

# **I/A Series® Hardware**

## **50 Series Application Processor**

### **AP51, Style D**



The Application Processor 51, Style D is an application processor that provides a higher performance level than the AP51, Style B processor.

The AP51, Style D performs one or more of the following functions in an I/A Series system:

- Execution of application functions, such as those relating to:
  - Production control
  - User applications
  - Diagnostics
  - Configuration
- Development and execution of applications functions (Foxboro and third-party) 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 (for example, hard disk drives), the Application Processor 51, Style D 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 provide application development facilities such as compilers, linkers and text editors.

An Enhanced Internal Device Electronics (EIDE) interface supports an internal system disk and a CD-ROM drive. The Application Processor can support an external high speed, ultra-wide Small Computer System Interface (SCSI-3) when used with an optional SCSI-3 PCI card. This card provides an industry-standard bus which allows the workstation to support SCSI-compatible tape drives and RAID disk drives.

Data interfacing with the I/A Series Nodebus is effected via a Dual Nodebus 10BaseT Interface (DNBT) Module or Dual Nodebus Interface Extender (DNBX) Module (refer to PSS 21H-7B2 B4).

As symbolized by the **CE** logo on the processor, this processor conforms to the applicable European Union Directives.

Optional PCI cards supplying IBM Token Ring, AUI Ethernet, twisted-pair Ethernet, and Asynchronous Transfer Mode (ATM) communication ports provide for connection to other networks such as TCP/IP.<sup>(1)</sup>

The Application Processor 51, Style D contains the following elements:

- Processor logic
- Dynamic memory
- Serial interface port (used as either printer or terminal port)
- Parallel interface for PostScript printer

- Enhanced Internal Device Electronics (EIDE) bus
- 3.5-inch 1.44 MB disk drive
- On-board video display function
- Maximum of one internal hard drive: 8.4 GB
- Internal 644 MB CD-ROM drive
- External drives: RAID1 or RAID5
- Optional external 12.0 GB 4 mm digital tape drive
- Optional external 25 GB AIT tape drive
- Optional PCI cards supported:
  - IBM Token Ring communications port
  - MII Connector plus 10/100 Mbps twisted-pair Interface. MII Ethernet communications port provides AUI Ethernet interface when used in conjunction with MII-to-AUI Adapter<sup>(2)</sup>
  - Ultra-Wide SCSI<sup>(3)</sup> plus 10/100 Mbps twisted-pair Interface Ethernet for SCSI function and twisted-pair 10/100 Mbits/sec (slow/fast) Ethernet communications port
  - Serial Controller card with 8-port controller box
  - ATM 155 Mbits/sec network connection via twisted-pair communications port
  - ATM 155 Mbits/sec network connection via fiber cable communications port

**FUNCTIONAL SPECIFICATIONS**

**Devices Served**  
EIDE PERIPHERALS(A)  
One internal hard disk drive and CD-ROM drive  
SCSI PERIPHERALS(B)  
Up to two external SCSI devices(c)  
FLOPPY PERIPHERAL  
1.44 MB 3.5-inch disk drive(d)

**Devices Served (Cont.)**  
SERIAL INTERFACE  
B/W Printer or video terminal  
PARALLEL INTERFACE  
PostScript Printer  
Color PCL3 Printer

(a) Enhanced Internal Device Electronics.  
(b) Small Computer System Interface (ANSI standard ANSC X3T9.2).  
(c) An Application Processor, Style D can use only one internal hard drive.  
(d) Disk drive is mounted internally.

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(1) A separate security router may be required in conjunction with these optional informational network connections to isolate I/A Series system from other unrelated network traffic. Foxboro Integration Technology Network Consulting can provide information on network planning and recommendations.  
(2) SCSI devices (external) are supported when one optional SCSI-3 PCI card is installed. This card and adapter can function as an interface to the Allen-Bradley Data Highway.  
(3) The maximum number of SCSI devices attached to the Application Processor, Style D is limited by the maximum allowable SCSI-3 equivalent cable length, which is 3 meters (10 feet). Up to two SCSI devices can be used externally with the processor.

## FUNCTIONAL SPECIFICATIONS (Cont.)

### Processor Type

64-bit RISC processor

### RAM Memory

64 MB (default), expandable to 256 MB

### Error Detection

#### COMMUNICATION ERRORS

Cyclic redundancy codes (CRC) and checksum codes

#### MEMORY ERRORS

Parity code

#### SCSI ERRORS

Parity code

### Internal Diagnostics

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

### Ethernet Interface Communications

TYPE (10BASE T OR MII OUTPUTS AVAILABLE)

*Maximum Distance of 10/100BaseT Cable*  
91 m (300 ft)

### Nodebus Interface Communications

TYPE

IEEE 802.3 data bus and EIA RS-423 control bus  
*Maximum Distance From Nodebus Using Dual Nodebus 10BaseT Interface (DNBT) Module*  
91 m (300 ft)

*Maximum Distance From Nodebus Using Dual Nodebus Interface Extender (DNBX) Module*  
450 m (1500 ft)

### Serial Interface Communications

TYPE

EIA RS-423 (RS-232-C compatible)  
*Maximum Distance (DNBX)*  
450 m (1500 ft)

*Maximum Distance (Printer)*  
15 m (50 ft)

### Parallel Interface Communications

Centronics Parallel Interface for Color PostScript Printer

### Optional Token Ring Communications Card(a)

Supports port for token ring data bus

### Optional Twisted-Pair 10/100 Mbps Ethernet Interface with MII Connector Card(a)

When used in conjunction with MII-to-AUI converter, this card supports an AUI port for 10 Mbits/sec Ethernet data bus. This card also contains 10 or 100 Mbits/sec (slow/fast) Ethernet twisted-pair data bus communications port.

### Optional Twisted-Pair 10/100 Mbps Ethernet Interface Card with Ultra Wide SCSI Port(a)

This card supports both ultra-wide SCSI-3 bus (used for providing external SCSI functions) and 10/100 Mbits/sec (slow/fast) Ethernet twisted-pair data bus communications port.

### Optional ATM 155 Mbits/sec Twisted-Pair Ethernet Communications Port(a)

This card provides a port for ATM155 Mbits/sec network connection via twisted-pair connections.

### Optional ATM 155 Mbits/sec Fiber Communications Port(a)

This card provides a port for ATM155 Mbits/sec network connection via fiber optic connections.

### Optional Serial Card with Controller Box Supplying Eight Communications Port(a)

This card and controller box provide eight serial ports for connection with RS-232-C compatible devices, such as Modicon devices.

(a) A separate security router may be required in conjunction with these optional informational network connections to isolate I/A Series systems from other unrelated network traffic. Foxboro Integration Technology Network Consulting can provide information on network planning and recommendations.

ENVIRONMENTAL SPECIFICATIONS

Power Requirements (Processor Only)

INPUT VOLTAGE  
100 to 120 V ac or 200-240 V ac (auto-switching)  
NOMINAL POWER  
120 W

Operating

TEMPERATURE  
10 to 35°C (50 to 95°F)  
RELATIVE HUMIDITY  
40 to 80%, wet bulb of 27°C (81°F)  
ALTITUDE  
0 to +3,000 m (0 to 10,000 ft.)

Storage

TEMPERATURE  
-20 to +60°C (-4 to +140°F)  
RELATIVE HUMIDITY  
30 to 90%, noncondensing  
ALTITUDE  
-300 to +12,000 m (-1,000 to +40,000 ft)

PHYSICAL SPECIFICATIONS

Mounting

I/A Series Industrial Enclosure, metal enclosure,  
Modular Industrial Workstation, Modular Industrial  
Console, tabletop mounting, or 19-inch rack mounting  
(using Foxboro designed dual height modular  
mounting structure).

Mass (Maximum)

10.0 kg (22.0 lb)

DIMENSIONS—NOMINAL

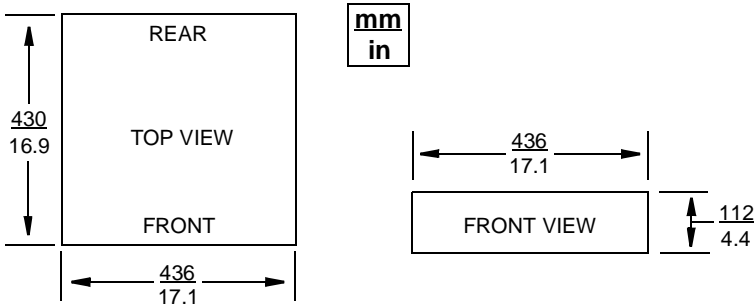


Figure 1. Application Processor, Style D Dimension

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