cpu* ce_type=CE_ZRACE ceid=*id*

where:

user-assigned-name

The name assigned to the S2T by the user in the board directive.

cpu

Six CE directives, one for each of the following processors, are required:

CPU_1_A

CPU_2_A

CPU_3_A

CPU_1_B

CPU_2_B

CPU_3_B

`ceid=`*`id`*

The processor's ceid.

S2T Daughtercard Diagnostics

Diagnostics tool DMC supports the following test phases and tests on this hardware device. For test descriptions, see the *Mercury System Manager's Guide*.

Also, see the *Hardware Device Note* for each other daughtercard, motherboard and interlink in the system.

Local CE Phase

`Memory tests`

`ECC test`

`Timer test`

`Interrupt test`

ZCE Phase

`ZBus Broadcast test`

S2T Daughtercard Reference

Address Space

`Local DRAM`

8, 16, 32, or 64 megabytes. The node ASIC's high-priority and low-priority DMA and the three SHARC processors can access the entire DRAM.

`MEM_RACEWAY (SLAVE)`

A RACEway master can access 16 megabytes of DRAM; the entire SHARC bus 16Mbyte address space (including all three SHARC processors' SRAM and IOP registers); and the node ASIC control registers (including the low-priority DMA control registers).

`MEM_RACEWAY (MASTER)`

Up to twenty-four 256Mbyte pages of external memory on the RACEway. Each page has an associated mapping register. Each external memory page can map only one external slave. These pages are a common resource of all three processors. The low-priority and high-priority DMA controllers can each map up to 256 megabytes of external memory per transfer.

Files

`${MC_ROOT_DIR}/etc/desc/S2T08B.desc`

Hardware description file for the device with 8MB DRAM per node (default).

`${MC_ROOT_DIR}/etc/desc/S2T16B.desc`

Hardware description file for the device with 16MB DRAM per node (default).

`${MC_ROOT_DIR}/etc/desc/S2T32B.desc`

Hardware description file for the device with 32MB DRAM per node (default).

`${MC_ROOT_DIR}/etc/desc/S2T64B.desc`

Hardware description file for the device with 64MB DRAM per node (default).

See Also

None.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP