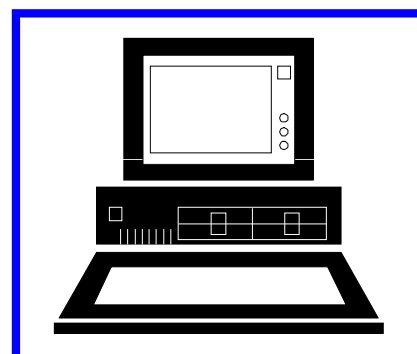
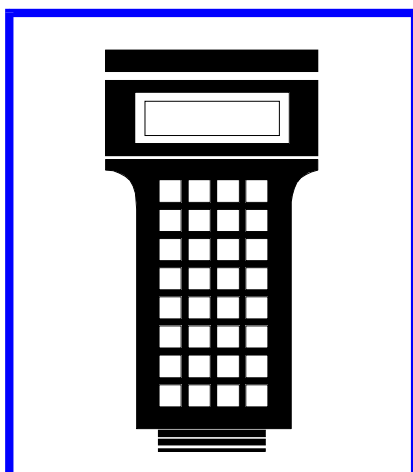
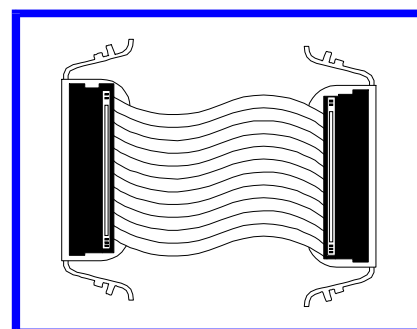
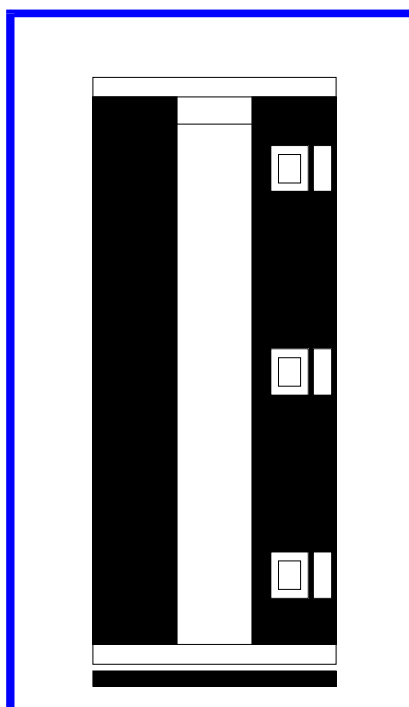
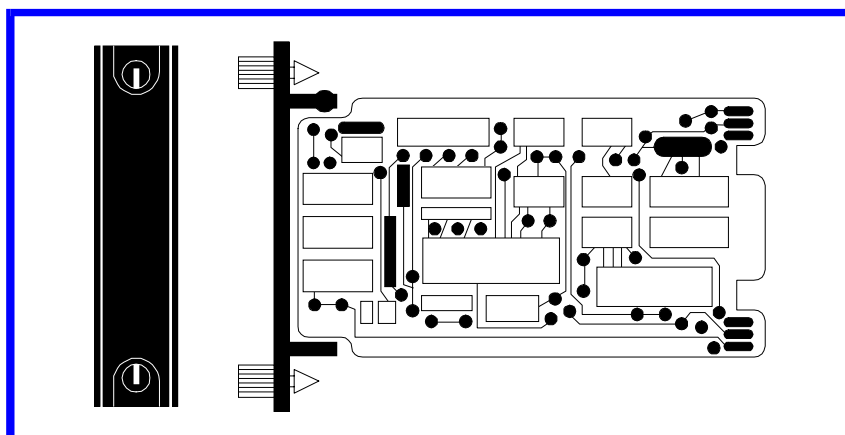
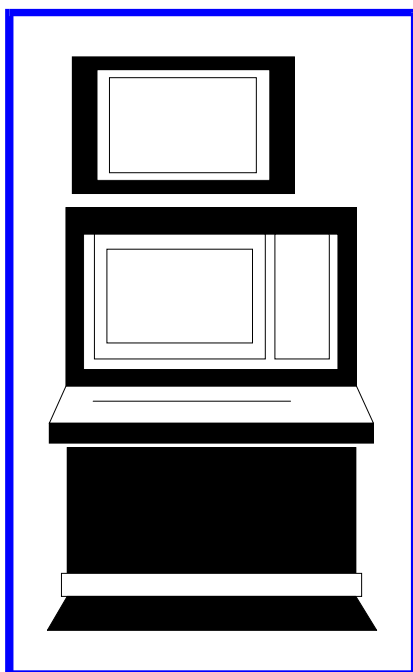


PWC90

Instruction

Installation Personal Work Center 90 (Release 1.0)



WARNING notices as used in this instruction apply to hazards or unsafe practices that could result in personal injury or death.

CAUTION notices apply to hazards or unsafe practices that could result in property damage.

NOTES highlight procedures and contain information that assists the operator in understanding the information contained in this instruction.

WARNING

INSTRUCTION MANUALS

DO NOT INSTALL, MAINTAIN, OR OPERATE THIS EQUIPMENT WITHOUT READING, UNDERSTANDING, AND FOLLOWING THE PROPER **Bailey Controls** INSTRUCTIONS AND MANUALS; OTHERWISE, INJURY OR DAMAGE MAY RESULT.

RADIO FREQUENCY INTERFERENCE

MOST ELECTRONIC EQUIPMENT IS INFLUENCED BY RADIO FREQUENCY INTERFERENCE (RFI). CAUTION SHOULD BE EXERCISED WITH REGARD TO THE USE OF PORTABLE COMMUNICATIONS EQUIPMENT IN THE AREA AROUND SUCH EQUIPMENT. PRUDENT PRACTICE DICTATES THAT SIGNS SHOULD BE POSTED IN THE VICINITY OF THE EQUIPMENT CAUTIONING AGAINST THE USE OF PORTABLE COMMUNICATIONS EQUIPMENT.

POSSIBLE PROCESS UPSETS

MAINTENANCE MUST BE PERFORMED ONLY BY QUALIFIED PERSONNEL AND ONLY AFTER SECURING EQUIPMENT CONTROLLED BY THIS PRODUCT. ADJUSTING OR REMOVING THIS PRODUCT WHILE IT IS IN THE SYSTEM MAY UPSET THE PROCESS BEING CONTROLLED. SOME PROCESS UPSETS MAY CAUSE INJURY OR DAMAGE.

AVERTISSEMENT

MANUELS D'OPÉRATION

NE PAS METTRE EN PLACE, RÉPARER OU FAIRE FONCTIONNER L'ÉQUIPEMENT SANS AVOIR LU, COMPRIS ET SUIVI LES INSTRUCTIONS RÉGLEMENTAIRES DE **Bailey Controls** TOUTE NÉGLIGENCE À CET ÉGARD POURRAIT ÊTRE UNE CAUSE D'ACCIDENT OU DE DÉFAILLANCE DU MATÉRIEL.

PERTURBATIONS PAR FRÉQUENCE RADIO

LA PLUPART DES ÉQUIPEMENTS ÉLECTRONIQUES SONT SENSIBLES AUX PERTURBATIONS PAR FRÉQUENCE RADIO. DES PRÉCAUTIONS DEVRONT ÊTRE PRISES LORS DE L'UTILISATION DU MATÉRIEL DE COMMUNICATION PORTATIF. LA PRUDENCE EXIGE QUE LES PRÉCAUTIONS À PRENDRE DANS CE CAS SOIENT SIGNALÉES AUX ENDROITS VOULUS DANS VOTRE USINE.

PERTURBATIONS DU PROCÉDÉ

L'ENTRETIEN DOIT ÊTRE ASSURÉ PAR UNE PERSONNE QUALIFIÉE EN CONSIDÉRANT L'ASPECT SÉCURITAIRE DES ÉQUIPEMENTS CONTRÔLÉS PAR CE PRODUIT. L'AJUSTEMENT ET/OU L'EXTRACTION DE CE PRODUIT PEUT OCCASIONNER DES À-COUPS AU PROCÉDÉ CONTRÔLE LORSQU'IL EST INSÉRÉ DANS UNE SYSTÈME ACTIF. CES À-COUPS PEUVENT ÉGALEMENT OCCASIONNER DES BLESSURES OU DES DOMMAGES MATÉRIELS.

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Preface

This instruction covers the installation of the Personal Work Center (PWC90) software on a Pentium™ based Personal Computer. PWC90 operates in the Microsoft Windows NT™ version 4.0 operating system. It communicates with the INFI 90® OPEN system via an INICIO3 connected to the INFI-NET® system.

The PWC90 console provides a desktop interface to the INFI 90 OPEN system.

Special features of the PWC90 console include:

- Alarm management system.
- Multi level security system.
- Data historian.
- Trending system.
- Process control and monitoring system.
- Advanced custom graphic modeling system.
- Data logging system.
- Configuration and on-line changing of the tag database.
- Creation of spreadsheet logs using Microsoft EXCEL.
- Microsoft Windows access to other software applications.
- Tag summaries application.
- Module details application.
- Block details application.
- Server diagnostics application.
- Fixed and/or custom display hierarchy.
- Open standard data server (@aGlance™).

List of Effective Pages

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2-1 through 2-3	Original
3-1 through 3-3	Original
4-1 through 4-13	Original
5-1 through 5-12	Original
6-1 through 6-2	Original
7-1 through 7-7	Original
8-1	Original
9-1 through 9-7	Original
A-1 through A-3	Original
Index-1 through Index- 2	Original

When an update is received, insert the latest changed pages and dispose of the superseded pages.

NOTE: On an update page, the changed text or table is indicated by a vertical bar in the outer margin of the page adjacent to the changed area. A changed figure is indicated by a vertical bar in the outer margin next to the figure caption. The date the update was prepared will appear beside the page number.

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TM DEC	Trademark of Digital Equipment Corporation.
TM Ethernet	Trademark of Xerox Corporation.
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® MS-DOS	Registered trademark of Microsoft corporation.
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TM Pentium	Trademark of INTEL corporation.
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SECTION 1 - INTRODUCTION

INTRODUCTION

The Personal Work Center 90 (PWC90) is a software product designed to run on an Intel Pentium based personal computer with the Microsoft Windows NT operating system. PWC90 provides a process control operator interface for the INFI 90 OPEN Distributed Control System. PWC90 is a suite of applications that provides easy to use, state of the art displays and tools. All of the applications combine a rich set of default starting points with the capability to completely customize the applications to meet any operational need.

The Pentium 120 MHz processor is the minimum level processor for acceptable performance. Hardware from multiple vendors has been qualified and is supported for use with the PWC90 software. A list of hardware requirements is contained in [Section 2](#) of this instruction.

Effective operation of most processes requires more than control at the unit operations level. The system must also include an inherent ability to provide process management functions such as scheduling and graphical presentation of plant process conditions as well as reporting functions. The PWC90 console is a human/machine interface to this system, providing the process operator, process engineer, instrument engineer and maintenance personnel with global access to all process and system parameters required by each to perform their respective tasks.

The PWC90 console provides the process operator with a window to the process. Using interactive process graphics and hierarchical displays, the process operator can monitor and control all analog loops and discrete devices interfaced to the network, as well as sequential batch operations.

The PWC90 console provides the engineer with an interface through which to configure and change graphic and hierarchical displays, database I/O, MFP process control functions, log (report) formats, and security features (including access levels for operating personnel). Most changes are immediate, on-line and network wide, requiring no compilation time before downloading and therefore no interruption of the process.

The PWC90 console provides maintenance personnel with the capability to globally monitor the operating status of any system component on the network, and to diagnose component failures from any PWC90 console.

INTENDED USER

The **Personal Work Center Installation and Setup** instruction is intended for use by personnel engaged in the installation of the hardware and software components of the Elsag Bailey Process Automation's Personal Work Center 90 (PWC90) software. The PWC90 console communicates with the INFI 90 OPEN Distributed Control system through an INICI03 interface connected to the INFI-NET system. Familiarity with INFI 90 OPEN system is necessary to understand the functions of a PWC90 console.

PWC90 PACKAGE

The following component should be included in the PWC90 package:

- PWC90 CD.
- One hardware keys.
- Installation, configuration and operation instructions.

USER INTERFACE

The PWC90 provides the process operator, engineer and maintenance technician with a window based interface to both the process and the PWC90 console itself. The window environment on the PWC90 console is based on Microsoft Windows NT.

FUNCTIONAL DESCRIPTION

The PWC90 console allows the configuration of many items which aid in managing use of the system. These include:

- Security features.
- User logins.
- Network parameters.
- Archival groups.
- Messages.
- Message routing.
- Define process areas to tagname level.

Refer to the **Personal Work Center 90 Configuration** instruction for further information on these items.

Hierarchical Displays

Hierarchical displays are a set of preconfigured, network wide graphical representations emulating traditional instrument displays. A three-tiered hierarchy of displays exists to provide information about the process. This hierarchy consists of summary, group and point displays.

A summary display provides an overview of 24 groups, arranged in six rows of four blocks. There are 128 summary displays available.

A group display provides an operation overview of four, six or eight faceplates simultaneously. All process control actions and alarm acknowledgment for faceplate within a group can be performed from the group display on a point by point basis.

A point display provides the most detailed information and operation functions about a single point in the hierarchical display system. From this level the operator can perform regulatory changes. Hierarchical display configuration is discussed in the **Personal Work Center 90 Configuration** instruction.

Graphic Configuration

Up to 1024 network wide graphic displays can be configured using the PWC90 console. Because they are network wide, a graphic display can be configured on any PWC90 console; a copy of the file containing the graphic is then distributed to all PWC90 consoles on the network whenever a graphic is saved or installed; the graphic can then be viewed on any PWC90 console. Graphic configuration is discussed in the **Personal Work Center 90 Configuration** instruction.

Historical Database

The historical database provides the means to collect data from the servers and store it for use by various other applications on the PWC90 console, such as logging, trending and data archiving. Historical data collection is an option on the PWC90 console. Configuration of historical database data collection is discussed the **Personal Work Center 90 Configuration** instruction.

Logging

Logs are used to collect and format data for use in reports and spreadsheet calculations. The two types of logs available on the PWC90 console are event logs and spreadsheet logs. Spreadsheet logs are an optional feature, configured via Microsoft EXCEL Version 7.0 on the PWC90 console. Logs are available network wide. Log configuration is discussed in the **Personal Work Center 90 Configuration** instruction.

Trending

Trending functions display the values of up to eight points in an analog trend format similar to that presented by a conventional strip chart recorder. Three types of trend recording are provided on the PWC90 console, including current trending,

historical trending and archival trending. Trend displays are network wide. Trend configuration is discussed in the **Personal Work Center 90 Configuration** instruction.

System Status Display

The system status display provides an overview of the servers and clients connected to the PWC90 network. The system status display also provides access to the tag database operations and utilities. The system status display and tag configuration are described in the **Personal Work Center 90 Configuration** instruction.

PWC90 Utilities

A number of maintenance and information management functions are provided as utilities.

Utilities available on the PWC90 console include: backup/restore, database maintenance utilities, alarm groups, release all configuration locks, other applications, user help, quick keys, CRT context keys and CRT print. The other applications utility provides access to the Windows NT system.

Utilities of use to personnel involved in configuration activities are discussed in the **Personal Work Center 90 Configuration** instruction. Utilities of use to the process operator are discussed in the **Personal Work Center 90 Operation** instruction. (Some utilities which are of use to both the configurator and the operator e.g., CRT print, user help, etc., are discussed in both manuals.)

Historical Block Data Collection

The optional historical block database is designed for the efficient collection of data from a large number of server tag.atoms. Like the data collected in the historical database, the historical block data is stored for use by other applications, such as logging, trending and data archiving. Configuration of this item is discussed in the **Personal Work Center 90 Configuration** instruction.

Process Alarms

A process alarm is generated when a process variable is in an abnormal condition. Process alarms are displayed in the top two lines of the mini-alarm window and in the alarm review display, and are accompanied by audible alarms. Process alarms are discussed in the **Personal Work Center 90 Operation** instruction.

Events

System events occur when a problem or change of state is detected within the PWC90 system, as opposed to abnormal conditions, problems, or changes of state associated with the process which is being monitored. System event messages are displayed in the third line of the mini-alarm window. The event review display, and the event historian are discussed in the **Personal Work Center 90 Operation** instruction.

Message Review

Operator messages are used to provide the operator with information and instructions for performing actions, and can be generated from any PWC90 console. Operator messages are displayed in the fourth line of the mini-alarm window and in the message review display, and can be accompanied by an audible alarm. Message review is discussed in the **Personal Work Center 90 Operation** instruction.

Alarm Groups and External Alarm Annunciation

An alarm group is a list of tagname.atoms, each with an associated value, which are downloaded to the INFI 90 OPEN system; this action is triggered by the occurrence of alarm messages which pass through a user configurable filter. This feature can be used to trigger external alarm annunciators when the downloaded values are used to change the value of Device Driver tags in the INFI 90 OPEN system. See your system administrator for information on use of this feature at your site.

Printer Review

Messages which have been sent to a printer or to a file can be displayed using the printer review display. Printer review is discussed in the **Personal Work Center 90 Operation** instruction.

@aGlance/IT Application Server Interface

The INFI 90 OPEN @aGlance/IT[®] server interface is an optional utility which provides a live data link between a PWC90 node and a variety of software applications resident on other distributed control systems, supervisory control systems, personal computers, etc.

There are two aspects to INFI 90 OPEN @aGlance/IT Server configuration: external interface configuration and internal interface configuration. The @aGlance/IT external interface configuration is used to identify tagnames and attributes

(atoms) in the INFI 90 OPEN server database, and is described in the **Personal Work Center 90 Configuration** instruction.

The @aGlance/IT internal interface configuration is used to identify the nodes on which @aGlance/IT servers will run. Details on requirements for and configuration of the internal interface for this utility on the PWC90 console are provided in **Section 9** of this instruction.

INSTRUCTION CONTENT

The **Personal Work Center Installation and Setup** instruction is designed to provide the information necessary to install those hardware and software components of the PWC90 supplied by Elsag Bailey Process Automation (EBPA).

Introduction	Provides an introduction and overview of the PWC90 console. It also includes a list of associated documents.
Requirements	Describes the minimum and recommended hardware requirements for the PWC90 console.
PWC90 Product Components	Describes the PWC90 product components supplied by EBPA.
Installation	Describes hardware and software installation procedures.
Start-Up and Operation	Describes PWC90 console operating procedures.
Troubleshooting	Describes troubleshooting techniques.
Maintenance	Describes the PWC Maintenance menu subsystem.
Support Services	Describes support services.
@aGlance/IT Server Interface	Describes configuration of the @aGlance/IT Server interface.

DOCUMENT CONVENTIONS

This document used standard text conventions throughout to represent keys, user data inputs, and display items:

KEY	Identifies a keyboard key.
Example:	Press ENTER .
USER INPUT	Indicates a fixed input that must be entered exactly as shown.
Example:	Type FIRMWARE .
<i>Display item</i>	Any item that displays in the screen appears as italic text.

Example: *Restore File* button
User Administrator logged in on *PWC1*.

File name Any file names and file extensions appear in bold italics.

Example: ***query1.qry***

REFERENCE DOCUMENTS

This instruction provides information only for the installation and set-up of the PWC90 console. Table 1-1 list additional documents that relate to the operation of the PWC90 system.

Table 1-1. Reference Documents

Number	Document Title
WBPEEUI220755A0	Personal Work Center 90 Operation
WBPEEUI220762A0	Personal Work Center 90 Configuration
I-E96-610	INIFI-NET to Computer Interfaces (INICI01 and INICI03)
I-E96-200	Function Code Application Manual

SECTION 2 - REQUIREMENTS

INTRODUCTION

This section describes the minimum hardware and software requirements to successfully run the Personal Work Center 90 (PWC90) software. A list of qualified hardware platforms is available from Elsag Bailey Process Automation (EBPA).

MINIMUM HARDWARE REQUIREMENTS

The following minimum hardware requirements must be met to successfully load and run the PWC90 software. These include:

- An Intel based, Windows NT compatible personal computer (PC) with a Pentium processor. A minimum of 120 MHz is recommended.
- 64 MB of memory, with the ability to expand the memory capacity to 128 MB; 80 MB (or more) is recommended for optimum performance. If you plan to use optional software packages (such as the @aGlance/IT Server Interface) at least 16 MB of additional memory is required.
- A 1200 MB disk drive, with the ability to expand to five GB of disk space. This can be a SCSI or EIDE drive, but must be compatible with Windows NT.
- A CD-ROM drive. (The PWC90 software is distributed on CD-ROM.)
- An IBM AT compatible 101 key keyboard.
- A cursor positioning device. This can be a two or three button mouse, trackball or other Windows NT compatible cursor positioning device.
- A video board and monitor which support 256 colors (eight bit mode) at 1024 x 768 pixel resolution. A video board and monitor which support 65K colors (16 bit mode) at 1280 x 1024 pixel resolution are recommended.
- A single Ethernet[®] communication channel (e.g., a 3Com[™] Triple Media Ethernet Adapter board, a DEC[®] EtherWORKS board, or the equivalent).
- A 3.5 inch floppy disk drive for small capacity removable storage.

- A parallel port for local printing and hardware key installation.
- A four to eight GB DAT tape drive is required on PWC90 consoles on which large backup and restore operations will be performed.

HARDWARE COMPATIBILITY

The PWC90 software can be installed and run on any personal computer which meets the minimum requirements listed in **MINIMUM HARDWARE REQUIREMENTS** in this section and which can run the Windows NT operating system. A list of supported manufacturers and models is available from Elsag Bailey Process Automation.

When the PWC90 software and supported third party software (e.g., Microsoft EXCEL) are installed on qualified hardware, full support for performance and reliability is provided. **WHEN THE PWC90 SOFTWARE IS INSTALLED ON ANY EQUIPMENT OTHER THAN THE QUALIFIED AND SUPPORTED MODELS, AND/OR IS USED IN CONJUNCTION WITH SOFTWARE OTHER THAN THAT QUALIFIED FOR USE WITH THE PWC90 SOFTWARE, ONLY LIMITED TECHNICAL SUPPORT CAN BE PROVIDED.** In such cases, limitations on the extent of support are at the discretion of Elsag Bailey Process Automation.

SOFTWARE REQUIREMENTS

The software versions required for the PWC90 are discussed in this subsection. The following software versions are required for the PWC90 Desktop Version 1.0:

- PWC90 Application Software, Version 1.0.
- Windows NT Version 4.0 for Workstations.

Windows NT Version 4.0 Workstation software is available on CD-ROM, which is the recommended medium from which to install it.

NOTE: The PWC90 software was qualified using the base Windows NT version 4.0, with no Microsoft Service Packs (patches) installed. Installation of Microsoft Service Packs is at the discretion of the user and may result in limited support for the PWC90 software, as discussed in **HARDWARE COMPATIBILITY** in this section. Future versions of Windows NT will be tested for operation with PWC90.

REQUIREMENTS FOR OPTIONAL SOFTWARE PACKAGES

Optional software packages supported on the Personal Work Center require the following software versions:

- Microsoft EXCEL, Version 7.0 for Windows NT.
- @aGlance/IT, Version 3.0.

When optional software packages are installed on the PWC90 console, at least 16 MB of additional memory is required for optimum performance.

SECTION 3 - PWC90 PRODUCT COMPONENTS

INTRODUCTION

This section describes the functionality of the Personal Work Center 90 (PWC90) product components. For a complete description of the components mentioned in this section refer to the **Personal Work Center 90 Operation** and the **Personal Work Center 90 Configuration** instructions.

KEYBOARD - STANDARD-FUNCTION KEY MAPPING

The PWC90 keyboard is an IBM AT compatible 101 key full travel keyboard. The Function keys (**F1** through **F12**) and **ALT**-function key combinations are used to perform the functions listed in Table 3-1. Where an **ALT**-**F** combination is specified, press and hold **ALT** simultaneously with the specified function key.

Table 3-1. PWC90 Keyboard Function Key Mapping

Function Key(s)	Display Function
F1	Graphic
ALT-F1	Network Status Display
F2	Summary
F3	Group
F4	Point Display
F5	Quick Keys
F6	Trend
F7	Alarm Review
ALT-F7	Print Log
F8	Event Review
ALT-F8	Arrange Windows
F9	Display Forward
ALT-F9	Alarm Ack
F10	Display Backward
ALT-F10	Window Acknowledge
F11	Not Used
ALT-F11	Silence
F12	Help

HARDWARE SECURITY KEY

A hardware security key is provided as part of the PWC90 product. The hardware key is a small device which is plugged

directly into the parallel port of the PC on which the PWC90 software will be installed. The hardware key is used to license the PWC90 software, and must be installed for the PWC90 software to run.

The hardware key does not functionally compromise the parallel port. When installed, the hardware key provides a female connector allowing a parallel device to be attached to it. Signals to and from an attached parallel device will be passed through the hardware key.

MICROSOFT EXCEL SPREADSHEET LOG INTERFACE

A log is used to collect and format data for use in reports and spreadsheet calculations. Two types of logs are available on the PWC90 console; these include event logs and spreadsheet logs.

Event logs are used to examine the historical database and create lists of all events which occurred within a specific time span. The **Personal Work Center 90 Configuration** instruction and the **Personal Work Center 90 Operation** instruction provide details on the configuration and use of these items.

Spreadsheet logs are used to obtain data from, change, and put data into the INFI 90 OPEN server database, and to load the data into an EXCEL spreadsheets, allowing the user to format, store, and perform calculations using live process data.

Spreadsheet logs are network-wide. This means that a Microsoft EXCEL spreadsheet log can be configured or changed on any PWC90 console on the network. After changes have been made to any spreadsheet log, copies of the changed log will be distributed to all other PWC90 consoles on the network when files are synchronized. (Synchronization is a manual operation on the PWC90 console; refer the **Personal Work Center 90 Configuration** instruction for further information.)

A number of special functions (sometimes referred to as add-ins) have been developed by Elsig Bailey Process Automation which can be used with the Microsoft EXCEL spreadsheet package. Some of these are demonstrated in a sample spreadsheet **fpsample.xls** included in the **PWC\lib\exlogs** directory.

NOTE: The add-in **fpexcel.xla** must be added to EXCEL before attempting to open this spreadsheet. It can be found in the **PWC\bin** directory.

The special functions include:

- fpget.
- fparchive.
- fpgetd.
- fpverbose.
- fphget.

- fpuprint.
- fphgetd.
- fpudevice.
- fpsendmsg.
- fpblkarch.
- fpput.
- fpblkclose.
- fpputd.
- fpblkopen.
- fphput.
- fpblksample.
- fphputd.
- fpblkvald.
- fphxnumval.
- fphxgetval.
- fpxammts.

Refer to the ***Personal Work Center 90 Configuration*** instruction for details on each of these functions.

SECTION 4 - INSTALLATION

INTRODUCTION

The Personal Work Center 90 (PWC90) is composed of hardware and software components integrated into a personal computer. The order in which these components are installed is important, and should be as follows:

- Set up the base personal computer (PC) hardware, following the instructions received with the PC.
- Install network interface hardware. This can be a third party single Ethernet communications interface board (i.e., a 3COM board).
- Install the proper version (4.0) of the Windows NT operating system, following the instructions received with the Windows NT software. (If a single channel Ethernet board is present and detected by the Windows NT software during installation, the necessary TCP/IP software will be loaded automatically. If the Ethernet board is not detected be sure to install the TCP/IP software when prompted to do so during Windows NT installation.) Windows NT should be installed with the desired video resolution, font size and TCP/IP on an Ethernet I/O adapter before installing PWC90.
- Install the PWC90 hardware key (refer to **Attachment of the Hardware Key** in this section).
- Verify the Windows NT settings as described in **Windows NT System Configuration** in this section.
- Install the PWC90 software as described in **PWC90 Installation** in this section.
- Restart the PWC90 (refer to **PWC90 Installation**, step 30 in this section).
- Install PWC90 licenses during the initial start-up session, described in **Licensing During Initial Start-Up** in Section 5.

HARDWARE KEY INSTALLATION

The PWC90 software is licensed by Elsag Bailey Process Automation. The license is protected by a hardware key which must be attached to the parallel port, as discussed in **HARDWARE SECURITY KEY** in Section 3. If a device (for example, a printer) is already connected to the parallel port, remove the

parallel cable connector, connect the hardware key to the port, and reconnect the cable to the hardware key. Signals will be passed through the hardware key to the device.

SOFTWARE INSTALLATION

This section describes the installation of software on the PWC90 console, including network interface software, installation of the PWC90 software from CD-ROM, and requirements for the installation of Microsoft EXCEL. It assumes that the user is familiar with Windows NT and the use of the program manager, control panel, and Windows NT Explorer, and other Windows NT administrative functions. Installation of Windows NT and Microsoft EXCEL are not described, as this procedure is dependent on the machine type and make.

PWC90 Installation

This section describes the installation of the PWC90 software from CD-ROM. The installation procedure consists of the following steps, which are described in further detail in the sub-sections which follow:

- Verify Windows NT system configuration.
- Verify Windows NT network configuration.
- Attach the hardware key to the PC parallel port.
- Run the PWC90 setup program from CD-ROM.
- Set up configure the INICI03.
- Restart the PC and start the PWC90 software.
- Enter license information.

Windows NT System Configuration

The PWC90 requires the following configuration:

- Windows NT version 4.0 Workstation.
- Pentium processor.
- 64 MB memory (minimum).
- Formatted NTFS or FAT disk file system.
- Minimum video capabilities of 256 colors at 1024x768 resolution.
- Properly configured network interface.

Before installing the PWC90 software, correct operation of all aspects of Windows NT should be verified. Some areas which may need special attention are described in the following sub-sections.

Host Name

Do not change the Windows NT name of the host PWC90 computer after installing PWC90. If the name must be changed, PWC90 should be reinstalled. If the name is changed after (server/standalone) installation, the tag database server will not be able to find the tag database. To correct this, the UNC name must be changed, and is found under **HKEY_LOCAL_MACHINE/SOFTWARE/ElsagBailey/PWC90/DatabasePath** in the registry.

NOTE: Use extreme caution when editing the registry. Using the registry incorrectly can cause system wide problems that may require the reinstallation of Windows NT.

VERIFY VERSION, PROCESSOR TYPE AND MEMORY

To determine the Windows NT version, processor type and amount of memory installed, select *Start, Settings, Control Panel* to display the *Control Panel*. Then choose the system icon and go to the *General* tab. The resulting window will provide the desired information.

VERIFY FILE SYSTEM FORMAT

To determine how the file system has been formatted, select *Start, Program, Windows NT Explorer*. Right click on the drive on which PWC90 will be installed. The *General* tab will provide the type of file system currently in use.

The target disk for installing the PWC90 software can be formatted using either the NTFS or FAT file system formats. Each has advantages and disadvantages to be considered when deciding which to use. The NTFS file system format is more robust and more efficient in its use of disk space. However, other Microsoft operating systems (Windows 3.x, Windows 95) cannot access NTFS file systems, nor can they be installed on an NTFS formatted disk or disk partition.

NOTE: If a FAT file system is used, the PWC90 database and other system files cannot be protected from tampering.

VERIFY DISPLAY CONFIGURATION

To determine the number of colors and resolution configured, select *Start, Settings, Control Panel* to access the *Control Panel Utility*. Select the icon to access *Display Properties*, and choose the *Settings* tab. The resulting window will provide access to configuration of the color palette, font size and desktop.

The following Windows NT configuration options should be used to ensure proper PWC90 console operation:

- Color Palette - The minimum number of colors required by the PWC90 software is 256. The recommended number is 65536 or higher (this will prevent unnecessary color remapping when switching between PWC90 application windows and non-PWC90 application windows).
- Font Size - The small fonts font size is recommended.
- Desktop Area - The minimum and recommended desktop area size is 1024x768 pixels, although a higher resolution can be used.

VERIFY NETWORK INTERFACE CONFIGURATION

If the PC is attached to a network, determine the configuration of the network interface as follows: select *Start, Settings, Control Panel* and select the network icon from the *Control Panel Utility*. Choose the *Adapters* tab to look at the installed network adapters. Consult the manufacturer's documentation to determine the correct configuration for the board.

NOTE: For PWC90 to function correctly, it must detect the presence of an ethernet card.

VERIFY OPERATION OF TAPE DEVICE(S)

The correct operation of the tape devices can be verified using the Windows NT backup program. To access this program, select *Start, Program, Administrative Tools*, and restore a directory tree to verify correct operation. In some cases the driver for the tape device must be loaded manually. To do so, select *Start, Settings, Control Panel*, and select the tape drivers icon. Use the *Drivers* tab to add the necessary driver.

VERIFY OPERATION OF PRINTER(S)

All printers to be used by the PWC90 printer manager should be configured and verified before PWC90 console operation is attempted. An easy way to verify printer operation is as follows:

1. Select *Start, Settings, Printers*, and choose the printer to be added.
2. Select *Printer Properties* and select the *General* tab. Click on *Print Test Page*.

NOTE: Before connecting a printer to the PWC90 hardware key attached to the host computer's printer port, turn off the power.

VERIFY CONFIGURATION OF PRINTER SPOOL OPTIONS

For each configured printer that will be used by the PWC90 print manager, the option *Job Prints While Spooling* must be specified. This will prevent the PWC90 device manager from locking up if there is a problem with the printer. To verify that this option has been selected, select *Start, Settings, Printers* and choose the desired printer. Select *Printer Properties* and select the *Scheduling* tab. The *Spool print documents so program finishes printing faster* option should be selected.

VERIFY CONFIGURATION OF TASKING OPTION

The *Tasking* option is used to determine the relative responsiveness of applications that are running at the same time. To access this option, select *Start, Settings, Control Panel* and select the *System* icon. Select the *Performance* tab, and make sure that the slider indicating *Application Performance* is set to *None*. This will give the maximum processing time to background applications.

NOTE: To achieve the best results, the Tasking option should be configured as described here prior to installation of the PWC90 software. If necessary, this setting will be adjusted to the desired value by the PWC90 software after it is installed.

VERIFY CONFIGURATION OF DESKTOP OPTIONS

The configuration of some desktop options can affect the operation of the PWC90 console. To determine the configuration of these options, select *Start, Settings, Control Panel* and select the *Display* icon.

In the *Plus!* tab, the *Show window contents while dragging* option should not be selected. When selected, this mode causes improper operation of some displays, and should therefore be deselected.

The *Screen Saver* option is configured in the *Screen Saver* tab. Certain screen saver programs (mainly the OpenGL-based screen saver programs) can cause serious degradation of the Windows NT server performance. For this reason, ***use of the BLANK SCREEN screen saver or no screen saver (the [NONE] option) is strongly recommended.*** Certain other screen savers may yield acceptable performance (i.e., Starfield Simulation.)

NOTE: To achieve the best results, these settings should be configured as described here prior to installation of the PWC90 software. If necessary, these settings will be adjusted to the desired values by the PWC90 software after it is installed.

Attachment of the Hardware Key

The PWC90 software is licensed by a hardware key, which must be attached to the PC parallel port. Attachment of the hardware key is discussed in **HARDWARE KEY INSTALLATION** in this section.

Installation of PWC90 software and licenses (refer to **Licensing During Initial Start-Up** in Section 5) can proceed if the hardware key is not attached; however, no PWC90 windows can be opened. In this case, PWC90 network service start-up (refer to **PWC90 Network Service Start-up** in Section 5) will not occur; instead, a pop-up window will be displayed which states:

*Can't read hardware key.
Key must be attached to parallel port.*

If the wrong hardware key is attached to the parallel port, a pop-up window will display the following message:

No valid PWC90 software license found.

If problems reading the hardware key persist, test the operation of the parallel port. This can be done by attaching a printer to the port and attempting to print to it.

Run PWC90 Setup

The following instructions are for the *Server/Standalone* installation option. The PWC90 software is loaded from CD-ROM by running the setup program from the CD, as follows:

1. Log on to Windows NT as **Administrator**.
2. Load the CD-ROM disk containing the PWC90 software into the CD drive.
3. A splash screen will automatically appear. Click on *Helpful Hints* for important information that may not be contained in this instruction. When finished close the help file, and click *Start Setup* to begin installing PWC90. It can also be started from the NT Explorer by running the **SETUP.EXE** file.
4. Read the information and click on *Next* to continue or *Cancel* to abort the installation.
5. Select the installation type, Either *Server/Standalone*, *Client* or *Custom* and click on *Next*.
6. In *Destination Directory* leave the default or select a custom directory by using the *Browse* button and select *Next* or *Cancel* to abort the installation.

7. Read the information and click on *Next* to continue or *Cancel* to abort the installation.
8. In the *Select Program Folder* window either leave the default folder or choose one from the list box. Click on *Next* to continue or *Cancel* to abort the installation.
9. The system now notifies the installer that it is prepared to copy the files from the disk and gives an overview of the setup to verify the settings. Read the information and click on *Next* to continue, *Back* to go to the previous screen or *Cancel* to abort the installation.
10. The base PWC software installation starts. The first window shows the PWC90 version number. Click on *Next* to continue or *Cancel* to abort the installation.
11. The Node Identification window (Figure 4-1) appears. Enter an node number (1-99), which must be unique on the network. (The PWC90 is represented as an PWC device on the network.) Select the group number (0-50). There is a maximum of 10 nodes per group. Click on *Next* to continue or *Cancel* to abort the installation.

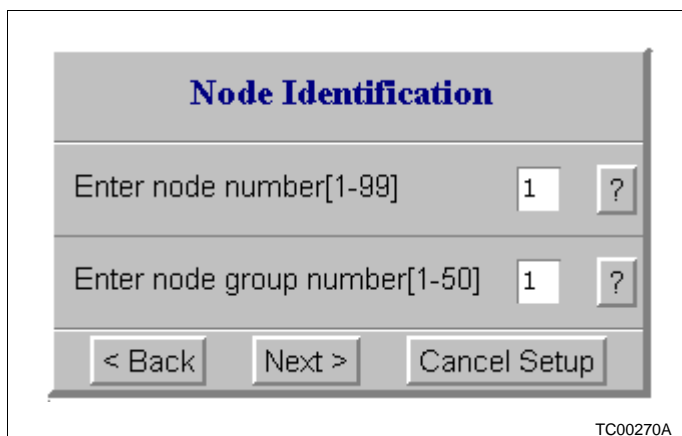


Figure 4-1. Node Identification Window

12. Choose the installation directory for the PWC90 software. The initial default is C:\PWC. If the PWC90 software has been installed previously, the default directory will be the directory used for the previous PWC90 installation. All PWC90 software and user configuration data will be stored under this directory. There should be at least 60 MB of disk space available for the PWC90 software, as well as sufficient disk space for the configuration. If a directory is specified which does not exist, a pop-up window will be displayed which provides the opportunity to create that directory. After entering the directory name, click on *Next* to continue or *Cancel* to abort the installation.

13. Files will now be copied from the CD to the hard drive. This will take a few minutes. A bargraph shows the progress of the operation.

14. After all files are copied from the CD, a few other windows will appear briefly as PWC90 services are installed, the **pwcuser** account is created, and the *Elsag Bailey PWC* program group is created in the program manager.

15. The *PWC Installation Options* window (Figure 4-2) will appear, which contains several options with toggle buttons. An option is selected if the associated toggle button is yellow. For a description of an option, click the corresponding ? button. The *Default* button will select all of the default options, and reset the password of the pwcuser account to the default. (The default password is **passwd**.) The *Password* button allows for the changing of the password for the pwcuser account. (Refer to **PWC90 USER ACCOUNT** in Section 5 for more details about the pwcuser account). Once all option choices have been made, click on *OK*. (The selection of options can be changed later by running PWC90 Setup program after installation, by selecting it from the *Elsag Bailey PWC* program group in the Program Manager.)

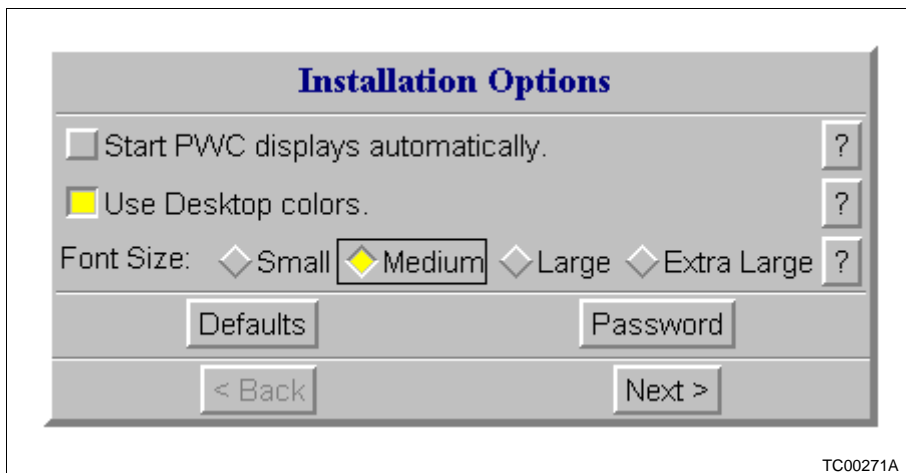


Figure 4-2. Installation Options Window

16. A confirmation window appears verifying that the software was installed successfully.

17. Now various fields and controls are copied and registered as several different status bars appear.

18. Next the INFI90 applications are installed from the CD. A pop-up dialog appears requesting a server tag and a server domain name (Figure 4-3). In the *Tag* field the name *Server* is the default. The name can be changed but there is a string limit of 12 characters in this field.

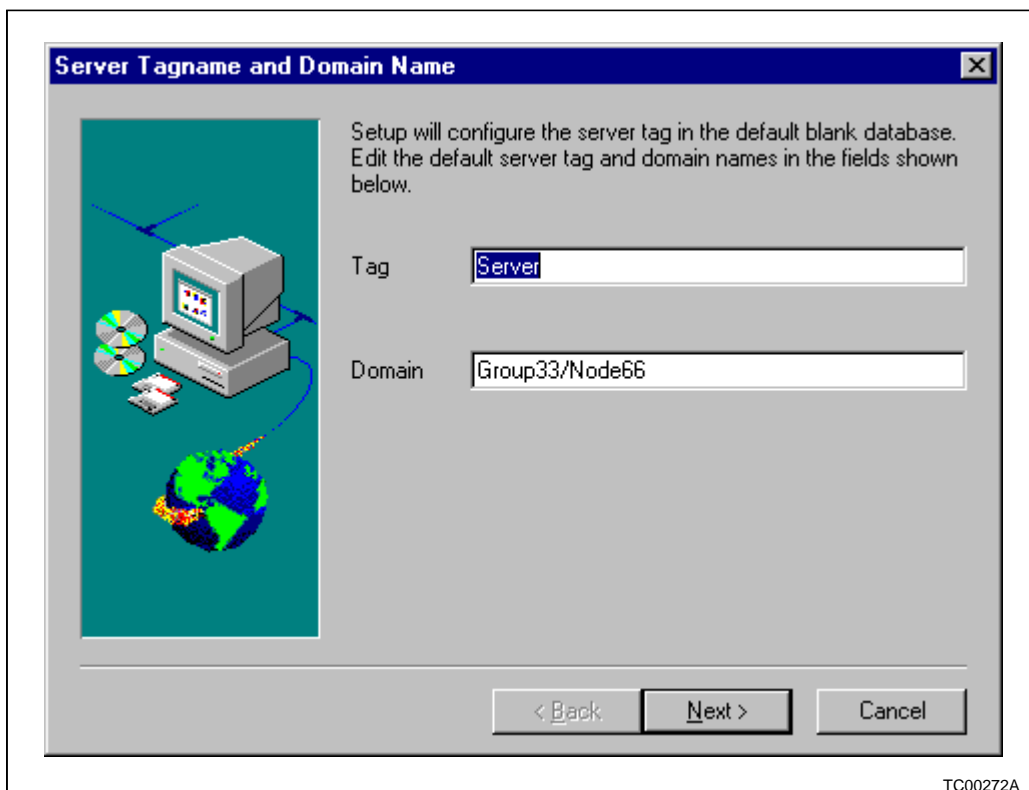


Figure 4-3. Tagname and Domain Window

19. In the *Domain* field the default is set to **Group**[group number]**Node**[node number]. Example:

Group15\Node12

Click on *Next* to continue or *Cancel* to abort the installation.

NOTE: PWC90 clients must be in the same windows domain as the PWC90 servers.

20. The next window is the semAPI installation welcome window. Read the information and click on *Next* to continue or *Cancel* to abort the installation.

21. The next dialog sets the *Destination Directory* of the data files for semAPI. Leave the default or select a custom directory by using the *Browse* button. Default: **C:\ICI**.

22. The next dialog sets the *Destination Directory* of the application files for semAPI. Leave the default or select a custom directory by using the *Browse* button. Default: **C:\ICI\EXE**.

23. The *Select Program Folder* window appears. Select a folder to place the semAPI programs in or use the default: *Elsag Bailey PWC*. Click on *Next* to continue, *Back* to go to the previous screen or *Cancel* to abort the installation.

24. After an information box appears confirming that the SemApi installation has been completed, the next dialog to pop-up is the *ICI Configuration* window (Figure 4-4). This step requires the name of the PC for proper configuration.

The screenshot shows the 'semAPI Application Logical ICI Definition' dialog box. It is divided into several sections for configuration:

- Application Logical ICI:** A dropdown menu with '1' selected.
- Connection Description:** An empty text input field.
- ICI / Device Driver Parameters:** A 'HELP' button.
- ICI Selection:** A 'Physical ICI Device' dropdown menu and a 'Physical Connection Type' dropdown menu set to 'SERIAL'. There are 'DEFAULT' and 'RESET' buttons.
- Host Node Communication Parameters:** 'Name/Address of Node' is 'ALICE' and 'Network Communication Protocol' is 'TCP/IP'.
- RS232 Serial Communication Parameters:** 'Baud Rate' is '19200', 'Parity' is 'NONE', 'Data Bits' is '8', and 'Stop Bits' is '1'. There are 'SAVE' and 'QUIT' buttons.
- Device Driver TCP/IP Communication Port:** 'TCP/IP Port' is '3001'.

TC00001A

Figure 4-4. ICI Configuration Window

25. In the *Logical ICI* field use the default of one.

26. The *Physical ICI Device* should be set to the communication port being used.

27. Enter the name of the host computer in the *Name/Address* fields of the *Node* box.

28. In the *ICI Network Type* the default is local but for PWC90 this must be set to TCP/IP. Click on arrow and select TCP/IP from the list.

29. The *TCP/IP Port* field should be left at the default of 3001.

30. The *Connection Type* should remain at the default of SERIAL.

31. The final four communications parameters must model the INICI03 settings. The default settings are:

- RS232 Baud Rate - 19200.
- Parity - NONE.
- Data Bits - 8.
- Stop Bits - 1.

32. After all of the fields have been set click on *Save* to store the ICI configuration. Then click on *Quit* to exit *ICI Configuration* window and continue with the installation.

33. A window describing the use of the hardware key will appear. Click on *OK*. The *Sentinel Driver* window will appear next. In this window is a list box which contains an entry for each parallel port on the PC. If there is only one parallel port, it will be selected by default. If there are multiple parallel ports, click on the desired entry to select it. After the port is selected, click on *OK*.

NOTE: This step is skipped if the PWC90 software has been installed previously (regardless of version).

34. A dialog will appear asking: *Do you want to enter PWC information now?* Clicking *Yes* will start the PWC maintenance utility where software licences can be entered. Refer to **MAINTENANCE** in Section 7 for instructions on how to use the PWC maintenance utility.

35. The installation of the PWC90 software is complete. A window will appear with a choice to restart the computer. Click on *Finish* to restart the computer or exit setup depending on the choice selected. If you choose not to restart now, the PWC90 setup program will exit, but remember that you must shut-down and restart the PC before starting the PWC90 software. If the hardware key is installed, but the system is not restarted, attempting to open a PWC90 window will cause the following message to be displayed:

Hardware key driver unavailable. Was system restart performed after PWC90 installation?

36. Close this window and restart the system to make the hardware key driver available.

37. License information must be entered during the initial start-up of the PWC90 console. Refer to **PWC90 STARTUP** in Section 5 for information on PWC90 console start-up.

Microsoft EXCEL Installation Requirements

The PWC90 interface to Microsoft EXCEL runs with Microsoft EXCEL Version 7.0 for Windows NT.

Use the installation instructions supplied by the manufacturer to install Microsoft EXCEL for Windows NT on the PC on which the PWC90 software is loaded.

After Microsoft EXCEL has been installed, the path environment variable must be updated to include path of the Microsoft EXCEL executable program. To do so, select *Start, Settings*

Control Panel. Select the system icon, and select the *Environment* tab. In the resulting window, locate the portion of the window labelled system environment variables. In the list box, click on the entry with begins with path. The **path** variable and its associated value will be displayed in text entry boxes (labelled *Variable* and *Value*) at the bottom of the window.

In the *Value* text entry box, edit the value entry to include the path of the EXCEL executable. Typically this is one of the following directories: \msoffice\excel or \excel. Be sure to include the drive specification as well as the directory name (i.e., C:\msoffice\excel). Once this is done, click on *Set* to commit the change.

ADD-IN FUNCTIONS FOR MICROSOFT EXCEL

A number of special functions, sometimes referred to as add-ins, have been developed by Eltag Bailey Process Automation to provide the PWC90 console interface to Microsoft EXCEL. Refer to **MICROSOFT EXCEL SPREADSHEET LOG INTERFACE** in Section 3 for an overview of these functions. Use of these functions is described in the **Personal Work Center 90 Configuration** instruction.

The add-in functions are contained in the file **FPEXCEL.XLA**. The **FPEXCEL.XLA** file is located in the bin directory for the PWC90 software, i.e., <installation directory>\bin. Typically, this is:

C:\PWC\BIN

(For a discussion of the PWC installation directory, refer to **SOFTWARE INSTALLATION** in this section.)

In order to make the add-in functions available to EXCEL, perform the following operations:

1. Start Microsoft EXCEL from the *Start, Program* menu, or from the program group in which it resides on.
2. Click on the *Tools* item on the menu bar of the EXCEL spreadsheet, then click on *Add-Ins...* on the resulting menu. The *Add-Ins* dialog box will appear.
3. In the *Add-Ins* dialog box, click on *Browse...*, which will cause the *Browse* dialog box to appear.
4. The *Browse* dialog box contains two scrollable list boxes labelled *File Name* and *Directories*. In the *Directories* list box, locate the entry for the bin directory of the PWC90 installation. Click on this entry to select it.

5. In the *File Name* list box, the file name **FPEXCEL.XLA** will appear. Click on **FPEXCEL.XLA** to select it, then click on *OK*. This will exit the *Browse* window and return to the *Add-Ins* window.

6. A list box labelled *Add-Ins Available* is located in the *Add-Ins* window. Locate the entry which reads **Fpexcel**. Click in the square next to this item to select it, then click on *OK*. The function will now be available for use.

7. If @aGlance is going to be used, and client software has been installed, the @aGlance add-ins can also be added from the **/MSOffice/Excel/Library** directory, (or the directory they were put in during @aGlance installation). The two add-ins are: **Xlaag.xla** and **Xlaagwiz.xla**.

Once installed, the add-in FP functions can be accessed using either of the following methods:

1. Click on a cell to select it, then type in the function.
2. Alternatively, use the Function Wizard for EXCEL. In the Function Wizard, the add-in functions can be found under the user defined function category. (To access the EXCEL Function Wizard, click on the *Insert* item on the menu bar of the EXCEL spreadsheet, then click on *Function* in the resulting menu. Refer to the Microsoft EXCEL documentation for more information about the Function Wizard for EXCEL.)

The @aGlance functions can be accessed using the @aGlance option in the main menu which was added by the add-ins.

PRINTING MICROSOFT EXCEL SPREADSHEETS

Printing and scheduling of EXCEL spreadsheets through a PWC90 console is supported, provided that a valid printer name is selected for use. A valid printer name is one that was configured using the Windows NT print manager.

To determine what printer names are valid for use with EXCEL spreadsheets, select *Start, Settings, Printers*. The resulting window will contain the names of all the available printers that have been configured. When attempting to print or schedule printing of an EXCEL spreadsheet, be sure to use one of the printer names found in this list. (Information on how to initiate log printing and scheduling can be found in the **Personal Work Center 90 Configuration** instruction and the **Personal Work Center 90 Operation** instruction.)

Printing can also be performed using the standard Microsoft EXCEL print option.

SECTION 5 - START-UP AND OPERATION

INTRODUCTION

This section provides information for the initial start-up of the Personal Work Center 90 (PWC90) console.

PWC90 STARTUP

PWC90 console start-up behavior is determined by the options selected during PWC90 software installation. (To view or change the start-up options, select *Setup* from the Elsas Bailey PWC program group in the program manager.)

If the *Start PWC90 Displays Automatically* option was selected, then each time Windows NT is restarted, the user named pwcuser is automatically logged in, and the PWC90 windows (the system window, process alarm window and operator window[s]) are automatically opened. (Refer to **PWC90 USER ACCOUNT** in this section for details on the pwcuser account.)

If the *Start PWC90 Displays Automatically* option was not selected, then the PWC90 displays can be started by logging in to Windows NT, selecting the program group titled *Elsag Bailey PWC* from the Program Manager, and double clicking on the *System Window* or *Operator Window* icon.

NOTE: The PWC90 software can only be run if the user is logged into a Windows NT user account which belongs to the Windows NT Administrators group. If the user logs into an account which is not a member of the Windows NT Administrators group, an error dialog box containing the following message will appear whenever the user tries to open a PWC90 window:

Unable to communicate to the service manager.

Both the pwcuser account and the administrator account belong to the administrators group.

Licensing During Initial Start-Up

There are several features available to be used with PWC90. Several of these features require unique licenses in order to run, including the PWC90 software itself. For this purpose, a hardware key is necessary which plugs into the computer's parallel port, as well as a software key which must be entered before PWC90 will run.

After the installation of PWC Server and/or Client is performed, the first attempt to run PWC will indicate that no valid license for PWC90 exists, and will prompt the user to enter a

license. Answering *YES* will invoke the *PWC Maintenance Utility*, and answering *NO* will terminate PWC90 from further execution.

In the *Maintenance Utility* window, the existing licenses (if any exist) can be viewed by selecting *License Admin* from the menu, and then selecting *Open*. Three buttons will appear on the bottom of the *Maintenance Utility* window; *Add*, *Modify*, and *Delete*.

Select *Add* from the *PWC Maintenance* window to add a license. An *Add New Feature* dialog will appear with the following fields:

- Feature.
- Version.
- Expiration date.
- Number of users.
- License key.
- User string.
- Machine ID.

The values entered for these fields will be checked against the hardware key plugged into the parallel port.

There are several features which are supported by PWC90. A feature may be selected from the drop down list of predefined features, or manually entered into the feature field. Some of the features which require a license include:

- pwc90.
- i90SRVR.
- log.
- hdb.
- aagSRVR.
- archive.

The license for pwc90 is the minimum requirement for the PWC90 client software to run. For the server, a pwc90, hdb, and i90SRVR licenses are the minimum requirement.

A valid *Version* number must be supplied for the corresponding feature. The default will be the version of PWC90 installed.

An *Expiration Date* may be entered, after which the license is not valid, in the form:

DD-MMM-YY

Optionally, if the feature was not assigned an expiration date, the default 1-jan-00 may be used, indicating that the feature will not expire.

The *Number of Users* for a particular feature may be included. If not specified, the default value is zero [0].

Every feature has a unique 20 character software *License Key*. The *License Key* must be entered, and has no default value.

The *User String* may contain other information necessary for a valid license. This string must be enclosed by quotations [“”].

The *Machine ID* corresponds to the identification number of the hardware key attached to the computer's parallel port. If a hardware key is correctly installed into the parallel port, a default *Machine ID* value will be supplied.

Click on *Apply* to commit the entered feature information to the license file without exiting the *Add New Feature* dialog or click on *OK* to commit the entered feature information to the license file, and exit the *Add New Feature* dialog. Otherwise click on *Cancel* to exit the *Add New Feature* dialog without saving any changes made after the last use of the *Apply* button. The *Help* button is also available, choose this option for the *PWC Configuration Guide* index of help topics.

Any fields of a feature may be modified by choosing an existing feature, and then clicking on *Modify*.

Any existing license may be deleted by first selecting the license, and then clicking on *Delete*.

Choose the *Open* menu option from the *License Admin* menu to open the existing file containing the license data. Note that no file name can be specified, instead the **license.dat** default file name is used. Once the file is opened, licenses can be added, deleted or modified.

Choose the *Save* menu option from the *License Admin* menu to save changes made to the license file. Note that if *Save* is chosen before the existing license file has been opened using the *Open* menu option, the license file will be erased.

I90SRVR FEATURE

The i90SRVR license allows the INFI90 Server to run and must be entered manually in the *Feature* field of the *Add New Feature* dialog. If this license is not entered, PWC will not be able to start the PWC90 server and hence you will not be able to perform any of the utilities offered by the server (i.e., Server Diagnostics and Configuration, Module and Block details, Tag Summaries, etc.).

log FEATURE

The log feature allows the use of the PWC90 logging utilities, some of which use Microsoft EXCEL. If logging is attempted when this license is not present, any attempt to open a spreadsheet log will result in Excel opening, and then crashing with a *Fatal Error* if the spreadsheet contains at least one fp macro. If a blank spreadsheet is opened, EXCEL will not crash unless you attempt to use one of the fp macros.

hdb FEATURE

This hdb feature allows use of the historical data base utilities. If this license is not entered, no information will be stored in the historical database.

aagSRVR FEATURE

The aagSRVR feature allows the @aGlance server to run on PWC90. If this license is not entered, any attempts by the server side to configure @aGlance will fail, followed by an error message indicating that the @aGlance license has not been entered. Any attempts by an @aGlance client to access an @aGlance server which has no valid license will result in an error stating that there is no such server.

archive FEATURE

The archive feature allows the use of PWC90 archival utilities, and must be entered manually in the *Feature* field of the *Add New Feature* dialog. The PWC archival configuration utilities will still be available without a license, but when archival is attempted, a *Not Licensed for this Feature* message will be displayed.

pwc90 OPTIONS

The pwc90 feature can be purchased for either a standalone or networked system. The difference will be encoded in the *User String* field of the license.

If a license for a standalone system was purchased, the *User String* field will contain the value *01*. In this case, no other system will be able to communicate with the standalone system, although the standalone system may be able to communicate with other networked systems.

If a license for a networked system was purchased, the *User String* field will contain any value other than *01*. In this case the networked system can communicate with other networked systems.

i90SRVR OPTIONS

The INFI-90 Server can be licensed for a various number of tags. The standard licenses available are 200, 5000, and 10000 tags. The number of tags that the server is licensed for will be encoded in the *Number of Users* field of the license.

200 Tags

A license for 200 tags will have a two in the *Number of Users* field. In this case the server will not allow more than 200 tags.

5000 Tags

A license for 5000 tags will have a 50 in the *Number of Users* field. In this case the server will not allow more than 5000 tags.

10000 Tags

A license for 10000 tags will have a 100 in the *Number of Users* field. In this case the server will not allow more than 10000 tags.

Other Tag Amounts

If a license is purchased for some other amount of tags, they will be represented in the *Number of Users* field as hundreds of tags. (i.e., 3500 tags will be represented as 35 in the *Number of Users* field).

PWC90 Network Service Start-up

All of the PWC90 windows make use of the PWC90 console network service for communication, database access, and other support. If a PWC90 window is opened and the PWC90 network service is not yet running, it will be started, and a window titled *PWC Network Start-Up* will appear. A counter in this window will update each second while the PWC90 network service starts. The time required for the network service to start-up can vary widely, depending on the number of other PWC90 console on the network and the amount of configuration information to be synchronized between them. The progress of the start-up can be monitored by clicking on *Log*, and periodically clicking on the Refresh button in the resulting pop-up window.

The *Exit* button in the *PWC Network Start-Up* window will close the window, but it does not cancel the PWC90 network service start-up.

When the start-up of the PWC90 network services is complete, the *PWC Network Start-Up* window will close, and the PWC90

window appear. If this is the system window, then the process alarm window and operator window will also appear.

STOPPING THE PWC90 SOFTWARE

The display portion of the PWC90 software can be stopped by closing all of the PWC90 windows. This means the user interface is shutdown, while the network service level continues to operate. Alternatively, the PWC90 software can be completely shutdown by stopping both the display functions and the network service. Shutting down both the display portion and the network service level in effect removes the PWC90 from the network.

Closing the PWC90 Windows

The PWC90 windows can be closed in either of two ways:

1. Click on the system window *Menu* button and select *User*, then *Exit*, from the resulting menus. The *System Window Exit Options* window will be displayed. In this window, click on *Close System Window And Other PWC90 Windows*. Click on *Ok* to complete the operation.
2. Logoff from Windows NT. This is accomplished by selecting the *Logoff* item from the *File* menu in the *Program Manager*, or by pressing **CTRL** - **ALT** - **DELETE** and clicking *Logoff* in the resulting pop-up window.

Stopping the PWC90 Network Service

The PWC90 network service will continue to run after all PWC90 windows are closed, and after the user has logged off from Windows NT. (This allows process data to be collected and stored even when no PWC90 windows are open.) The PWC90 network service can be stopped in either of two ways:

1. To stop the PWC90 network service and close all PWC90 windows, click on the system window *Menu* button and select *User*, then *Exit*, from the resulting menus. The *System Window Exit Options* window will be displayed. In this window, click on *Full PWC90 Shutdown - Close All PWC90 Windows And Stop PWC90 Network Level*. Click on *OK* to complete the operation. This is the preferred method of stopping the PWC90 network service. Login to the Windows NT operating system as administrator to use this option.

NOTE: The *pwuser* account automatically starts PWC90 but does not permit a full shutdown. If necessary, a user with Administrative privileges can use *PWC Maintenance* to select *Full PWC Shutdown* under the *Basic* menu item.

2. The PWC90 network service can be also stopped from the *Control Panel* program group. To do so, go to the *Program Manager* window and double-click on the *Control Panel* icon in the *Main* program group, then double click on the services icon in the *Control Panel*. In the resulting *Services* window, select *PWC Network Level* from the list of services, then click on *Stop*.

PWC90 USER ACCOUNT

During installation of the PWC90 software, a Windows NT user account named *pwuser* is created. This is intended to be used as a captive account for plant operators, dedicated to running the PWC90 display applications. (Note that the PWC90 software does not have to be run from the *pwuser* account, it can be run from any Windows NT user account which belongs to the NT Administrators group). The important features of the *pwuser* account are listed below.

1. Display start-up: Upon logon to the *pwuser* account, the PWC90 display applications are started. The system window, process alarm window, and one or more operator windows are opened. (There may be a delay while the PWC90 network service is started.) The first time executing logon to the *pwuser* account, some configuration changes are automatically made to the account. A pop-up window with the following message appears:

*Completed setup of pwuser account.
Logging off now to save setup.*

2. Task Bar: After logging on to the *pwuser* account, the Task Bar is hidden so that only PWC90 applications can be run.

NOTE: With the proper PWC90 access level, a user can select the *Other Applications* menu item from the *Utilities* menu (available from the PWC90 System Window) to view the Task Bar.

3. Autologon: If the *Start PWC90 Displays Automatically* option was selected during PWC90 installation, the *pwuser* account will automatically be logged on during system start-up. This is implemented using the Windows NT autologon feature. Logoff from the *pwuser* account is accomplished by choosing the *Exit* item from the *User* menu (accessed from the system window *Menu* button). Logoff can also be performed by pressing **CTRL** - **ALT** - **DELETE** simultaneously, and then clicking on the *Logoff* button. Note that if the autologon feature is enabled, the *pwuser* account will immediately be logged on again. The autologon feature can be disabled in either of two ways:

a. Hold **SHIFT** down during logoff, and the normal Windows NT logon window (which prompts for username and

password) will eventually be displayed. At this point the user can logon to any Windows NT user account.

b. Alternatively, the user can select *Setup* from the PWC90 program group, then de-select the *Start PWC90 Displays Automatically* installation option.

NOTE: After a user other than pwcuser has logged on to Windows NT (for example, if logged on as administrator), the autologon feature is disabled. To re-enable it, the user must logon as pwcuser again, or the user must again select the *Start PWC90 Displays Automatically* installation option from the PWC90 Setup program.

4. Password: The default password for the pwcuser account is ***passwd***. If the user wants to change the password, select the Setup program from the PWC90 program group, and click on *Password* in the *Installation Options* window.

PAGE FILE SIZE REQUIREMENTS

Depending on the number of tags that will be contained in the database, the following page file settings are recommended:

- 10 000 Tags - 130 MB.
- 5 000 Tags - 100 MB.
- 200 Tags - 80 MB.

To change the page file size, select *Start, Settings, Control Panel*, and select the system icon. On the *Performance* tab, click on *Change* in the *Virtual Memory Section*. In the *Paging File Size for Selected Drive* section, enter the new page file size in the *Initial Size(MB)* entry box, and click on *Set* to commit the change. If the maximum allowed page file size is less than the required page file size, change it to be 50 MB greater than the minimum page file size setting. For example, if the minimum page file is 130 MB, the maximum page file size should be 180 MB. Once the operation is complete, click on *OK*. A dialog will pop up asking if the system should restart the computer, select *Yes*. The new page file size will then be in effect.

RE-INSTALLING THE PWC90 SOFTWARE

If the PWC90 software has already been installed, and the user wishes to re-install it, use the following procedure.

1. If necessary, backup the PWC90 configuration using the PWC90 Backup/Restore utility. (The Backup/restore utility is accessed via the *utilities* item available from the system window *Menu* button.)

2. Archive any historical data that needs to be keep. (The *Archive Database* utility is accessed via the *Utilities* item available from the system window *Menu* button.)

3. Install the PWC90 software as described in **SOFTWARE INSTALLATION** in Section 4.

REMOVING A PWC90 INSTALLATION

If necessary, the PWC90 software and related data can be completely removed from the PC on which it is installed. To do so, go to the program manager and select the program group titled *Elsag Bailey PWC*. In this program group, There are three uninstall icons:

- Uninstall SemAPI.
- Uninstall PWC90.
- Uninstall.

Uninstall the semAPI programs first.

1. Click on the *Uninstall semAPI* icon.
2. A pop-up dialog confirming the file deletion appears. Click on *Yes* to continue the deletion or click on *No* to cancel.
3. Click on yes in the next two status dialogs. When the operation is complete the icons will be removed from the Elsag Bailey PWC program group.

Uninstall the PWC90 applications.

1. Click on the *Uninstall PWC90* icon.
2. A pop-up dialog confirming the file deletion appears. Click on *Yes* to continue the deletion or click on *No* to cancel.
3. Click on yes in the next two status dialogs. When the operation is complete the icons will be removed from the Elsag Bailey PWC program group.

Uninstall the base PWC software and the Elsag Bailey PWC program group.

1. Locate and click on the icon labelled *Uninstall*. A confirmation box will be displayed, which warns:

*Uninstall causes all PWC tasks to be stopped,
all PWC software and databases to be removed,
and all PWC installation information to be removed.*

Do you wish to continue?

2. Click on *No* to exit the confirmation box and leave the PWC software intact, or click on *Yes* to uninstall the PWC software. Doing so will completely remove the following:

- All PWC90 software.
- The Eltag Bailey PWC90 program group.
- The pwcuser account.
- All PWC90 configuration data.
- All data in the historical database.
- All data in other INFI 90 OPEN related databases.

When the operation is complete a pop-up dialog appears confirming that the deletion is complete. Click on OK to close the window.

This utility need not be used if re-installing or upgrading the PWC90 software.

NETWORK TIME, TIME ZONES, AND TIME SYNCHRONIZATION

Many PWC90 operations are performed on a network-wide basis. Time synchronization on the network is critical to support such operations.

All timestamps in PWC90 are stored in Greenwich Mean Time (GMT), and then converted to the local time for display to the user. Conversion from GMT to local time on a particular computer is controlled by the time zone setting and daylight saving time setting on that computer.

Verifying Consistent Network GMT

It is very important that all nodes on the network have the same notion of the current GMT. The fact that all nodes on the network display the same time does not mean that their GMT time values are identical! Different time zone and daylight saving time settings could be masking different GMT values. The following procedure can be used to verify that all PWC90 nodes have the same GMT value, and the same time zone and daylight saving time settings:

1. On all nodes, compare the current time displayed in the PWC90 system window. It should be the same on all nodes.
2. From the PWC90 system window menu click on *Configure*, then click on *Message Configuration*.
3. Enter a test message and click on *Send*.
4. The message and its time stamp will be displayed on the bottom line of the process alarm window. (If the message and timestamp do not appear, check the filtering configuration.)
5. Compare the time stamp in the process alarm window on all nodes; it should be the same.

If the comparison performed in step one or step five fails, then either the GMT is not consistent across all nodes, or the time zone and daylight saving time settings are not consistent, or both.

Changing the Time Zone Setting

To change the time zone for the PWC90 console, double click on the time at the right of the task bar. Right click on the time and select *Adjust Date/Time* option. Select the *Time Zone* tab. Use the drop-down combo box labelled *Time Zone* to select the desired time zone. After changing the time zone, use the text entry box labelled *Local Time* to enter the correct value for the local time.

NOTE: When selecting a different time zone, Windows NT does not recompute the local time value. The user **MUST** adjust the local time to the correct value after changing the time zone and before clicking OK in this window. If the user changes only the time zone and click OK, the GMT will be changed to match the date and time currently displayed in the *Date/Time Properties* window. (It is typically only necessary to change the hour, although the date may need to be changed, too, depending on the time of day at which the change is being made.)

Daylight Saving Time

The daylight saving time adjustment is also controlled from the *Date/Time Properties* window. If the *Automatically Adjust For Daylight Saving Time* option in the *Time Zone* tab of the *Date/Time Properties* window is selected, the US daylight saving time rule (first Sunday in April to last Sunday in October) will be used when converting GMT to local time.

This rule may not be correct in all time zones. If there is a difference in the rule governing daylight saving time at your location, Do Not change the local time on the PWC90 (this would change the GMT and violate the rule of the common GMT). Instead, on the first day of daylight saving time, manually select the button labelled *Automatically Adjust For Daylight Saving Time*. De-select this item on the first day after daylight saving time ends.

Time Adjustment

All PWC90 applications assume a monotonical (always increasing) GMT time value. Manual adjustments to the local PWC90 time can violate this assumption, and can also unsynchronize the network time. For these reasons, care must be taken when adjusting the time.

If time adjustment is needed, this procedure should be followed:

1. Shut down all PWC90 nodes except for one.
2. Stop the PWC90 applications and servers on this node.
3. Change the time setting. If setting the time back, wait an interval at least equivalent to the value of the adjustment before proceeding. (For example, if setting the time back five minutes, wait five minutes before proceeding.)
4. Restart the node and verify that the time is correct.
5. Start the other nodes on the network.

SECTION 6 - TROUBLESHOOTING

INTRODUCTION

The Personal Work Center 90 (PWC90) is a software product installed on a personal computer. This means the environment in which the PWC90 console components are installed can be very site-specific. Table 6-1 provides general information and cross references to aid in problem resolution for problems arising during installation and setup of PWC90 console components. If the source of the problem is external to PWC90 console hardware and software (i.e., in Windows NT, in a third-party Ethernet interface board or driver, etc.), consult the appropriate documentation.

Table 6-1. PWC90 Software Installation and Setup Problems and Recommendations

Symptom	Recommendation
No power, LEDs not lit.	Make sure power cable is properly connected.
	Make sure that the power switches on the personal computer unit and the monitor are in the <i>On</i> position.
PWC90 software not running.	Make sure the hardware key is properly installed on the parallel port. The hardware key is used to license the PWC90 software, and must be installed for the PWC90 software to run. Refer to Attachment of the Hardware Key in Section 4 for information on installing the hardware key.
	Make sure the PWC90 software has been properly installed. Refer to PWC90 Installation in Section 4 for information on installing the PWC90 software.
	Make sure that the pwc90 license has been properly installed. Installation of the pwc90 license is discussed in Licensing During Initial Start-Up in Section 5.
Not communicating on the Ethernet network.	Make sure the Ethernet interface board is properly installed.
	Make sure the driver and other software for the Ethernet interface board is properly installed. Refer to VERIFY NETWORK INTERFACE CONFIGURATION in Section 4 for details on network interface software installation.
	Make sure the IP address and subnet mask for the Ethernet interface board are properly configured. Refer to VERIFY NETWORK INTERFACE CONFIGURATION in Section 4 for details on configuration of these items.
Not communicating on the INFI 90 OPEN network.	Make sure serial port and cable connections are correct.
	Make sure all communication parameters are set correctly, such as baud rate and parity.

DIAGNOSTIC MESSAGES

Diagnostic output on the PWC90 console falls into two categories:

- Messages generated by the Windows NT operating system.
- Messages generated by the PWC90 software.

Windows NT Messages

Messages generated by the Windows NT operating system can be viewed using the Event Viewer from the Administrative Tools program group. See the documentation which accompanies the Windows NT software for further details on use of this item.

PWC90 console Diagnostic Output

Diagnostic output from PWC90 console server programs and applications is stored in the **SYSLOG** and **SYSLOG.OLD** files. For details on this utility, refer to **Display Log File Menu Item** in Section 7.

TECHNICAL SUPPORT

Technical support for the PWC90 product is available from Elsag Bailey Process Automation. Contact the local Bailey office for information on obtaining technical support.

SECTION 7 - MAINTENANCE

INTRODUCTION

The Personal Work Center 90 software includes a system administration utility called PWC Maintenance. This utility provides PWC maintenance operations and administrative functions. To access it, select *Start, Programs, Elsag Bailey PWC, PWC Maintenance*.

Once the PWC Maintenance utility is started, the PWC Maintenance utility window will be displayed. This window has three items available from the menu bar:

- Basic.
- String files.
- License admin.

Each of these menu items provides access to a pull-down menu.

The remainder of the window is blank when the window is first displayed. The contents of this part of the window will vary, depending on which menu item is selected. This chapter describes the maintenance utilities and administrative functions available from the PWC Maintenance utility window.

BASIC MENU

The *Basic* item on the PWC Maintenance utility window provides access to the following menu items:

- Display log file.
- Set system language.
- Set time synchronization priority.
- Exit.

Display Log File Menu Item

Diagnostic output from PWC90 server programs and applications is stored in a system log file named **SYSLOG**. As messages are generated, they are appended to the bottom of the file. When **SYSLOG** reaches approximately 100 KB, the contents are moved to a file called **SYSLOG.OLD**, and the previous contents of **SYSLOG.OLD** are discarded. This prevents the system log files from consuming too much disk space.

The data in these files can be helpful in identifying problems if the PWC90 software does not start correctly, or is not functioning correctly.

Use the *Display Log File* item on the *Basic* menu to view the **SYSLOG** and **SYSLOG.OLD** files. When the *Display Log File* item is clicked on, the main portion of the PWC Maintenance utility window will display the **SYSLOG** file in a scrollable list box. Use the radio buttons at the top of the list box to toggle between **SYSLOG** and **SYSLOG.OLD**.

The **SYSLOG** display does not update dynamically. To view messages which have been generated since the **SYSLOG** file was opened for viewing, click on the **SYSLOG** toggle button. This causes the **SYSLOG** file to be reread. To view the newest entries in the file, click on *Bottom*.

To search for a particular string, enter that string in the *Find* text entry box and click on *Find*. The line containing the desired string will be displayed in the list box. The arrow button at the end of the text entry box determines the direction (up or down in the file) of the search.

Set System Language Menu Item

By default, English is the language used for the text found on PWC90 console windows, menus, buttons, and so on. The labels, titles and other words used in this manner are called *strings*. Users who wish to customize their system and translate text strings into languages other than English can create new directories of string files for the desired language(s). The English language strings in these files are then translated into the new language. When this task is completed, the PWC90 console must be instructed to use the directory for the new language instead of the English directory. (Creation of new string files and string file directories is discussed in **STRING FILES MENU** in this section.)

To change the language directory used, click on the *Set System Language* item on the *Basic* menu. The *Select Language* window will be displayed. Click on the desired entry (for example, German), then click on *OK*. Any windows opened after this operation has been completed will be displayed in the new language. Windows which were already opened will remain in the original language; close them, then re-open them to use the new language.

NOTE: The PWC90 setup program always sets the system language directory to be English during the PWC90 software installation.

Set Time Synchronization Priority

Use the *Set Time Synchronization Priority* utility to set the time synchronization priority to any value between one and ten. The default value is one. Click on *OK* to commit the change or on *Cancel* to exit the utility without saving the changes.

Exit

Use the *Exit* item on the *Basic* menu to exit the PWC Maintenance utility program. If editing an item such as a string file, the user will be prompted to save the changes before exiting.

STRING FILES MENU

The *String Files* item on the menu bar of the PWC Maintenance utility window is used to access the utilities used to create new language directories and to create, modify and verify string files. The String Files menu includes the following utilities:

- Open.
- Save.
- Create language directory.
- Verify language directory.
- Update language directory.
- Delete language directory.

Modify a Language String File

The *Open* item is used to modify a language string file. Click on this menu item to display the *Load File* window. Toggle buttons in this window allow for the select the desired language directory (for example, English, German, French). After the language directory has been selected, a list box will display the available string files in that directory. Click on a file to select it, then click on *OK*. The text of the selected file will then be opened for edit (using the note editor) in the main portion of the PWC Maintenance utility window.

The file will contain comment lines (lines beginning with the # character), which provide information about the file. Below the comment lines are string file entry lines, which consist of a symbolic name, followed by a string value in quotes. For example:

```
SI_LOGIN      "LOGIN NAME: "
```

The symbolic name is the name used in the PWC90 software. The quoted string is the actual string that appears in various PWC90 console configuration and operator windows. The following rules must be observed when modifying a language string file:

- Only the characters within the quotation marks should be edited. No other portion of the file should be touched.
- Do not change the order of the entries.
- Do not add or remove quotation marks.

- Do not add or remove lines. (Blank lines may be inserted.)
- Formatting characters such as "%s" and "%d" should not be modified, deleted, re-ordered or added.

Changes to a string file are not made permanent until the file is saved using the *Save* option under the *String Files* menu (refer to **Save Changes to a Language String File** in this section.)

NOTE: The string files in the English language directory cannot be modified.

Save Changes to a Language String File

When modifying a string file using the *Open* menu item, current changes to the string file are made using the *Save* item on the *String Files* menu.

During the *Save* operation, the syntax of the file will be checked, ensuring that the symbolic names and the quoted strings are correctly paired together. If errors are encountered, information about the errors will be displayed in a pop-up window; line numbers of the lines in error will be included in the error descriptions.

Create a Language Directory

To create a new string file language directory, click on the *Create Language Directory* item in the *String Files* menu. A pop-up window will appear which contains a text entry box and prompts the user to enter the name of the new language directory to be created. A new language subdirectory with this name will be created.

Once the directory is created, the default English string files are automatically copied to this directory, and verified. The quoted strings in these files can then be translated into the desired language using the *Open* command.

Verify a Language Directory

Once changes have been made to string files, they must be compiled and verified before the changes take effect. Normally these actions are performed automatically by the *Save* operation. To verify a language directory manually, click on the *Verify Language Directory* item on the *String Files* menu. All the files in this language directory will be compiled and verified. When the operation is complete a *Verify Language Directory* window will be displayed. At least one line per string file is included in the list displayed in this window. If no errors are found for a file, the line states only that the file was verified. If errors are found, a description of the error(s) and the num-

ber(s) of the line(s) containing the error(s) will be included in the list.

Update a Language Directory

When a new PWC90 software release is installed on an existing PWC90 console, the new release may contain entries that are added or changed since the previous release. If user created language directories have been created, they must be updated to reflect the new or changed items.

NOTE: Before the new PWC90 software is installed, the existing user created language directories should be backed up using the *Backup/Restore* utility described in refer to the PWC90 Operation instruction. After the new PWC90 software has been installed, use the same utility to restore the user created language directories to the PWC90 console.

Use the *Update Language Directory* item on the *String Files* menu to determine what string file entries have been added or changed since the last release, that need to be translated.

When a user created language directory is made, a reference copy of the English version of each string file is created on the PWC90 console. (These reference copies are not normally available to the user.) When the *Update Language Directory* utility is run, the versions of the language string file (in the English language directory) are compared with the reference copies (in the user created language directory). The comparison will yield one of the following results:

- If an entry is compared and no differences are found, the entry in the language string file is preserved.
- If an entry is in the new English file but not in the old, an entry is added to the user created language string file containing the translations. This entry is preceded by the following comment line:

Translation Required.

If an entry does not compare, the *# Translation Required* comment line is added, as well as an additional comment line that includes both the old entry in the language string file, and the new English file entry.

- If the entry is in the old English reference file, but not in the new English string file, the entry in the user created language string is removed.

Once the comparisons for all files are complete, a pop-up window will be displayed which lists the files in the user created language directory which require editing (i.e., contain the *#Translation Required* comment lines).

Delete a Language Directory

To delete a user created language directory, click on the *Delete Language Directory* item on the *String Files* menu. A pop-up window will be displayed. This window contains a list of user created language directories which can be deleted.

NOTE: The English directory is not included in this list. This is the PWC90 console default language directory, and cannot be deleted.

To delete a language directory, click on the desired directory in the list, then click on *OK*. A confirmation box will be displayed which asks:

? Delete Language Directory.

Click on *Yes* to complete the delete operation; the language directory will be deleted and the system will return to the PWC Maintenance utility window. Click on *No* to exit without deleting the language directory.

ACCESSING THE LICENSE ADMINISTRATION UTILITIES

The *Open* item on the *License Admin.* menu is used to add, modify, and delete license keys. When this item is selected, the main portion of the PWC Maintenance utility window will contain a list of the currently licensed features for the PWC90 console. Function buttons in this window are used to *Add* new licensed features, and to *Modify* and *Delete* licensed features in the list. Changes made will not be permanent until the license data is saved using the *Save* item (refer to **Save Licensing Data for Licensed Features** in this section) on the *License Admin.* menu.

To add a new licensed feature, click on *Add* to display the *Add New Feature* window. This window contains a combo box labelled *Feature*, and the following text entry boxes:

- Version.
- Expiration date.
- Number of users.
- License key.
- User string.
- Machine ID.

Add a Licensed Feature

Enter the *Feature* name, *License Key* and *User String* data for the feature; the *Version*, *Expiration Date*, *Number Of Users* and *Machine ID* will be displayed automatically. Click on *Apply* to enter the information and leave the window open to add additional new features, or click on *OK* to add the currently configured feature information and close the *Add New Feature*

window. When either *Apply* or *OK* are clicked on, a license verification will occur. If any text fields contain incorrect data, an error pop-up window will be displayed, the feature will not be added to the list, and the system will return to the *Add New Feature* window.

Modify Licensing of an Existing Feature

To modify the configuration of a currently licensed feature, click on an item in the list of features, then click on *Modify*. A pop-up window very similar to the *Add* window will be displayed, except that all fields will be filled in with the selected feature's values. When either *Apply* or *OK* is clicked on, a license verification will occur. If any text fields contain incorrect data, an error pop-up window will be displayed, the license configuration for the feature will not be modified, and the system will return to the *Modify Existing Feature* window.

Delete a Licensed Feature

To delete a licensed feature, click on an entry in the list of features, then click on *Delete*.

Save Licensing Data for Licensed Features

The *Save* item on the *License Admin.* menu is used to save the licensed features that were edited using the *Open* item on the *License Admin.* menu.

Show Machine/Host ID

The machine/host ID number contained in the hardware key is used to uniquely identify each Personal Work Center 90. To view this number, click on the *Show Machine/Host ID* item on the *License Admin.* menu. The *Machine/Host ID* number will be displayed in a pop-up window. This number also appears in the *Machine Id* text field in the *Add New Feature And Modify Existing Feature* windows.

SECTION 8 - SUPPORT SERVICES

INTRODUCTION

A number of support services are available to users of the Personal Work Center 90 software and equipment. These include training programs, software maintenance agreements, and replacement parts.

SOFTWARE MAINTENANCE AGREEMENT

A software maintenance agreement provides the user with software update service. Software updates may provide modifications, improvements and/or enhancements to existing functionality. Software update service includes:

- The right to receive all updates for the software specified in the agreement, and related standard documentation, released during the term of the agreement.
- Access to an electronic bulletin board related to INFI 90 OPEN products for a specific number of employees of the user.

NOTE: Technical support and installation of software updates are not included in the software update service.

TRAINING

Bailey has a modern training facilities located around the world to provide service and repair instruction. On-site training is also available. Contact a Bailey sales office for specific information and scheduling.

TECHNICAL DOCUMENTATION

Additional copies of this manual can be obtained from the nearest Elsag Bailey Process Automation sales office at a nominal charge.

SECTION 9 - @aGlance/IT SERVER INTERFACE

INTRODUCTION

The @aGlance/IT server interface is an optional utility which provides a live data link between the Personal Work Center 90 (PWC90) console and a variety of software applications resident on other distributed control systems, supervisory control systems, personal computers, and so on. Easy access to this plant data assists those involved in such pursuits as problem analysis and resolution, product improvement, process improvement and resource optimization. Obtaining process data directly from the process control system eliminates the possibility of error induced by manual data entry. @aGlance/IT provides a clean, standardized open interface which allows data to be transferred between different hardware platforms while retaining its meaning, despite inherent differences in the way data is formatted on different systems (i.e., byte order, floating point formatting, and so on).

Tools in which the user may wish to import live process data include a broad range of applications, such as relational databases, expert systems, spreadsheets, simulation tools, report generators, visualization tools, statistical analysis packages, planning tools, charting tools and graphic tools. Each class of tools (i.e., spreadsheets, statistical packages, and so on) has a different way of interacting with users.

In order for the exchange of data to take place, @aGlance/IT is required for each participating network partner.

The architecture of the @aGlance/IT software is based on a client-server model. A process known as an @aGlance/IT *server* typically runs on the system which owns the process control data (i.e., a PWC90 console); a process known as an @aGlance/IT *client* typically runs on the system which will be a consumer of that data (i.e., a PC or a supervisory control computer). A system can run both client and server applications simultaneously. The optional INFI 90 OPEN interface to @aGlance/IT is an @aGlance/IT server available for use on PWC90 consoles. @aglance client software is provided separately.

@aGlance/IT API for PWC90 Consoles

Any @aGlance/IT client can connect to any @aGlance/IT Server, assuming the minimum requirements for network transport are met to access the server running on the PWC90 console.

The @aGlance/IT Application Programming Interface (API) on PWC90 console consists of:

- @aGlance/IT server which can provide data to @aGlance/IT clients.
- Support for @aGlance/IT methods (functions) used by:

Commercially available @aGlance/IT client applications (i.e., the @aGlance/IT Add-In for EXCEL).

Users engaged in creating custom @aGlance/IT client applications.

Also provided is a window-based interface for:

- Identifying data structures in INFI 90 OPEN servers (by tagname and atom).
- Defining translations for the INFI 90 OPEN tag atoms to other terminologies, such as the Instrument Society of America's SP72 standard.
- Viewing information about servers and server activity.

The implementation of @aGlance/IT on PWC90 consoles permits the access of up to 500 points per second from either the client or server side.

@aGlance/IT Server Requirements

The following requirements must be met in order to successfully run the @aGlance/IT API server:

- TCP/IP must be installed on the node on which the @aGlance/IT server is to run.

On the PWC90 console, if a single channel Ethernet board is present and detected by the Windows NT software during installation, the necessary TCP/IP software will be loaded automatically.

- A properly installed license for the @aGlance/IT API for PWC90 console must be present. One PWC90 @aGlance/IT Server Interface license is included with each set of PWC90 software. Additional licenses can be purchased.

On the PWC90 console, the user is prompted to enter license keys during the initial start-up of the system, as described in **Licensing During Initial Start-Up** in Section 5. After the initial start-up, installation of license

keys is performed using the *License Administration* menu, refer to **Add a Licensed Feature** in Section 7.

NOTE: If the license has not been installed for the PWC90 @aGlance/IT server interface, it is still possible to use the @aGlance/IT Administration Tool described in **Configuring the @aGlance/IT Server Internal Interface** in this section. It will not be possible to start @aGlance/IT servers on the PWC90 console.

@aGlance/IT SERVER OPERATION

The @aGlance/IT API for PWC90 console translates between the @aGlance/IT methods and data structures, and those of the INFI 90 OPEN server.

NOTE: Configuration of the @aGlance/IT internal interface on the PWC90 console is performed using utilities provided by Intuitive Technology Corporation. It is assumed that the user has had Windows NT training and/or experience, and has an understanding of the Windows NT environment. It is further assumed that users creating custom @aGlance/IT clients are familiar with @aGlance/IT development software and the documentation (including on-line help) supplied by Intuitive Technology Corporation.

Configuring the @aGlance/IT Server Internal Interface

There are two aspects to @aGlance/IT server configuration: external interface configuration and internal interface configuration. The @aGlance/IT external interface configuration is used to identify tagnames and attributes (atoms) in the INFI 90 OPEN server, and is described in PWC90 Configuration instruction.

The @aGlance/IT internal interface configuration, described here, is used to identify the nodes on which @aGlance/IT servers will run. Servers identify themselves to @aGlance/IT at run time, and client applications specify, at run time, the names of the servers with which they wish to communicate. Internal configuration, accomplished using the @aGlance/IT Administration Tool, is required so that the server nodes can be recognized by @aGlance/IT clients. When a client issues a request to communicate with a server application, @aGlance/IT will look for it on servers which have been identified using the @aGlance/IT Administration Tool.

After an @aGlance/IT server has been defined, the @aGlance/IT item available from the system window *Menu* button provides access to the external interface. The external interface provides the ability to identify the set of tagnames and their associated attributes (atoms) which will be recognized by the @aGlance/IT servers. It also allows the user to configure translations of the attribute (atom) names, to make them recognizable to applications on other platforms.

Registering Server Nodes

To access the @aGlance/IT Administration Tool, select *Start, Programs, Eltag Bailey PWC, @aGlance/IT Administration*. In the resulting window, click on the @aGlance/IT Administration icon. The @aGlance/IT Administration Tool will be displayed. The main options on this window are:

- Server hosts (server host registration).
- Proxies (client registration).
- Permissions (permission configuration).

Use the *Server Hosts* option to register all potential server node names in the @aGlance/IT configuration database for the local node. Server registration identifies and characterizes nodes which contain a server that client applications will access. When the *Server Hosts* option is selected, the user interface provides a text entry box labelled *Server Host*. To register a server node, enter the internet host name of the server in this text entry box.

Server registration is only necessary on nodes where a client application (i.e., Microsoft EXCEL) exists. All nodes containing client applications have to register the name of the PWC90 console which contains the @aGlance/IT server, in order to find and communicate with the server.

The PWC90 @aGlance/IT Server communicates using TCP/IP. If there are questions about TCP/IP or about internet host names in use, see the system administrator. If there are questions about the options on or configuration via this display, see the on-line help text available from the Help button.

Information about client nodes and client users is configured using the *Proxies* option, which is described in **SECURITY FOR THE @aGlance/IT SERVER** in this section.

Starting a Server and Server Names

Typically, the maximum number of @aGlance/IT servers for which the node is licensed are started when the system is started. A server started automatically by the system will be assigned a default name in the format:

EB<node name>

where the *i* is an index number used to identify the server, and the <node name> is the name of the PWC90 console on which the server is running. For example, if the node named PWC4 is licensed for two servers, two servers will be started automatically. The servers will be named EB1PWC4 and EB2PWC4.

A maximum of two @aGlance/IT servers can run simultaneously on a PWC90 console, and each of these servers can have up to five simultaneous client connections.

Starting a Server with Non-Default Options

It is possible to customize parameters such as server name and interval for the servers which are started automatically on system start up. To do so, create a file named **aagServ.dat** in the directory **\PWC\data**. Each line in this file is an entry that includes the options which define one server. For example, to define two servers, named **spock** and **tuvok**, each with a monitor interval of three seconds, the **aagServ.dat** file would consist of the following lines:

```
-s spock -m -i 3
-s tuvok -m -i 3
```

Available server start-up options are described in Table 9-1.

Table 9-1. Options for Use When Starting a Server

Option And <Argument>	Description
-server <server name>	The argument supplied with this option is the name to be used for the @aGlance/IT server. The server name can have a maximum of 20 characters. If this option is omitted, the default server name aagServer will be used. On a system licensed for the @aGlance/IT server for PWC90 consoles, the number of servers for which the system is licensed will be started automatically when the system is booted. (The maximum number of servers per node is two).
-nsessions <number>	The argument (number) supplied with this option determines the maximum number of sessions allowed for the @aGlance server. The maximum number of sessions allowed per server is five, which is the default used if the -nsessions option is not specified. If an argument with a value less than one is supplied with this option, the number of sessions will be set to one. If an argument with a value greater than ten is supplied, the number of sessions will be set to ten.
-interval <seconds>	The argument (seconds) supplied with this option defines the number of seconds in the poll interval. This argument is an integer; the minimum number of seconds that can be specified is one.
-monitor	When this option is used, the monitor feature will be enabled. Monitoring provides the means whereby an @aGlance/IT client is advised (at a default or specified poll interval) regarding the values contained in specified data points.
-daemon	When this option is used, the server will run as a background process.
-clientsshutdown	When this option is used, a client which requests a server shutdown using the AAG_Shutdown method will be able to shutdown the server, provided that the session which is requesting the shutdown is the only session running.
-evtmessage	When the -evtmessage option is used, these messages will be suppressed.

Each time a client starts or ends a session, a message is displayed in the system event display area of the mini-alarm window, the event review display, and is also entered into the event historian. The message contains the following data in the order shown:

<Time><Date><Node Name><@aGlance Server Name>(<INFI 90 login name>:<Remote Host name>:<Remote User account identification>)<session ID>.

NOTE: Clients do not need to be aware of which node the server is running on.

SECURITY FOR THE @aGlance/IT SERVER

The two aspects to security for the @aGlance/IT API for PWC90 consoles are:

- Client access to the @aGlance/IT server for PWC90 consoles.
- Access to the INFI 90 OPEN database.

Security for Access to the @aGlance/IT Server for PWC90 Consoles

Client proxy definition is used to specify which clients are permitted to access the server applications on the local node. A client proxy account is a mapping from a remote host name and user id to a local ID. Client proxies are configured on the node in which the @aGlance/IT Server for PWC90 consoles is installed. Client proxy definition is performed using the @aGlance/IT Administration Tool. (Access to the @aGlance/IT Administration Tool is described in **Configuring the @aGlance/IT Server Internal Interface** in this section.) From the @aGlance/IT Administration Tool, select the *Proxies* option.

From the user interface of the *Proxies* option, the following three types of client proxy accounts can be configured:

- One user on one host (a separate proxy account for a user on a remote node).
- All users on one host (a single proxy account for all users on a remote node).
- All users on all hosts (a single proxy account for all users on all remote nodes).

In all cases, the default proxy is called AAG.

The simplest procedure is to set up a single account for all users on all remote nodes. To use the default proxy (AAG), configure a PWC90 user named AAG, using the user login configuration as described in the PWC90 Configuration instruction. The desired access level and area permissions should be configured for the user named AAG.

Client proxy definition is a function of the @aGlance/IT Administration Tool provided by Intuitive Technology Corporation; it does not contain provisions for passwords on client proxy accounts. Security is based on the @aGlance/IT server for PWC90 consoles matching the remote node and user names with the local proxy configuration at runtime.

Refer the @aGlance/IT on-line help subsystem for information on client proxies and how to configure them.

Security for INFI 90 OPEN Database Access

Database access security for the @aGlance/IT Server for PWC90 consoles is based on the access level and area permissions configured on the remote node for the user running the @aGlance/IT client software. The access level and area permissions correspond to the local user name specified in the @aGlance/IT proxy account. Each session can be associated with a different proxy account.

SUPPORTED @aGLANCE/IT CLIENT APPLICATIONS

Add-Ins are software packages which provide client applications with an @aGlance/IT client interface, thus providing the application with the ability to interface with systems which include an @aGlance/IT server. Clients and servers can have totally different hardware architectures; the differences in underlying network protocols are resolved by the @aGlance/IT software.

For information on supported add-ins, Refer to the ***PWC90 Configuration*** instruction.

APPENDIX A - INICT03 MODULE SWITCH SETTINGS

SERIAL SWITCH SETTINGS

The following tables contain the recommended serial switch settings for the INICT03 module. For more information on this module and the INICI03 refer to the **INFI-NET to Computer Interfaces** instruction.

Table A-1. SW1 Selects Baud Rate for Port 0 and Port 1

Baud Rate	Switch Settings								Baud Rate	Switch Settings							
	Port 1				Port 2					Port 1				Port 2			
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8
50	0	0	0	0	0	0	0	0	1800	0	0	0	1	0	0	0	1
75	1	0	0	0	1	0	0	0	2000	1	0	0	1	1	0	0	1
110	0	1	0	0	0	1	0	0	2400	0	1	0	1	0	1	0	1
134.5	1	1	0	0	1	1	0	0	3600	1	1	0	1	1	1	0	1
150	0	0	1	0	0	0	1	0	4800	0	0	1	1	0	0	1	1
300	1	0	1	0	1	0	1	0	7200	1	0	1	1	1	0	1	1
600	0	1	1	0	0	1	1	0	9600	0	1	1	1	0	1	1	1
1200	1	1	1	0	1	1	1	0	19200	1	1	1	1	1	1	1	1

NOTE: 0=CLOSED (ON), 1=Open (OFF).

Table A-2. SW2 Enables Interface Diagnostics

Pole	Setting	Function
1	0	NIS handshake time-out enabled.
2	0	NIS diagnostics enabled.
3	0	INFI-NET diagnostics utilities disabled.
4	0	Hardware diagnostics disabled.
5-8		Not used.

NOTE: 0=CLOSED (ON), 1=Open (OFF).

Table A-3. SW3 Selects SCSI Options

Pole	Setting	Function
1	0	SCSI port disabled.

Table A-3. SW3 Selects SCSI Options (continued)

Pole	Setting	Function
2/3/4	0/0/0	Address = 0
	0/0/1	Address = 1
	0/1/0	Address = 2
	0/1/1	Address = 3
	1/0/0	Address = 4
	1/0/1	Address = 5
	1/1/0	Address = 6
	1/1/1	Address = 7
5	0	SCSI parity check disabled.
6-8	0	Not used (set open)

Table A-4. SW4 Selects Operating Options

Pole	Setting	Function
1	0	ROM checksumming enabled.
2/3	0/0	Selects port 0 and 1 data characteristics.
4	0	Port 1 option serial port to host.
5	0	Modem password protection disabled.
6	0	Port addressing mode disabled.
7	1	Checksumming option enabled ¹ .
8	1	

NOTE:
 1: The ICT03 will expect all commands from the host to include a checksum byte as the last character before the carriage return, the ICT03 includes a checksum in each reply.

Table A-5. Jumper Settings

Jumper	Setting	Function
J1	Vertical ¹	Set the RS-232-C diagnostic port to operate as DCE.
J2	4-1	4 Megabit SRAM device 512k x 8.

NOTE:
 1. This feature is used by Bailey Controls service personnel only. The J1 jumper setting does not affect the module during normal operation.
 2. Defines the type of SRAM memory.

Table A-6. SCSI Switch Settings SW3

Pole	Setting	Function
1	1	SCSI port enabled.
2/3/4	X/X/X	Refer to Table A-3 for address settings.
5	0	SCSI parity check disabled.
8-6	1	Not used (set open).

Table A-7. Part Number for Hardware Keys

Part No.	Used For	Port
L700972A2	IMICI03	Serial port
L700972A3	PWC PC	Parallel port

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