FOXBORO®

PSS 21H-4S1 B3

I/A Series® Hardware
Application Workstation Scalable Solutions

Using an Application Workstation with a Nodebus (AW51-NB) as a base, I/A Series Scalable Solutions include a variety of pre-packaged system configurations for small applications requiring continuous, discrete, and/or batch control. These low-cost Application Workstation-based solutions include a high performance Application Workstation 51 with I/A Series control capabilities to provide a comprehensive, distributed small control system capability.

The AW51-NB with a control or integrator station performs as an Application Processor and a Workstation Processor providing full support for the control and monitoring of small applications.

The Application Workstation Scalable Solutions include the following configurations:

- an optionally fault-tolerant Control Processor 30 (AW51-CP30 or AW51-CP30FT)
- an optionally fault-tolerant Control Processor 40 (AW51-CP40 or AW51-CP40FT)
- an optionally fault-tolerant Integrator 30 for Allen-Bradley PLCs (AW51-AB30 or AW51-AB30FT)
- an Allen-Bradley Station (AW51- A-B STATION)
- an optionally fault-tolerant Integrator 30 for Modicon Programmable Controllers (AW51-MD30 or AW51-MD30FT)
- a Device Integrator 30 (AW51-DI30)

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Product Specifications

Figure 1. Tabletop and Modular Industrial Workstation Offerings

The Application Workstation Scalable Solutions are available in either a tabletop offering, a Modular Industrial Workstation configuration (MIW), or Modular Console Bay configuration. The MIW configuration includes a top-mounted CRT with a Modular Mounting Structure (MMS) and a 1x8 cell for housing module-sized Application Workstations. See Figure 1.

Application Workstation with a Control Processor

The Application Workstation Scalable Solution with an optionally fault-tolerant Control Processor supports a Fieldbus and Fieldbus Module(s) and/or Fieldbus Processor(s) supporting Fieldbus Card (FBC) I/O to handle up to 300 I/O points(1).

Application Workstation with an Integrator 30 for Allen-Bradley Programmable Logic Controllers

For the integration of data from Allen-Bradley Programmable Logic Controllers (PLCs) into I/A Series databases, the Application Workstation Scalable Solution is offered with an optionally fault-tolerant Integrator 30 for Allen-Bradley PLCs. The Integrator interfaces to an Allen-Bradley Data Highway using the Allen-Bradley Communication Adapter Module (CAM).

This Adapter Module translates data received from the PLCs into an I/A Series database and provides a control interface for application programs to communicate with the PLCs via the standard I/A Series interprocess communication connected services. The families of supported controllers are: PLC-2, PLC-3, PLC-5, and SLC-5/04.

Application Workstation with Allen-Bradley Station

The Application Workstation Scalable Solution with an Allen-Bradley (A-B) station provides the seamless integration of data from the Programmable Logic Controller Series (PLC-5) into the I/A Series architecture. The A-B station module, operating I/A Series software, mounts in the PLC chassis and physically bolts to the PLC-5 Series processor providing a shared memory access interface to the PLC data tables. The PLCs supported are:

– PLC 5/11, PLC 5/20, PLC 5/30, PLC 5/40, PLC 5/60 and PLC 5/80

The PLC data is seamlessly integrated into the I/A Series database and application programs.

(1) Available in the Application Workstation 51, Style A, B/B1, and C.

Application Workstation with Integrator 30 for Modicon Programmable Controllers

With the optionally fault-tolerant Integrator 30 for Modicon Programmable Controllers, Application Workstation Scalable Solution provides the integration of data from the following Modicon controllers: 484, 584, 884, and 984. The Integrator interfaces to the Modbus via direct connection to a programmable controller or via Modbus modems using an RS-232-C compatible port.

The Integrator translates data from the programmable controllers into an I/A Series database for incorporation into I/A Series based functions and displays. It also provides a control interface for application programs to communicate with controllers via standard I/A Series interprocess communication connected services.

Application Workstation with a Device Integrator 30

The Application Workstation Scalable Solution with a Device Integrator 30 provides interconnection and integration of remote computing devices. The Integrator receives data from foreign devices, such as gas analyzers, turbines, sequence of events monitors, paper machine gauges on an exception or polled basis. The Integrator translates the data for access by I/A Series software and conversely sends data to the foreign device on an exception or periodic basis. The Integrator communicates using the device-specific protocol.

NODEBUS INTERFACE

The AW51 interfaces to the I/A Series Nodebus via an Attachment Unit Interface (AUI) cable(2). This cable (up to 50 m [150 ft]) connects to a Dual Nodebus Interface (DNBI) module in an I/A Series enclosure. In this configuration, the AW functions as a station on the Node.

SOFTWARE

The software supplied with each application workstation includes integrated control and supervisory software packages:

- Operating System (with Workstation Processor and Application Processor functions)
- System Monitor
- System Management Display Handler
- Display Builder, Display Configurator, and Display Utilities
- System Configurator
- Device Monitor
- Integrated Control Configurator
- Compound Summary Access
- Real-Time Relational Database
- Operator Message Interface
- Historian (up to 500 points)
- Report Writer 50

OPTIONS

The following optional hardware and software can be used:

- Direct Ethernet Interface for connection to other networks such as DECnet or TCP/IP, providing communication with other host computers and networks
- Second CRT for dual-headed workstation configurations to provide an additional local screen for a single workstation. The CRTs share a common keyboard and a common pointing device that moves seamlessly between the two screens.
- Multiple Display Manager software to provide multiple I/A Series real time display manager windows for both the local workstation screen(s) and a remote terminal running X-Window Systems.(3)

(2) The AW51, Style E connects to the AUI cable via an MII-to-AUI Converter.
(3) X-Window System is a network-based standard windowing system supported by the Application Workstation 51, Style A, B/B1, and C.

FUNCTIONAL SPECIFICATIONS

Application Workstation 51 and Peripherals

APPLICATION WORKSTATION 51, STYLE C
- MicroSPARC RISC II Processor and Floating Point Unit
- Color Frame Buffer
- 32 MB RAM
- Standard 20-inch Monitor
- 2.1 GB Hard Disk
- 644 MB CD-ROM
- 1.44 MB 3.5-inch Floppy Drive
- 101 key enhanced keyboard, English language

APPLICATION WORKSTATION 51, STYLE E
- 64-bit RISC Ultra Sparc II Processor
- Up to 2 GB RAM
- Up to two internal 4.2 to 9.1 GB Hard Disks
- 644 MB CD-ROM
- 1.44 MB 3.5-inch Floppy Drive
- 101 key enhanced keyboard, English language

POINTING DEVICE
Trackball or mouse

PRINTER
Standard dot-matrix, 80-column printer

Serial Interface Communications

TYPE
EIA RS-423 (RS-232C compatible)

DISTANCE
15 m (50 ft)

Nodebus Interface Communications

TYPE
IEEE 802.3 data bus and EIA RS-423 control bus

MAXIMUM DISTANCE FROM NODEBUS USING DNBI MODULE
50 m (150 ft)

MAXIMUM DISTANCE FROM NODEBUS USING DNBI EXTENDER MODULE
450 m (1500 ft)

Optional Ethernet Communications Port

TYPE
Ethernet data bus

DISTANCE
A function of host computer network characteristics

Power Requirements

INPUT VOLTAGE
100 to 120 V ac or 200 to 240 V ac

CONSUMPTION (Processor Only)

APPLICATION WORKSTATION, STYLE A, B, AND C
70 W

APPLICATION WORKSTATION, STYLE E
120 W

Internal Diagnostics

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

SERVICES(4)

A Maintenance Agreement is provided during the Standard Warranty period. Included with this agreement are telephone services, bulletin board access, and software revisions, when issued.

TRAINING(4)

“Introduction to I/A Series System for the Process Technician” is a self-study training package designed to train plant or mill personnel in the operation and configuration of an I/A Series system. It consists of training modules, which include a video component as well as written exercises to be performed on an I/A Series system or Personal Workstation. The material is used to train process operators, technicians, and engineering personnel. The first part of this program is designed to acquaint the process technician with the I/A Series equipment used to interface with and control a process. The use and operation of the various types of I/A Series displays are discussed as well as procedures for identifying hardware and software problems. The remaining modules train the technicians on the procedures for configuring process control schemes, group displays, process displays and alarms, historical data collection and process reports.

NOTE: The self-study training packages and additional training manuals must be purchased separately.

Part Numbers: L0121BF - Complete Package with Master Manual plus 5 Student Manuals
L0121BG - 5 Manuals only

(4) Details of services and/or training may vary depending on geographic location. Refer to your Sales/Service Representative for further information.

Refer to the following Product Specification Sheets for more information:

PSS 21H-4R1 B3	50 Series Application Workstation Model AW51
PSS 21H-4R4 B4	50 Series Application Workstation Processor, AW51, Styles B and B1
PSS 21H-4R6 B4	50 Series Application Workstation Processor, AW51, Style E
PSS 21H-1B2 B3	Control Processor 30 Hardware
PSS 21H-1B2 B4	Control Processor 30 1000 Block Software
PSS 21H-2B1 B3	Fieldbus Modules
PSS 21H-2T1 B3	Fieldbus Cards I/O Subsystem
PSS 21H-7G1 B3	Integrator 30 for Allen-Bradley PLCs
PSS 21H-7G4 B3	Integrator 30 for Modicon Programmable Controllers
PSS 21H-7G3 B3	Device Integrator 30
PSS 21H-1F1 B3	Allen-Bradley Station
PSS 21H-7B2 B4	Dual Interface Nodebus and Extender

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MB 021 Printed in U.S.A. 0398

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