Cancelled Per Trans 021-01
May 1998

I/A Series®
50 Series Application Processor
Model AP51

Application Processor 51 performs one or more of the following functions in an I/A Series System:

- Execution of application functions, such as those relating to:
  - Displays
  - Production control
  - User applications
  - Diagnostics
  - Configuration
- Development and execution of applications functions (Foxboro and other) requiring extensive data processing and file serving capabilities.
- Processing of bulk storage file requests from tasks either within the same application processor or from other stations.

In conjunction with one or more file storage devices (e.g., disk drives), Application Processor 51 can be used to load other stations in the system. It can also be used to execute production control tasks such as data reconciliation, spreadsheet, and performance calculations; provide support facilities such as operator "help" and electronic documentation; and provide application development facilities such as compilers, linkers, and text editors.

A Small Computer System Interface (SCSI), designed into the Application Processor 51, provides an industry standard bus to support peripherals having SCSI compatible controllers. Connected hard disk drives may be configured redundant and mirrored for maximum system security and data availability.

FOXBORO®
A SIEBE COMPANY

Direct electrical interfacing with the I/A Series Nodebus is effected via a Dual Nodebus Interface Module or Dual Nodebus Interface Extender Module (refer to PSS 21H-7B2 B4). An optional Thinnet, AUI, or Twisted-Pair Ethernet® communications port provides for connection to other networks such as DECnet® or TCP/IP.

The Application Processor 51 consists of a single module having an A-Module form factor for mounting in I/A Series enclosures. Alternatively, it can be mounted in a 19-inch rack equipped with a Foxboro-designed modular mounting structure, or in a table-top configuration.

The Application Processor 51 contains the following elements:

- Processor
- Dynamic RAM Memory
- Nodebus Interface
- 3.5" 1.44 Mb Floppy Disk
- Small Computer System Interface (SCSI)
- Serial Interface (Printer or Terminal Port)
- Optional Ethernet Communications Port
- Optional Second SCSI Port for Disk Mirroring

FUNCTIONAL SPECIFICATIONS

Quantities and Types of Devices Served(a)(b)
SCSI(c) PERIPHERALS
Up to six (total); one CDROM Drive, Hard Disk Drives, and two Streaming Tape Drives, with controllers; up to four Hard Disk Drives, with embedded controllers, may be included in the total complement.
NON-SCSI PERIPHERALS
One 1.44 Mb 3.5" Floppy Drive (internal)
SERIAL INTERFACE
Printer or Video Terminal

Processor Type
MicroSPARC® RISC Processor @ 50 MHz and Floating Point Unit

RAM Memory
16 Mbytes, expandable to 96 Mbytes

Nodebus Interface Communications
TYPE
IEEE 802.3 data bus and
EIA RS-423 control bus(d)
MAXIMUM DISTANCE FROM NODEBUS USING DUAL NODEBUS INTERFACE MODULE
50 m (150 ft)
MAXIMUM DISTANCE FROM NODEBUS USING DUAL NODEBUS INTERFACE EXTENDER MODULE
450 m (1500 ft)

Serial Interface Communications
TYPE
EIA RS-423 (RS-232C compatible)
DISTANCE
15 m (50 ft)

Optional Ethernet Communications Port
TYPE
Ethernet data bus
DISTANCE
A function of host computer network characteristics

(a) The total number of SCSI devices on one application processor may not exceed six. For example, if a CDROM, a streaming tape drive, and four hard disk drives are selected, no more SCSI devices may be added. Also, the maximum number of SCSI devices may be determined by maximum cable and device distances (6 meters).

(b) Redundant mirrored hard disk drives may be included, with identical images. Floppy disk drives and tape drives cannot be configured redundant.

(c) Small Computer System Interface (ANSI standard ANSC X3T9.2)

(d) Refer to PSS 21H-7B2 B4, Dual Nodebus Interface and Dual Nodebus Interface Extender, for information on how the control bus is used.

FUNCTIONAL SPECIFICATIONS (CONT.)

Error Detection

COMMUNICATION ERRORS
Cyclic redundancy codes (CRC) and checksum codes
MEMORY ERRORS
Parity code
DISK ERRORS
CRC and Reed-Solomon codes (used for error detection and correction)
SCSI ERRORS
Parity code

Power Requirements

INPUT VOLTAGE
100-120 V ac or 200-240 V ac
CONSUMPTION
70 W

Internal Diagnostics

Self-checking performed at power-up. Runtime checks and watchdog timer function performed during operation.

ENVIRONMENTAL SPECIFICATIONS

Operating

TEMPERATURE
0 to 40 °C (32 to 104 °F)
RELATIVE HUMIDITY
20 to 80%, noncondensing
ALTITUDE
0 to +3000 m (0 to +10 000 ft)

Storage

TEMPERATURE
−20 to +60 °C (−4 to 140 °F)
RELATIVE HUMIDITY
5 to 95%, noncondensing
ALTITUDE
−300 to +12 000 m (−1000 to +40 000 ft)

PHYSICAL SPECIFICATIONS

Mounting

I/A Series Industrial Enclosure or Modular Industrial Workstation Bay, table-top mounting, or 19" rack mounting (using Foxboro-designed modular mounting structure).

Mass (Maximum)

5.5 kg (12.0 lb)

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