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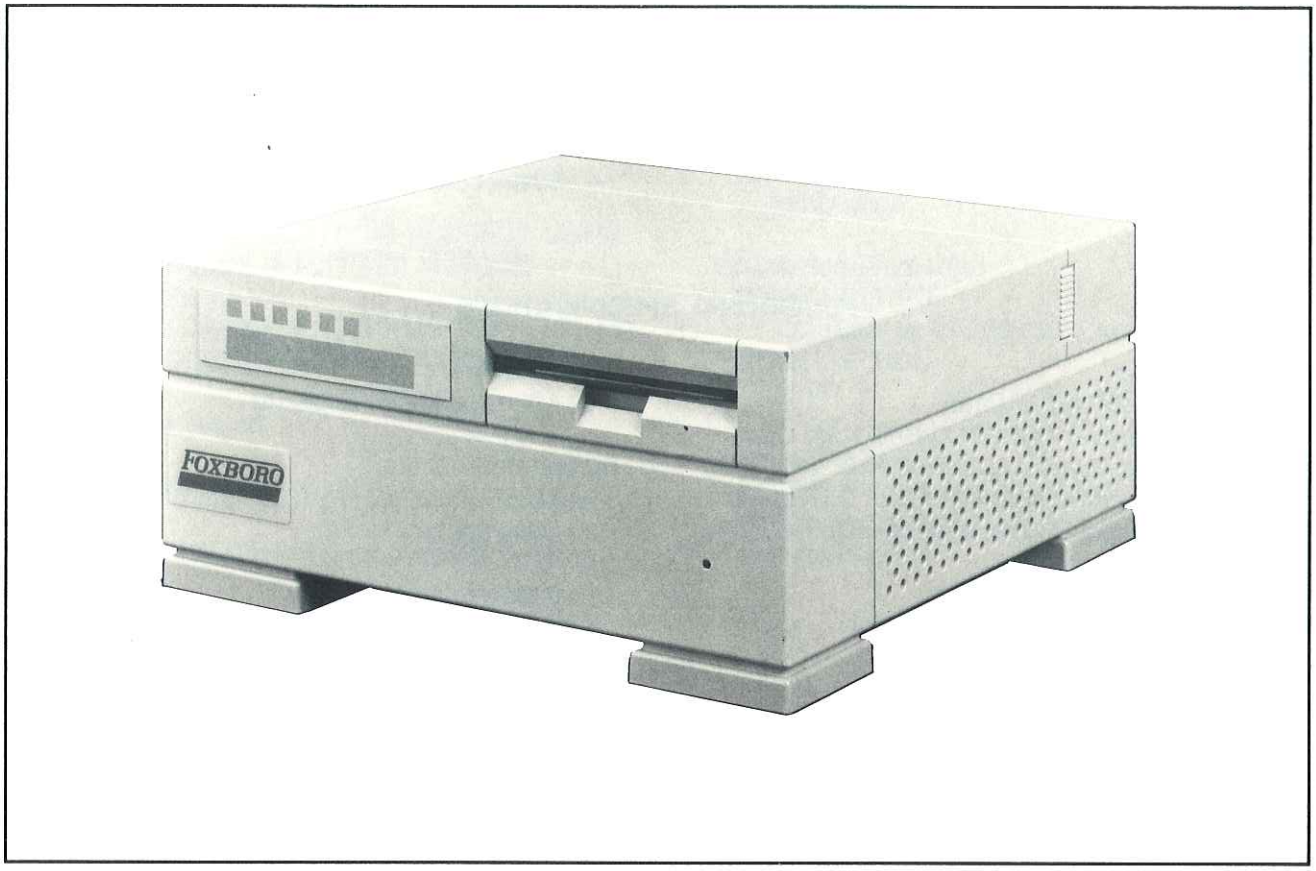
I/A Series®
50 Series Application Workstation Processor
Model AW51



The Application Workstation 51 Processor performs application functions and workstation functions in an Application Workstation 51 subsystem. Application functions performed include:

- Execution of system application functions, such as those relating to:
  - Displays
  - Production control
  - User applications
  - Diagnostics
  - Configuration
- Development and execution of a broad range of application functions (Foxboro and other) requiring extensive data processing and file serving capabilities.
- Processing of bulk storage file requests from tasks within the Application Workstation 51 Processor or from other stations.

Workstation functions performed by the Application Workstation 51 Processor include:

- Generation of video signals to display graphic and textual display information on a video monitor.
- Processing of signals for command and data entry, display option selection, and alarm management. The signals are received via connected input devices which may include a touchscreen, a mouse or trackball, an alpha-numeric keyboard, and up to two annunciator or annunciator/numeric keyboards.

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

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Other SCSI devices connected may include a CDROM and streaming tape drives.

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 Workstation 51 Processor contains the following elements:

- Processor Logic
- Dynamic RAM Memory
- Nodebus Interface
- Video Interface
- Serial Interface Port
- 3.5" 1.44 Mb Floppy Disk
- Small Computer System Interface (SCSI)
- Optional Ethernet Communications Port
- Optional Second SCSI Port for Disk Mirroring
- System Disk: 1.05 Gb or 535 Mb

FUNCTIONAL SPECIFICATIONS

Devices Served

SCSI PERIPHERALS(a)(b)(c)
Up to six (total) CDROM Drives, Hard Disk Drives, and 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(d)

VIDEO INTERFACE
Color Video Monitor (up to 2)

SERIAL INTERFACES(e)
Alphanumeric Keyboard (up to 1)
Mouse or Trackball (up to 1)
Annunciator or Annunciator/Numeric Keyboard (up to 4)
Touchscreen (up to 2)
Printer (up to 1)

Processor Types

- MicroSPARC RISC Processor @50 MHz and Floating Point Unit
- Color Frame Buffer

RAM Memory

32 Mb, expandable to 96 Mb

Screen Presentation

NUMBER OF LINES AVAILABLE TO USER
(program selectable)

CHARACTERS PER LINE
(program selectable)

CHARACTER SIZE
(program selectable)

REFRESH RATE
66 frames/s

COLORS
32 for user displays, 8 for menu bar; selectable from a palette of over 16 million

MARKER SETS
4 sets, up to 128 markers in each set.
2 (default) sets supplied by Foxboro, 2 can be created by user.

CHARACTER SETS
4 sets. 3 (default) sets supplied by Foxboro, 1 can be created by user.

RESOLUTION (PIXELS)
1152 horizontal, 900 vertical

(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 limited by maximum allowable cable length (6 meters).

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

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

(d) Floppy drive is mounted internally or in the Modular Industrial Workstation wedge.

(e) One serial interface communication port provides for peripheral communications: a printer or a group of serially-connected input/output devices: Touchscreen and up to two Annunciator or Annunciator/Numeric Keyboards.

FUNCTIONAL SPECIFICATIONS (CONT.)

Video Output
TYPE
Analog (EIA RS-170): Red, Blue, Green, Sync.
MAXIMUM CABLE LENGTH
30 m (100 ft)

Nodebus Interface Communications
TYPE
IEEE 802.3 data bus and
EIA RS-423 control bus(f)
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

Error Detection
COMMUNICATION ERRORS
Cyclic redundancy codes (CRC) and checksum codes
MEMORY ERRORS
Parity code
FLOPPY 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)

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

PHYSICAL SPECIFICATIONS

Configuration and Mounting
Consists of a single module having an A-Module form factor. May be mounted in an I/A Series Industrial Enclosure or Modular Industrial Workstation Bay, on a table-top, or in a 19" rack (using a Foxboro-designed modular mounting structure).

Mass (Maximum)
5.5 kg (12.0 lb)