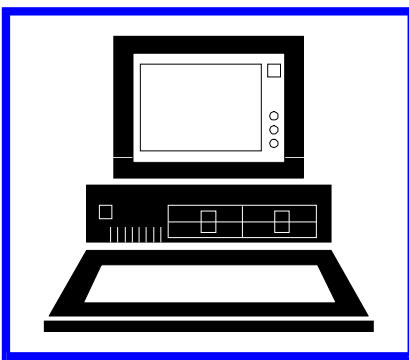
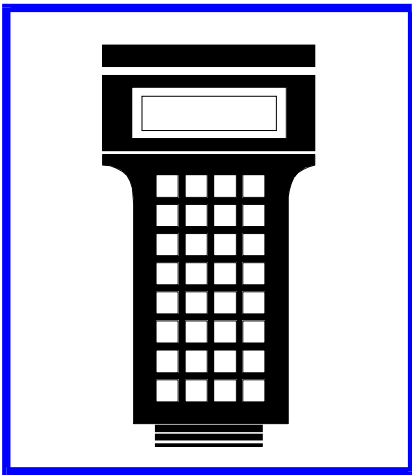
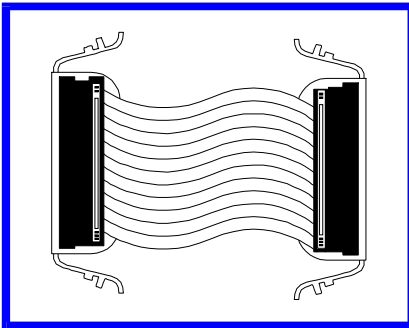
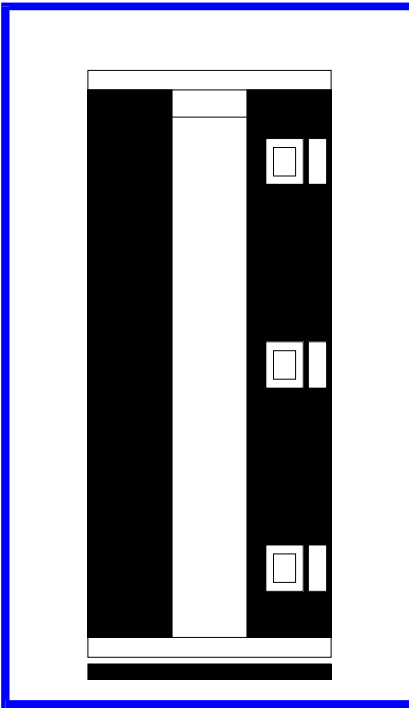
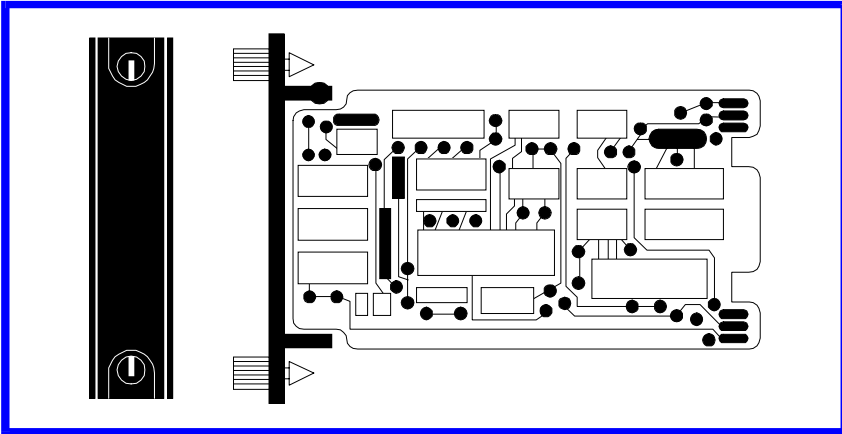
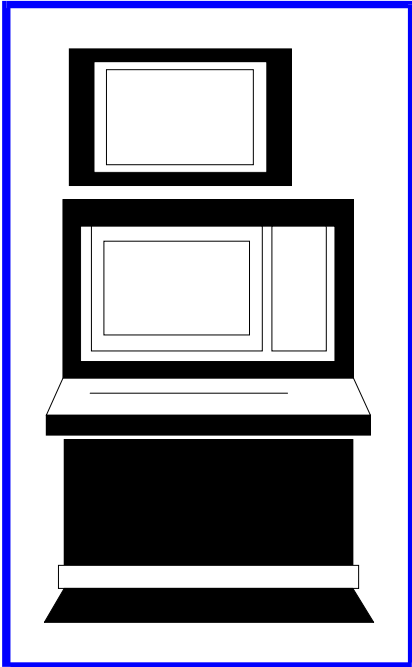


E97-811-5

Instruction

LAN-90[®] Process Control View (PCV[®]) Lab Data Entry (Software Release 5.2)



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 **Elsag Bailey** 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.

NOTICE

The information contained in this document is subject to change without notice.

Elsag Bailey, its affiliates, employees, and agents, and the authors and contributors to this publication specifically disclaim all liabilities and warranties, express and implied (including warranties of merchantability and fitness for a particular purpose), for the accuracy, currency, completeness, and/or reliability of the information contained herein and/or for the fitness for any particular use and/or for the performance of any material and/or equipment selected in whole or part with the user of/or in reliance upon information contained herein. Selection of materials and/or equipment is at the sole risk of the user of this publication.

This document contains proprietary information of Elsag Bailey, Elsag Bailey Process Automation, and is issued in strict confidence. Its use, or reproduction for use, for the reverse engineering, development or manufacture of hardware or software described herein is prohibited. No part of this document may be photocopied or reproduced without the prior written consent of Elsag Bailey.

Preface

This manual provides general information and specific instructions on configuring and using the LAN-90 PCV 5.2 Lab Data Entry package to enter manually-gathered data.

This manual can be used as a reference guide for system engineers and technicians responsible for configuring the Lab Data Entry package and as an operational guide for those who enter data.

This manual assumes the reader has a general knowledge of CRT-based process control systems.

List of Effective Pages

Total number of pages in this instruction is 33, consisting of the following:

Page No.	Change Date
Preface	Original
List of Effective Pages	Original
iii through v	Original
1-1 through 1-5	Original
2-1 through 2-3	Original
3-1 through 3-9	Original
4-1 through 4-8	Original
5-1 through 5-2	Original
Index-1 through Index-1	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.

Table of Contents

	<i>Page</i>
SECTION 1 - INTRODUCTION	1-1
OVERVIEW	1-1
REQUIREMENTS	1-1
Hardware	1-1
Software	1-1
CONTENTS OF THIS MANUAL	1-1
CONVENTIONS USED IN THIS MANUAL	1-2
RELATED DOCUMENTS	1-3
CONVERTING LAB DATA ENTRY FROM 4.X	1-3
COMPARISON OF LAB DATA ENTRY TO RELEASE 4.X	1-3
Configuring Tags	1-3
Configuring Lab Data Entry Screens	1-4
Assigning Exports to a Tag	1-4
Entering Lab Data	1-4
Assigning a Note to a Value	1-4
Assigning a Reason Code to a Value	1-5
Displays	1-5
Lab Data Summaries Output	1-5
SECTION 2 - INSTALLATION	2-1
OVERVIEW	2-1
INSTALLING LAB DATA ENTRY ON A NETWORK	2-1
LOADING LAB DATA ENTRY	2-1
SETTING THE CONSOLE START-UP OPTIONS	2-1
SECTION 3 - CONFIGURING LAB DATA TAGS	3-1
OVERVIEW	3-1
CONFIGURING TAGS IN THE TAG DATABASE	3-1
CONFIGURING LAB DATA ENTRY SCREENS	3-2
Assigning Tags to a Lab Entry Screen	3-4
Assigning Exports to a Tag	3-5
Comment Export	3-6
Reason Code Export	3-6
Exiting the Edit Lab Entry Screen	3-9
SECTION 4 - ENTERING LAB DATA	4-1
OVERVIEW	4-1
ENTERING LAB DATA ON A NETWORK	4-1
SELECTING A LAB ENTRY SCREEN	4-1
TYPES OF DATA ENTRY SCREENS	4-2
MOVING AROUND A DATA ENTRY SCREEN	4-5
ENTERING A NEW SAMPLE TIME	4-5
ENTERING AND EDITING DATA	4-6
Assigning a Note to a Value	4-6
Assigning a Reason Code to a Value	4-6
SAVING THE DATA	4-8
EXITING THE DATA ENTRY SCREEN	4-8
SECTION 5 - USING LAB DATA	5-1
OVERVIEW	5-1
TAG VALUES	5-1

Table of Contents (continued)

	<i>Page</i>
SECTION 5 - USING LAB DATA (continued)	
Internal Tags	5-1
Report Tags	5-1
EXPORTS ASSIGNED TO A TAG	5-1
GRAPHIC DISPLAYS	5-1
TREND AND SPC DISPLAYS	5-2

List of Figures

<i>No.</i>	<i>Title</i>	<i>Page</i>
2-1.	Accessing the PCV Setup Utility	2-2
2-2.	Console Configuration Menu	2-2
2-3.	Console List.....	2-3
2-4.	Console Options	2-3
3-1.	Tag Types	3-2
3-2.	Configure Screens Option	3-3
3-3.	Select Lab Entry Screen.....	3-3
3-4.	Edit Lab Entry Screen	3-4
3-5.	Assigning Tags to a Screen	3-5
3-6.	Assigning Exports to a Tag	3-6
3-7.	Text Tag Messages Option	3-7
3-8.	Editing Text Tag Messages.....	3-7
3-9.	Configure Reason Codes Option.....	3-8
3-10.	Editing Reason Codes	3-8
4-1.	Enter Data Option	4-2
4-2.	Select Lab Entry Screen.....	4-3
4-3.	Regular Screen with User-Entered Time	4-3
4-4.	Multicolumn Screen with User-Entered Time	4-4
4-5.	Regular Screen with System-Generated Time	4-4
4-6.	Assigning a Note to a Value	4-7
4-7.	Value with a Note and a Reason Code Assigned	4-7
4-8.	Assigning a Reason Code to a Value	4-8

List of Tables

<i>No.</i>	<i>Title</i>	<i>Page</i>
3-1.	Lab Entry Screen Parameters	3-4

Safety Summary

**SPECIFIC
CAUTION**

Never turn off or reset a computer when you are editing or viewing a data entry screen. Temporary files will be left on the disk, and the lab data entry system will assume the screen is in use the next time you try to call it up. Always exit properly from the lab data entry screen when you are finished using it. (p. 4-1)

Trademarks and Registrations

Registrations and trademarks in this document include:

- | | |
|----------------|--|
| ® Elsig Bailey | Registered trademark of Elsig Bailey Process Automation. |
| ® INFI 90 OPEN | Registered trademark of Elsig Bailey Process Automation. |
| ® LAN-90 | Registered trademark of Elsig Bailey Process Automation. |
| ® Network 90 | Registered trademark of Elsig Bailey Process Automation. |
| ® PCV | Registered trademark of Elsig Bailey Process Automation. |
| ® QNX | Registered trademark of QNX Software Systems. |
-

SECTION 1 - INTRODUCTION

OVERVIEW

With the Lab Data Entry package, you can enter manually-gathered process data into your LAN-90 system.

You can configure lab data entry value tags of type internal analog, internal digital, analog report, or digital report. These values can be used on display elements, trends, and process graphics. They can also be used by the optional application packages Logging and Quality Analysis & Control (QAC) (on SPC and TSA charts).

NOTE: Internal type tags are available to LAN-90 application programs only. Using analog report or digital report type tags makes data available to Elsag Bailey plant loop INFI 90 OPEN devices (MCS, OIS, . . .).

The number of tags you can configure for lab data entry is limited to 2000. The tags must be placed in the **Manual-Import** collection class.

To enter data for the tags, first set up data entry screens and select the data entry tags to be included on each. Data entry screens can be set up to automatically create entry times or to use sample times that are entered by you.

REQUIREMENTS

Hardware

Lab Data Entry has the same hardware requirements as the base system. Refer to **LAN-90 Process Control View (PCV) Installation Manual** for details.

Software

Lab Data Entry is an option that requires the base system software to be installed.

CONTENTS OF THIS MANUAL

This manual explains the installation and use of Lab Data Entry.

Introduction

Gives the hardware and software requirements, discusses converting from Lab Data Entry 4.x, and compares software versions.

Installation	Describes how to install Lab Data Entry.
Configuring Lab Data Tags	Presents the user with information on configuring tags and data entry screens.
Entering Lab Data	Details how to enter lab data on the both the regular and multicolumn data entry screens.
Using Lab Data	Outlines some procedures for using lab data entry. Tag values, exports assigned to a tag, and displays are covered.

CONVENTIONS USED IN THIS MANUAL

You will find the following conventions used throughout this manual:

NOTE: Used to highlight important or additional information.

CAUTION

Used to highlight information that, if ignored, could result in property or information damage.

WARNING

Used to highlight information that, if ignored, could result in personal injury.

bold Used for anything you must type exactly as shown. For example, you could be told to press **y** or type **ls /dev/hd0t77** (QNX4 example).

italic Used for information you must provide. For example, if you are told to enter a *filename*, you type the actual name of the file instead of the italicized word. Also used to show information displayed by the computer.

Initial Capitals Used for menu and screen titles.

small text Used to show the contents of text files.

<Key> Used for the names of special keys (non-alphabetic, non-numeric, non-punctuational) that can be found on the regular QWERTY keyboard or can be found on both the Elsas Bailey operator and regular keyboards. Some of the key names used are:

<Enter>	the enter key
<Num+>	the plus key on the numeric keypad
<Space>	the space bar
<PgUp>	the page up key
<Left>	the left cursor key

{Key}	Used for the names of keys found only on the Elsasg Bailey operator keyboards. Some of the Elsasg Bailey operator keyboard key names are {Silence} and {DoubleUp}.
<Key Key>	When two or more keys are to be pressed together, the key names appear together within the brackets or braces. For example, to reboot the computer, you can press <Ctrl Alt Shift Del>; that is, press the Ctrl, Shift, Alt, and Del keys in that order without releasing any one until you have pressed them all.
"name"	Used for filenames, directory names, and device names.

RELATED DOCUMENTS

This manual describes the installation and use of Lab Data Entry. For information not covered in this manual, refer to one of the following manuals:

- LAN-90 Process Control View (PCV) Installation (Software Release 5.2) **I-E97-811-1**.
- LAN-90 Process Control View (PCV) Configuration (Software Release 5.2) **I-E97-811-2.1**.
- LAN-90 Process Control View (PCV) Operation (Software Release 5.2) **I-E97-811-2.2**.

CONVERTING LAB DATA ENTRY FROM 4.X

The design of the upgraded lab data entry system requires that all types of data be handled via a single interface. As a result, lab data entry has been integrated into the tag database. Functionality has been preserved using general features such as reason codes, and trend notes. Note also that trend notes have now been made general so that any trend can use them.

A set of conversion programs cannot be used to bring PCV 4.x configurations forward. The lab data configuration must be regenerated as described in this manual. Note that standard portions of the PCV 4.x configuration will exist indirectly through tag configurations and data files.

COMPARISON OF LAB DATA ENTRY TO RELEASE 4.X

Configuring Tags

Input one data type value. Values can be entered for the following tag types: internal analog, internal digital, analog report, or digital report - as defined in the tag database. Note that the text data type used in PCV 4.x has been replaced by notes (up to 80 characters) that are input by the user and assigned to tag

values. The text selector data type found in PCV 4.x has been replaced by reason codes (up to 20 characters) that are assigned to values. Values for internal tag types are available to applications but not exported. Values for report tag types are available to the Elsas Bailey plant loop.

In PCV 4.x, you can input the following data types: value, text, and text selector. Both value and text selector data types can be exported to a Network 90 tag name. Text can be exported to the text tag message database by specifying an index number.

Configuring Lab Data Entry Screens

The times for the values can be entered by you or generated by the system in either regular or multicolumn form:

- User-entered times can be entered to a minute.
- System-generated times will be generated at hour intervals (1-24).

One can switch between regular and multicolumn forms with the <F7> function key.

The above is true for PCV 4.x, except there is no provision for switching between the regular or multicolumn forms.

Assigning Exports to a Tag

A note (comment) assigned to a value can be exported to the text tag message database by specifying an index number. A Reason Code index can be exported to an RMSC tag name (by specifying the RMSC tag name).

In PCV 4.x, there are no comments assigned to values, and reason codes are not exported.

Entering Lab Data

A value for each sample time can be entered for each of the tags that are assigned to the lab entry screen.

In PCV 4.x this is true as well.

Assigning a Note to a Value

A note entered by you, can be assigned to each value entered. If you had previously specified a comment export text index when the tags were assigned to the screen, then the comment assigned to the most recent value will be exported to that index number (and if there already is an entry against that index, then that entry will be overwritten).

In PCV 4.x, notes are not assigned to values.

Assigning a Reason Code to a Value

For each value entered a reason code can be assigned. The reason code must already exist and is selected from the Select Reason Code screen (the same as found under the sub-menu item Configure Reason Codes). If you had previously specified a reason code export tag name (RMSC tag name) when the tags were assigned to the screen, then the index of the reason code will be exported to that tag name.

For PCV 4.x, for each value entered a reason code can be assigned, but its index cannot be exported.

Displays

The values can be used on display elements, trends, SPC charts, and process graphics.

This is also true for PCV 4.x.

Lab Data Summaries Output

Summaries of the tag values are available through the Trend Logs facility.

In PCV 4.x, the menu presents you with an opportunity to create a Summary (to be displayed to screen, saved to file, or printed).

SECTION 2 - INSTALLATION

OVERVIEW

Usually Lab Data Entry is installed with the base system and no special installation instructions are required. Refer to the **Installation Manual** for information on installing the base system software.

These instructions are intended for users who purchase the Lab Data Entry option as a separate package and install it after the base system has been installed.

INSTALLING LAB DATA ENTRY ON A NETWORK

The lab data entry disk must be loaded onto Server computers.

NOTE: Do NOT load the software on diskless computers. Diskless computers use the programs found on the boot node and are automatically "loaded" with the primary/redundant nodes. If you are loading a computer that acts as the boot node for diskless nodes, load all optional disks required by the diskless nodes on that computer. On a non-redundant network, load all diskless node options on the primary node; on a redundant network, load all diskless node options on both the primary and redundant nodes.

LOADING LAB DATA ENTRY

Follow the menu path depicted in Figure 2-1 in order to install the Lab Data Entry package. Follow the instructions that are given in the setup procedure.

SETTING THE CONSOLE START-UP OPTIONS

From the Main menu, use the right mouse button to select **Configuration**, then **System Options**. Then select **Console Configuration** via the left mouse button (Figure 2-2).

Select the node (Figure 2-3), then press <F2> to edit.

Figure 2-4 shows the console options. On page 1, enable the Lab Data Entry option by moving the cursor to the Enabled field and pressing <Enter> (selected fields are in white).

Save changes by pressing <F1>. You are asked *Do you want to save your changes? (Yes/No)*. To save your changes, select **Yes** and press <Enter>. When you have finished setting and saving your system options, press <F10> to exit each screen.

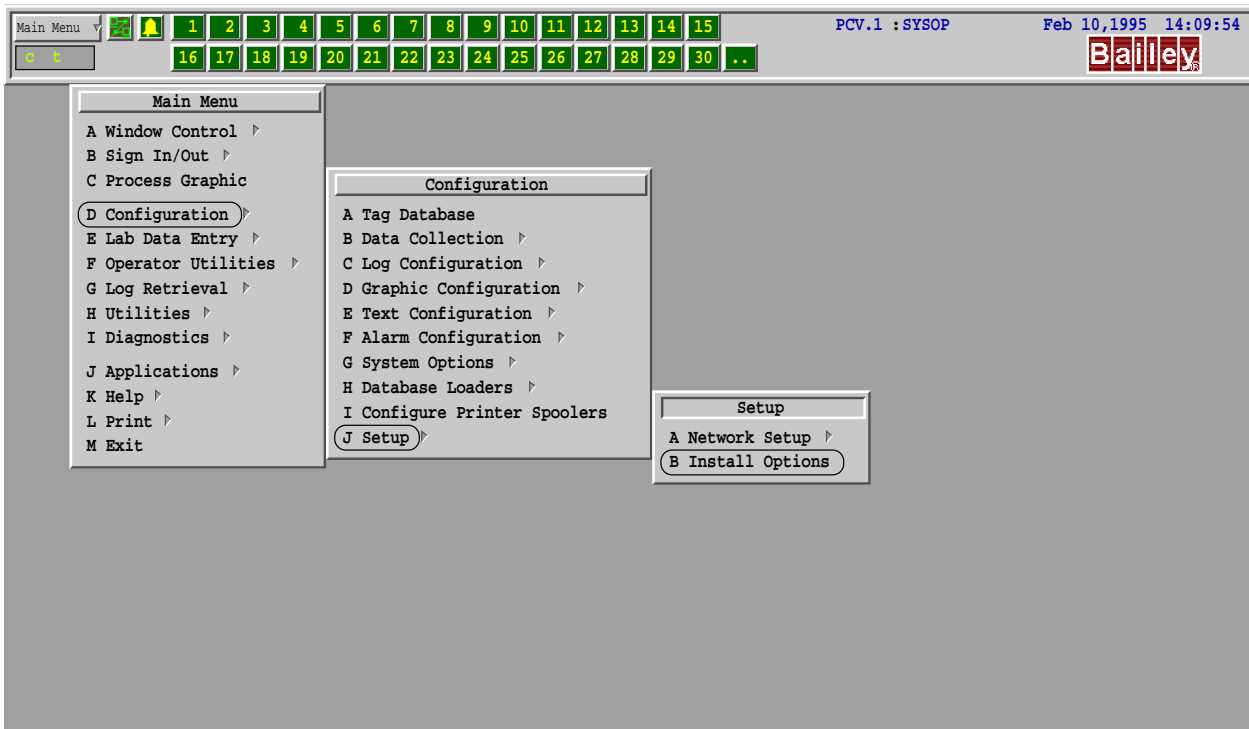


Figure 2-1. Accessing the PCV Setup Utility

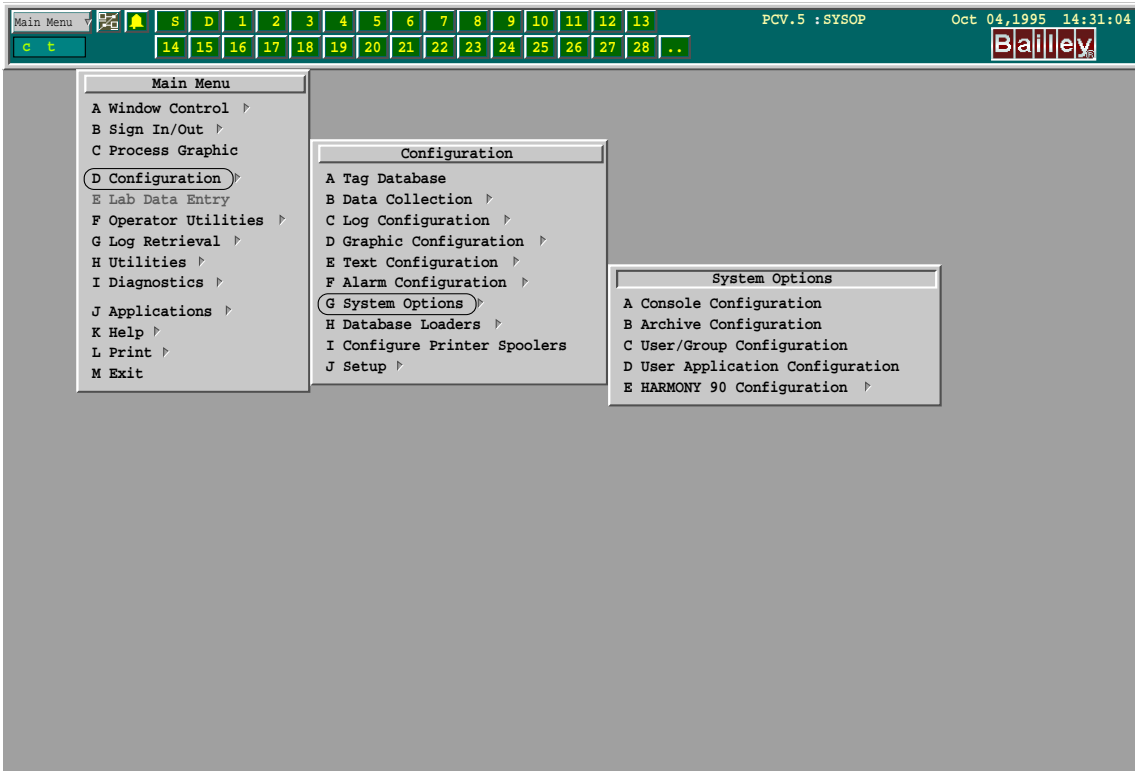


Figure 2-2. Console Configuration Menu

```

----- < Console List > -----
NODE  NODE-NAME          CONSOLE-TYPE  SERVER-NAME  GROUP-NAME
  1   QNX4_SERVER      SERVER-CLIENT PCV.1        PATCH
  2   BCI.2            SERVER-CLIENT PCV.2        PATCH
  3   BCI.3            CLIENT-ONLY   PATCH
  4   BCI.4            SERVER-CLIENT PCV.4        *STAND-ALONE*
  5   BCI.5            CLIENT-ONLY   PCV.1
  6   BCI.6            CLIENT-ONLY   PCV.1
  7   BCI.7            CLIENT-ONLY   PCV.1

-----
F1 Edit Console Definition          F2 Edit Console Options
F3 Edit Group List
F9 Help                              F0 Exit
    
```

Figure 2-3. Console List

```

----- < Server-Client Options (PCV.5) > -----
SOFTWARE OPTIONS                               Page 1 of 3
Number of Tags                                5000

Base Logging System          Disabled  Enabled
System Event Printing        Disabled  Enabled
System Event Logs            Disabled  Enabled
Periodic / Trigger Logs      Disabled  Enabled
Trip Logs                     Disabled  Enabled
Trend Logs                    Disabled  Enabled
SOE Logs                      Disabled  Enabled

Batch Historian               Disabled  Enabled

Enhanced Data Collection      Disabled  Enabled
Lab Data Entry                Disabled  Enabled

SPC Manager                   Disabled  Enabled
SPC Alarming                  Disabled  Enabled

-----
F1 Save  F9 Help  F10 Exit  PgDn Hardware Page 1
    
```

Figure 2-4. Console Options

Shut down the computer as follows:

From the Main menu, select **Exit** with the left mouse button. Next, select **Exit & Shutdown**. Finally, acknowledge Shutdown Complete by clicking on the **OK** button.

Reboot the computer by pressing <Ctrl Alt Shift Del>.

Lab Data Entry is now available.

SECTION 3 - CONFIGURING LAB DATA TAGS

OVERVIEW

The basic steps for configuring lab data entry tags are as follows: First configure tags in the tag database. Next configure lab data entry screens. Assign tags to each lab entry screen. Finally assign exports to the tags (comment, reason code).

NOTE: You must have Configuration or Unrestricted level access to be able to configure the Lab Data Entry system. If you have Control or View Only level access, you will be able to look at the information, but you will not be able to change it.

CONFIGURING TAGS IN THE TAG DATABASE

From the Main menu, select the Configuration menu option. Then, from the Configuration menu, select the Tag Database menu option. Within the tag database editor, click on the **Edit** button to change the attributes for a tag.

To list the tag types, place the cursor on the Type field and press the right mouse button (Figure 3-1). Select from: **IntAng**, **IntDig**, **AngRpt**, or **DigRpt**. IntAng and IntDig tag values are available only to applications (e.g., process displays, logs). They are not available on the ElSag Bailey plant loop. AngRpt and DigRpt tag values are available on the ElSag Bailey plant loop but they do not exist in a module configuration (their hardware address is in the CIU).

Set the Loop, PCU, Module, and Block fields to **0** (zero).

For IntAng and AngRpt Tags

Enter the high and low limits for the tag. If a value is entered that falls outside of the range specified by these limits, then a warning is displayed indicating that the entry is out of range; select whether or not to enter the out-of-range value, or to enter a new value. Note that out-of-range entries are marked with an asterisk on the Lab Data Entry screen.

For IntDig and DigRpt Tags

Choose the Zero State Descriptor and One State Descriptor by clicking on the field, then selecting from the list presented.

Place the tag into the Manual-Import historical collection class.

Click on **Update** when finished editing the tag fields.

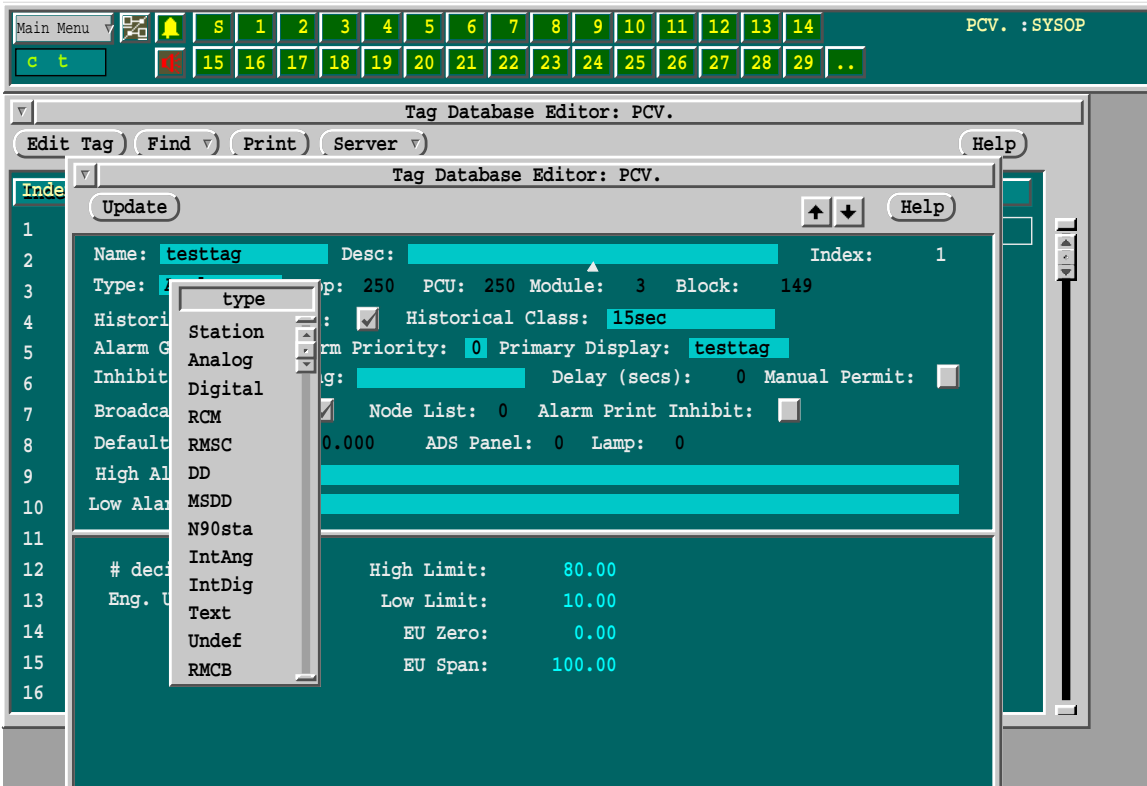


Figure 3-1. Tag Types

CONFIGURING LAB DATA ENTRY SCREENS

Select the Configure Screens option given in Figure 3-2.

Figure 3-3 lists the screen index numbers (up to 64) and the screen names (14 characters).

The cursor shows which data entry screen is currently selected. Select any one of the existing screens with the arrow keys. To create a new screen, select a blank entry.

To edit the selected screen, press <F1>. This calls up the Edit Lab Entry Screen (Figure 3-4).

The lab entry screen fields are described in Table 3-1.

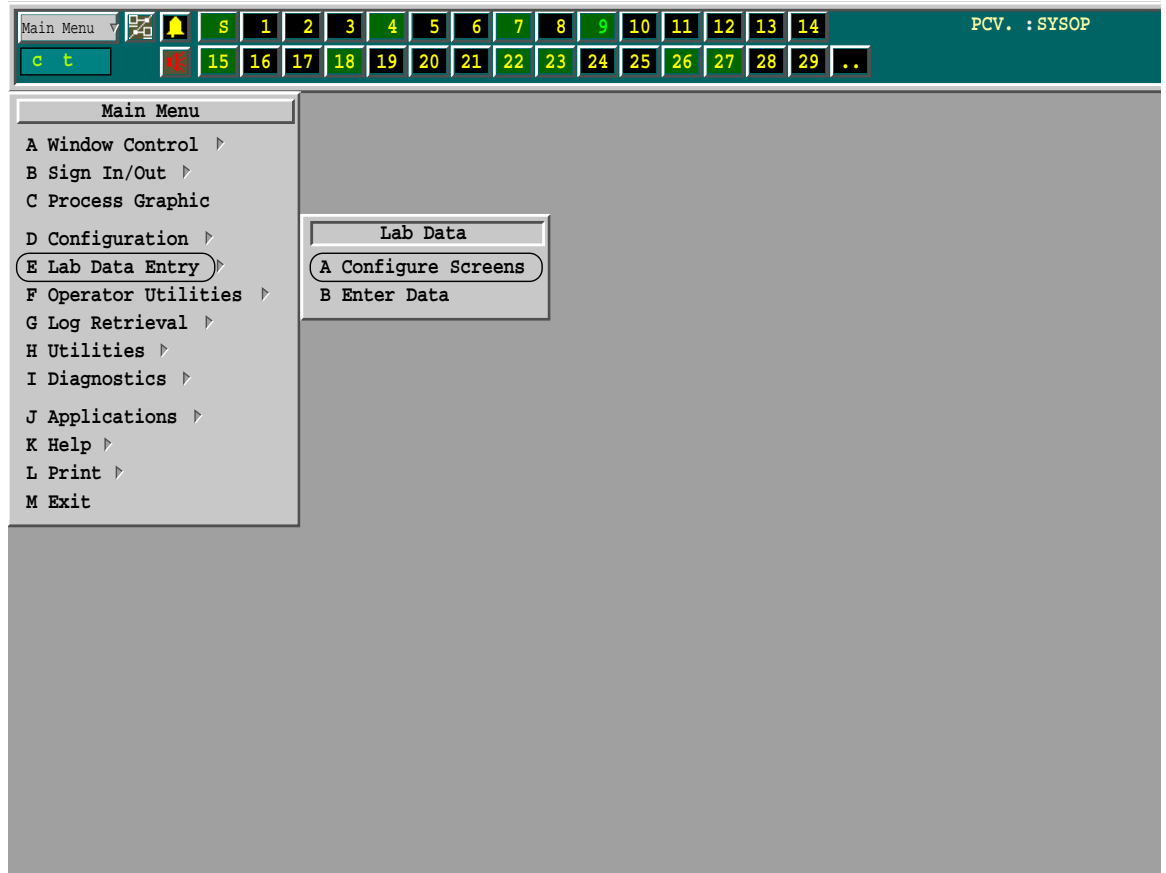


Figure 3-2. Configure Screens Option

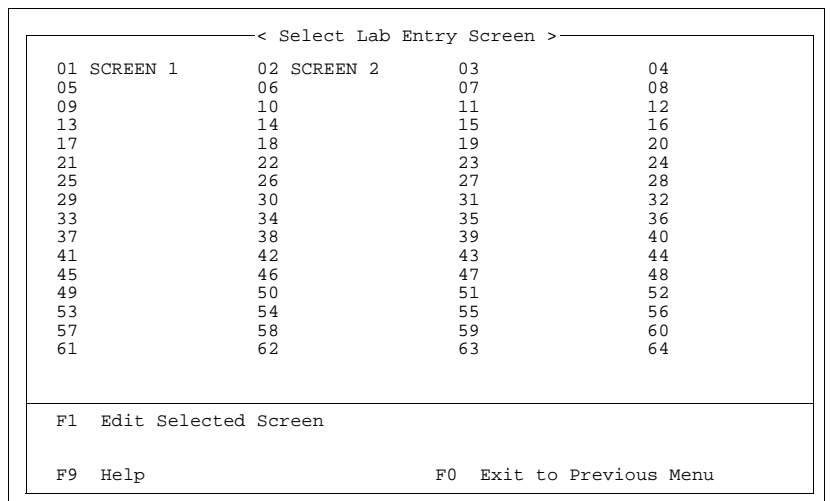


Figure 3-3. Select Lab Entry Screen

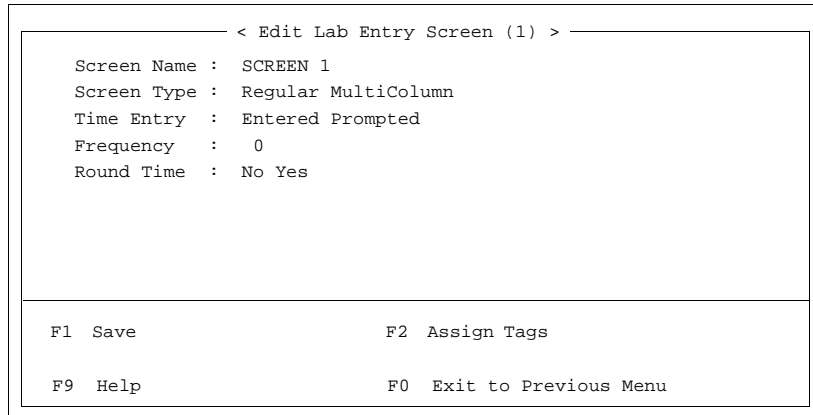


Figure 3-4. Edit Lab Entry Screen

Table 3-1. Lab Entry Screen Parameters

Field	Description	
Screen Name	Enter a unique 14 character title using: letters, numbers, spaces, and punctuation. The screen name cannot duplicate the screen name of any other lab data entry screen.	
Screen Type	Regular	A regular data entry screen shows tag name, tag description, value and units for each tag.
	Multicolumn	A multicolumn data entry screen shows one line for each sample time, only tag names are shown, each tag has its own column, and tag columns not seen on the current display can be reached by scrolling to the left and right.
Time Entry	Entered	The time of the sample is entered by the user.
	Prompted	The time of the next sample is automatically calculated using the rate specified by the frequency field.
Frequency	Specifies the number of hours between system-generated sample times (1-24).	
Round Time	Select whether or not system-generated sample times are rounded to the hour (not nearest) by pressing <Ctrl Left> or <Ctrl Right>.	

Assigning Tags to a Lab Entry Screen

Press <F2> to assign tags to the lab entry screen. The available tags will be displayed as seen in Figure 3-5, in the same order as they appear in the tag list.

Only 64 of the 2000 possible tags are shown at a time, and all 14 characters of the tag name are shown.

The cursor highlights the current tag. To scroll through the list press <Up>, <Down>, <Right>, or <Left>. To scroll by pages press <PgUp> or <PgDn>.

To select a tag to appear on the data entry screen, move the cursor to a tag then press <Space>. This selects the tag, and the color of the tag name changes from green to white. (Note

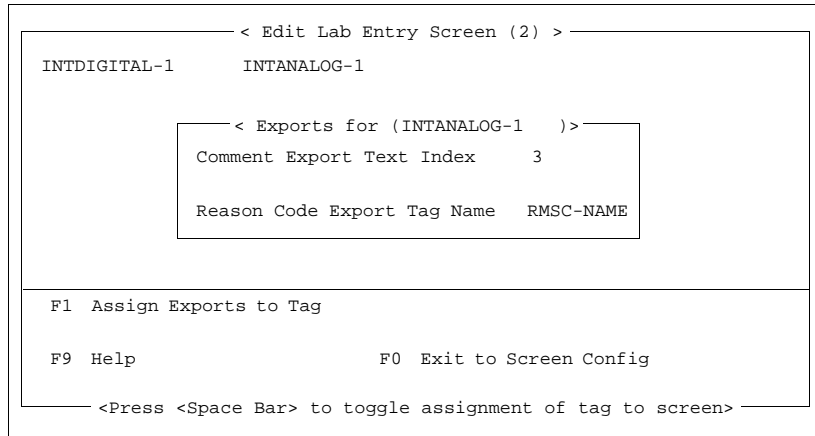


Figure 3-6. Assigning Exports to a Tag

Comment Export

A comment assigned to the most recent value for a tag will be exported to the text tag messages index specified here.

NOTE: If a text message already exists for this index, then it will be overwritten.

To select a blank index for a tag: view the text tag messages database, find the next blank, and specify that index. Access the text tag messages database per Figure 3-7. The database is shown in Figure 3-8. Note that the next blank comment export text index is 3.

Reason Code Export

The index of a reason code assigned to a value will be exported to the RMSC (Remote Module Set Constant) tag name.

Reason Codes must be defined before they can be exported to an RMSC tag name, or assigned to a value. Select Configure Reason Codes as shown in Figure 3-9.

The resulting screen (Figure 3-10) lists the reason code index numbers and the reason code descriptions; only 69 of the 252 possible reason codes are shown at a time. Indexes without a description are blank and have not been configured.

The cursor shows the reason code currently selected. To move through the list, use the arrow keys. To scroll by pages press <PgUp> or <PgDn>.

To add a new reason code, select a blank entry and type a description of up to 20 characters in length (letters, numbers, spaces, and punctuation marks are permitted).

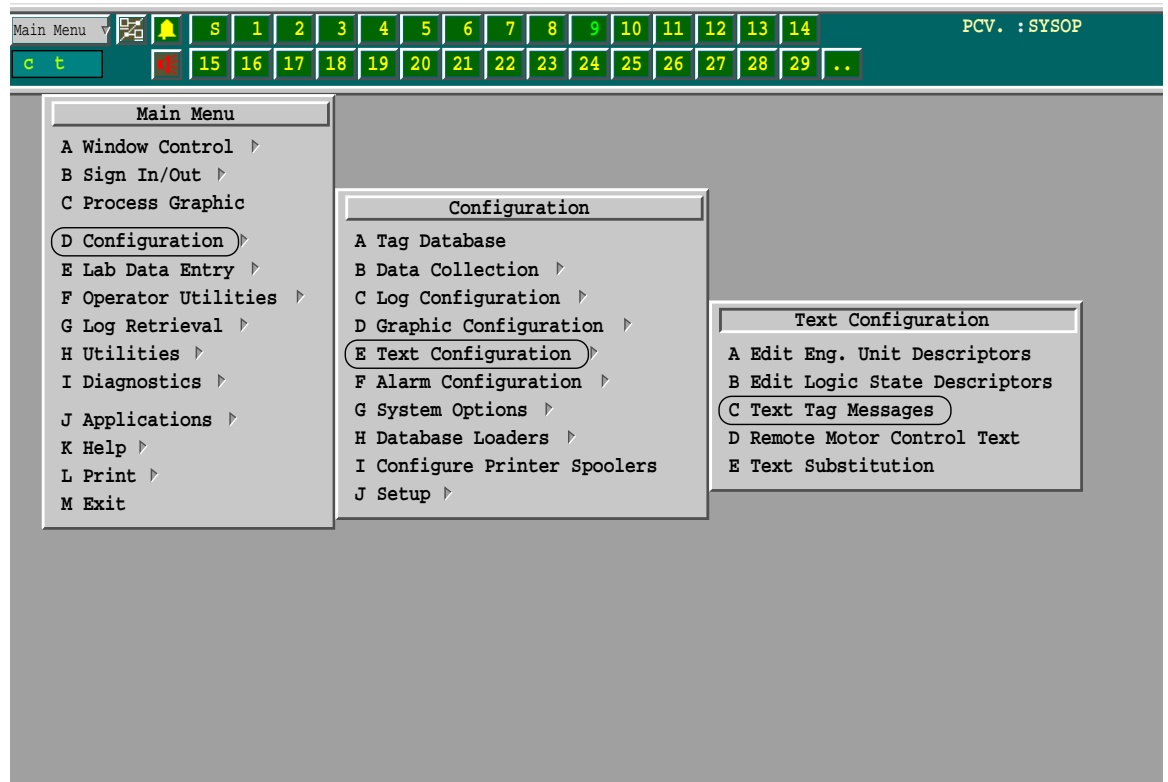


Figure 3-7. Text Tag Messages Option

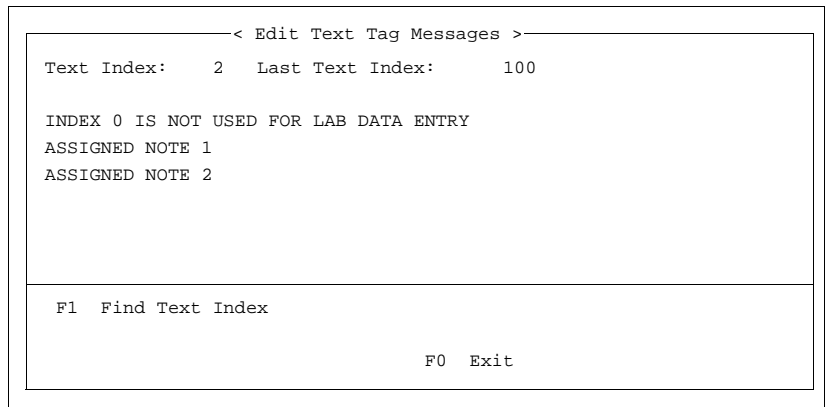


Figure 3-8. Editing Text Tag Messages

To delete an existing reason code, move to an existing entry and press or <Backspace> until all the characters have been removed.

To save changes press <F1>. Press <F10> to exit.

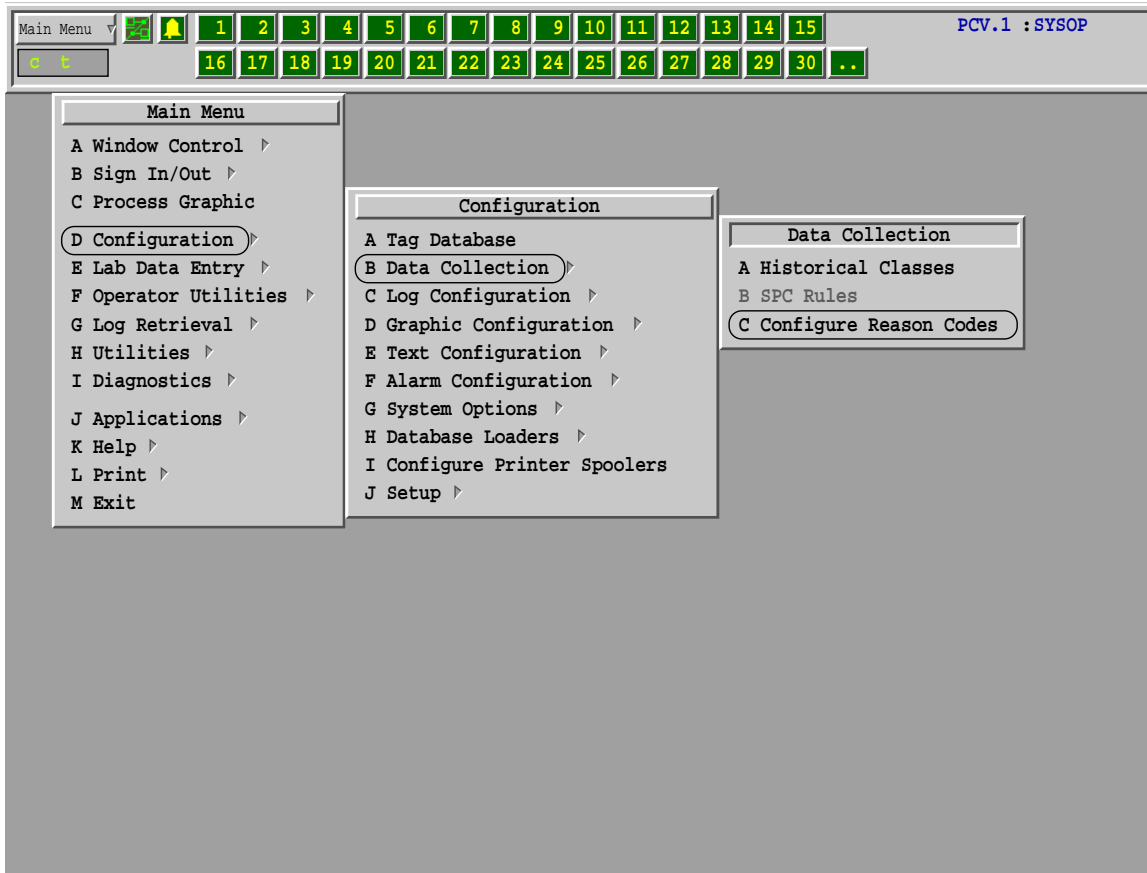


Figure 3-9. Configure Reason Codes Option

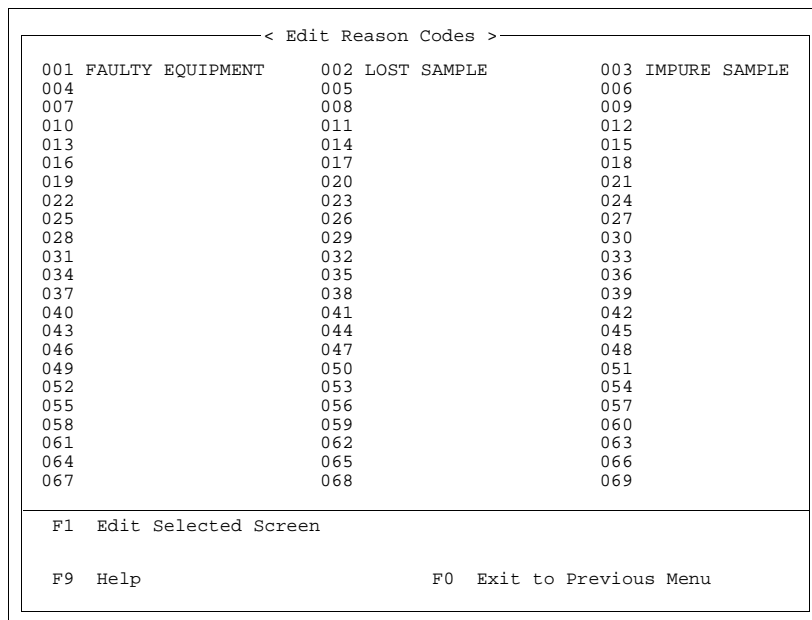


Figure 3-10. Editing Reason Codes

Exiting the Edit Lab Entry Screen

Press <F10> to exit the exports option.

Press <F10> again to exit the screen that shows the selected tags, and return to the Edit Lab Entry Screen.

Press <F10> once more to return to the list of screen names.

Finally, press <F10> to exit this last screen.

SECTION 4 - ENTERING LAB DATA

OVERVIEW

The Lab Data Entry package allows you to enter data at user-entered sample times or system-generated sample times.

CAUTION

Never turn off or reset a computer when you are editing or viewing a data entry screen. Temporary files will be left on the disk, and the lab data entry system will assume the screen is in use the next time you try to call it up. Always exit properly from the lab data entry screen when you are finished using it.

ENTERING LAB DATA ON A NETWORK

If you are using the Lab Data Entry package in a network setting, and call up a data entry screen, either of the following situations may occur:

- You are able to edit the data on the screen.
- You can only view data on the screen.
- The screen is busy and cannot be accessed.

When you have Unrestricted or Configuration access to a screen, you can enter new samples, edit existing entries, and save any changes you have made.

If you have Control level access, there may be certain screens which you can only view. During configuration, access to some screens may have been limited to certain nodes on the network.

When you have View Only access to a screen, you can scroll through all existing entries, but you cannot edit them or add new samples.

On a network, only one screen can be edited at a time. If you call up a screen you can normally edit, but if someone else is editing that screen, you will see a message saying the screen is in use and you have View Only access to the data.

If someone else is editing a data entry screen, and you attempt to access this same screen, you will be told the screen is busy, and you will not be able to call it up.

SELECTING A LAB ENTRY SCREEN

From the Main menu, press **E** to get the Lab Data Entry menu. To select Enter Data, press **B** (Figure 4-1). The resulting screen

(Figure 4-2) lists the lab entry screen index numbers and their names. To select a lab entry screen, highlight it and press <F1>.

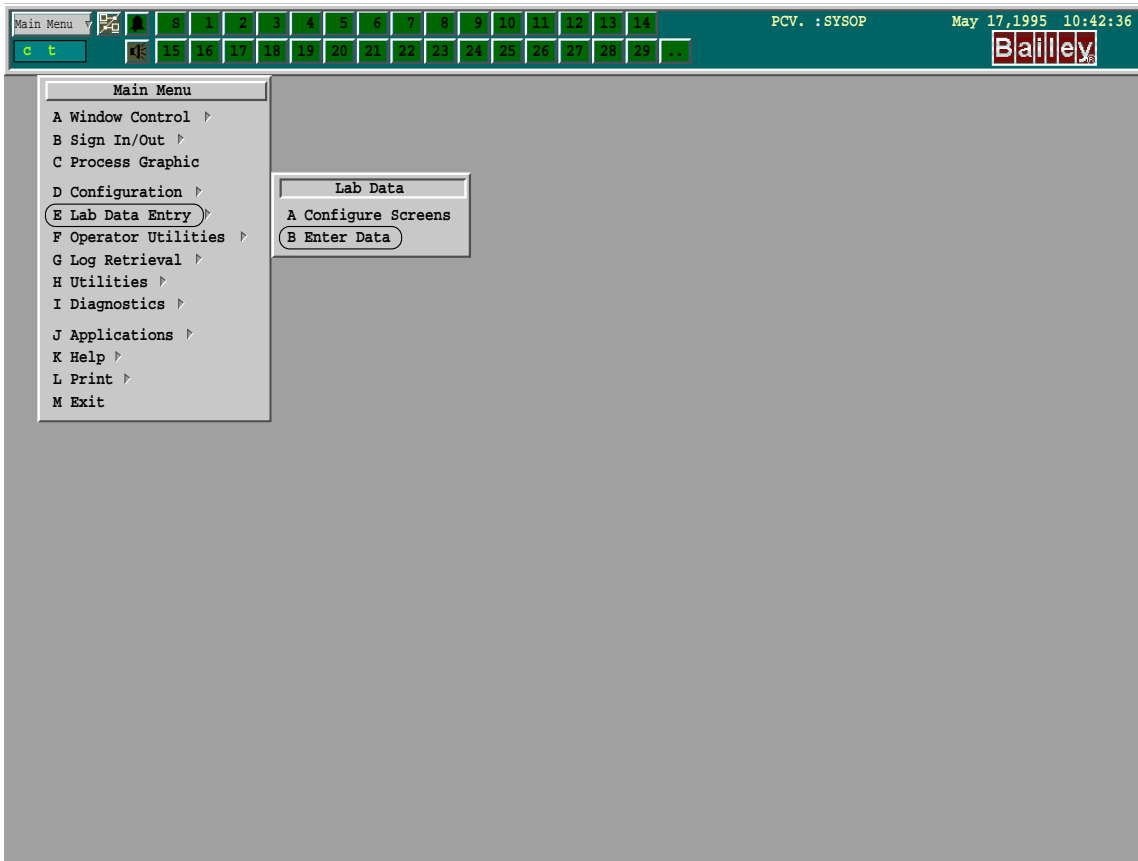


Figure 4-1. Enter Data Option

TYPES OF DATA ENTRY SCREENS

There are two basic types of lab data entry screens: regular (Figure 4-3), and multicolumn (Figure 4-4).

Both types can include one or more variables for data entry.

Regular Data Entry Screens

A regular (single column) data entry screen has all of the entries for a sample time in a single vertical column (Figure 4-3). Each tag has its own row, which displays the sample date and time, the tag name, the tag description, the entry, and the units of measurement for the entry.

```

----- < Select Lab Entry Screen > -----
01 SCREEN 1      02 SCREEN 2      03                04
05              06              07                08
09              10              11                12
13              14              15                16
17              18              19                20
21              22              23                24
25              26              27                28
29              30              31                32
33              34              35                36
37              38              39                40
41              42              43                44
45              46              47                48
49              50              51                52
53              54              55                56
57              58              59                60
61              62              63                64

-----
F1  Edit Selected Screen

F9  Help                                F0  Exit to Previous Menu
    
```

Figure 4-2. Select Lab Entry Screen

```

----- < Enter Lab Data > -----
Screen Name : SCREEN 1
Enter Time and Date : 94 10 23 14 47
                    yy/mm/dd hh:mm

Date/Time      Tag Name      Description      Entry      Units
94/10/23 14:47 INTDIGITAL-1  INTDIGITAL-1 DESCR  1.00
94/10/23 14:47 INTANALOG-1   INTANALOG-1  DESCRIP  55.00000000  DEG C

-----
F1  Save Changes                        F2  Enter Date
F3  Assign Note                         F4  Assign Reason Code
F5  Delete Note                         F6  Delete Reason Code
F7  Change View                         F0  Exit to Previous Menu
F9  Help
    
```

Figure 4-3. Regular Screen with User-Entered Time

Multicolumn Data Entry Screen

A multicolumn data entry screen has all the entries for a sample time in a single horizontal row (Figure 4-4). Each tag has its own column; only the tag name is displayed at the top of the column. The columns for only four tags can be displayed at one time across the page, but there can be more tags included on the data entry screen. To see any other tags, scroll the screen left and right by pressing <Right> at the right edge of the screen, and <Left> at the left edge of the screen.

Both regular and multicolumn screens can be configured in one of two modes:

- System-generated sample times.
- User-entered sample times.

```

      < Enter Lab Data >
      Screen Name : SCREEN 1
      Enter Time and Date : 94 10 23 15 15
                          yy/mm/dd hh:mm

      Date/Time  INTDIGITAL-1  INTANALOG-1
      94/10/23 15:15      1.00      99.00000000 *
      94/10/23 15:10      1.00      97.00000000 *
      94/10/23 15:09      1.00      90.00000000 *
      94/10/23 15:08      1.00      85.00000000 *
      94/10/23 15:07      1.00      81.00000000 *
      94/10/23 15:06      1.00      79.00000000
      94/10/23 15:05      1.00      77.00000000
      94/10/23 15:04      1.00      75.00000000
      94/10/23 15:03      1.00      73.00000000
      94/10/23 15:02      1.00      72.00000000
      94/10/23 15:01      1.00      71.00000000
      94/10/23 15:00      1.00      70.50000000
      94/10/23 14:59      1.00      70.00000000
      94/10/23 14:56      1.00      69.50000000
      94/10/23 14:53      1.00      68.00000000
      94/10/23 14:50      1.00      67.00000000
      94/10/23 14:47      0.00      55.00000000! R
      94/10/23 12:59

      F1 Save Changes          F2 Enter Date
      F3 Assign Note          F4 Assign Reason Code
      F5 Delete Note          F6 Delete Reason Code
      F7 Change View
      F9 Help                  F0 Exit to Previous Menu
    
```

Figure 4-4. Multicolumn Screen with User-Entered Time

The two styles of data entry screen can be distinguished by the top few lines of the data entry screen. User-entered sample times show an *Enter Time and Date* prompt in addition to the screen name (Figure 4-3). System-generated sample time screens only show the screen name (Figure 4-5).

```

      < Enter Lab Data >
      Screen Name : SCREEN 2

      Date/Time  Tag Name      Description      Entry      Units
      94/10/27 08:59  LA1I10C      I10 COKE

      F1 Save Changes          F4 Assign Reason Code
      F3 Assign Note          F6 Delete Reason Code
      F5 Delete Note
      F7 Change View
      F9 Help                  F0 Exit to Previous Menu
    
```

Figure 4-5. Regular Screen with System-Generated Time

System-generated sample time data entry screens automatically create the next sample time at the specified frequency

whenever you press <Up> when you are at the top entry on the screen.

NOTE: Once you specify the time for the first sample on a system-generated time lab data entry screen, you cannot add samples which are older than the first entry.

User-entered sample time data entry screens only create entries when you specify the time for the sample. To enter a new sample time and date, move the cursor from the data entry region of the screen, to the time and date prompt in the title section by pressing <F2>. Type the new date and time then press <F2> to return to the data entry region of the screen at the new sample time you specified.

MOVING AROUND A DATA ENTRY SCREEN

On a regular data entry screen, you can scroll vertically through the existing tag entries for one sample time by pressing <Up> or <Down>. To view entries for other sample times use <PgUp>, <PgDn>, <Home>, or <End>. Use <F7> to change to the multicolumn display.

On a multicolumn data entry screen, you can scroll vertically through the existing sample times by pressing <Up>, <Down>, <PgUp>, <PgDn>, <Home>, or <End>. You can also move horizontally through the different tags by pressing <Right> or <Left>. Use <F7> to change to the regular display.

ENTERING A NEW SAMPLE TIME

NOTE: Lab data entry tags should be tags that have not been previously trended (active), otherwise times per the sampling rate that had been set will appear amongst the lab data entry times, and the functionality of the lab data entry software may be degraded due to the existence of the old trend files. If there are no blank trend indexes available, be sure to add a new sample time for the first entry, rather than entering a value for the current time displayed.

System-generated Time Screens

To add a new sample time on a system-generated sample time data entry screen:

1. Position the cursor on the top entry on the data entry screen.
2. Press <Up>. This creates the new sample entry.
3. For a regular screen, the <Up> key will yield the next sample time according to the specified frequency, but not the following one unless a value is entered. For the multicolumn screen, the <Up> key will yield sequential sample times at the specified frequency regardless of whether values are entered.

**User-entered
Time Screens**

To add a new sample time on a user-entered sample time data entry screen:

1. Press <F2> to move the cursor to the Enter Time and Date fields at the top of the screen.
2. Enter the new sample time.
3. Press <F2> to move the cursor back to the data window at the bottom of the screen.

NOTE: Values entered for sample times in the future are only displayed via the regular screen. These values will be shown on the multicolumn screen when the real time reaches the sample time.

ENTERING AND EDITING DATA

To enter data on a data entry screen, position the cursor over the field you want to enter data into and enter the data. To delete the entry, press or <Backspace> until all of the characters have been removed.

In the field, you can type in digits, a decimal point, and a negative sign. You are limited to a total of 14 characters in the field and the entry will be rounded to the number of decimal places that were specified in the tag database. When you have finished your entry, you can either press <Enter> or simply move the cursor to another field.

Each tag entry will be checked against its high and low limits. If an entry falls outside of this range, a prompt is displayed in the middle of the screen *Commit out-of-range value to system?* If the entry is a mistake, select **No** and re-enter the number. If you want to enter the number, select **Yes**; the entry will be displayed with an asterisk (*) beside it to indicate that it is an out-of-range value (Figure 4-4).

Assigning a Note to a Value

With the cursor positioned over a value field, press <F3> to assign a note (of up to 80 characters) to a value and <F5> to delete a note (Figure 4-6). A value with a note assigned to it will be marked with an exclamation mark (Figure 4-7).

Assigning a Reason Code to a Value

When the cursor is positioned over a value field, press <F4> to assign a reason code to a value and <F6> to delete a reason code (Figure 4-5).

Pressing <F4> causes a pop-up window with a list of reason codes to be displayed (Figure 4-8). This pop-up window only

```

      < Enter Lab Data >
      Screen Name : SCREEN 1
      Enter Time and Date : 94 10 23 14 47
                          yy/mm/dd hh:mm

      Date/Time      Tag Name      Description      Entry      Units
      94/10/23 14:47 INTDIGITAL-1  INTDIGITAL-1 DESCRI 1.00
      94/10/23 14:47 INTANALOG-1   INTANALOG-1 DESCRIP 55.00000000  DEG C

      < Assign Note >

      Assign Note NOTE FOR INTANALOG-1

      F1-Select  F10-Cancel

      F1 Save Changes      F2 Enter Date
      F3 Assign Note      F4 Assign Reason Code
      F5 Delete Note      F6 Delete Reason Code
      F7 Change View
      F9 Help              F0 Exit to Previous Menu
    
```

Figure 4-6. Assigning a Note to a Value

```

      < Enter Lab Data >
      Screen Name : SCREEN 1
      Enter Time and Date : 94 10 23 14 47
                          yy/mm/dd hh:mm

      Date/Time      Tag Name      Description      Entry      Units
      94/10/23 14:47 INTDIGITAL-1  INTDIGITAL-1 DESCRI 1.00
      94/10/23 14:47 INTANALOG-1   INTANALOG-1 DESCRIP 55.00000000  R DEG C

      F1 Save Changes      F2 Enter Date
      F3 Assign Note      F4 Assign Reason Code
      F5 Delete Note      F6 Delete Reason Code
      F7 Change View
      F9 Help              F0 Exit to Previous Menu
    
```

Figure 4-7. Value with a Note and a Reason Code Assigned

shows the first 81 of 252 possible reason codes. To display the others, press <PgUp> or <PgDn>.

To select a reason code, move the cursor to the reason code you want to enter, then press <F1>. The pop-up window disappears and the value is displayed with an *R* beside it to indicate that it has a reason code entry (Figure 4-7). If the value field is blank, then the actual reason code (11 of the 20 characters) will be displayed in the value field - with the *R* beside it.

If you want to find out what the reason code entered for a value is, move the cursor to that entry and press <F4>. The reason code with its index will appear in the middle of the screen, along with a prompt to continue. Note that you will not be able

```

      < Enter Lab Data >
      Screen Name : SCREEN 1
      < Select Reason Code >
001 FAULTY EQUIPMENT      002 LOST SAMPLE          003 IMPURE SAMPLE
004                       005                       006
007                       008                       009
010                       011                       012
013                       014                       015
016                       017                       018
019                       020                       021
022                       023                       024
025                       026                       027
028                       029                       030
031                       032                       033
034                       035                       036
037                       038                       039
040                       041                       042
043                       044                       045
046                       047                       048
049                       050                       051
052                       053                       054
055                       056                       057
058                       059                       060
061                       062                       063
064                       065                       066
067                       068                       069
070                       071                       072
073                       074                       075
076                       077                       078
079                       080                       081
F1-Select  F10-Cancel
    
```

Figure 4-8. Assigning a Reason Code to a Value

to move the cursor while looking at the reason code, until you press <Enter>.

To delete a reason code entered for a value, position the cursor over the entry and press <F6>.

SAVING THE DATA

When you have finished entering the data, save your entries by pressing <F1>. A prompt will appear in the middle of the screen saying *Saving Changes . . .*. The time required to save the changes depends on the number of entries made.

EXITING THE DATA ENTRY SCREEN

To exit the Enter Lab Data Screen, press <F10>. This returns you to the Select Lab Entry Screen (Figure 4-2). If you have not saved any changes that you have made, you will be asked *Save Changes?*. If you want to save your changes before you exit select **Yes**, otherwise select **No** to abandon your changes. To exit the Select Lab Entry Screen press <F10>.

SECTION 5 - USING LAB DATA

OVERVIEW

This section outlines procedures for using Lab Data Entry.

TAG VALUES

Internal Tags

Only internal analog and digital tag values are available to applications.

Report Tags

Analog and digital report tag values are available to both applications and the Elsasg Bailey plant communications loop; they are stored in the ICI or CIU that the server is attached to. When the report tag is configured, specify a hardware address of 0, 0, 0, 0 (loop, PCU, module, and block). However, the value does have a real hardware address: it is the loop, PCU, and module number of the ICI or CIU. The block number is the same as the tag index number. This is the address other modules would use to get the tag's value.

NOTE: On the Elsasg Bailey plant loop, only tag indexes (i.e., block numbers) less than 1024 can be seen by modules, therefore a specific set of module and block numbers is used to access all 5000 tags (2, 0-1023; 3, 0-1023; 4, 0-1023; 5, 0-1023, and 6, 0-903).

EXPORTS ASSIGNED TO A TAG

By specifying a comment export text index when the lab data entry screen is configured, the note that is assigned to the most recent value for a tag is saved to the text tag messages database. The notes (comments) stored here are available for use in displays.

A reason code that is assigned to a value must have originated from the reason code database, and its index can be exported to an RMSC tag name.

GRAPHIC DISPLAYS

The values for lab data entry tags can be displayed on display elements and process graphics.

TREND AND SPC DISPLAYS

Trend and SPC displays can be set up that plot values for lab data entry tags.

Specify an appropriate tag type (IntAng, IntDig, AngRpt, or DigRpt) in the main tag database. Specify this same entry when you set up your trend display, to display the current value in your control box.

Finally, place the tag in the Manual-Import collection class.

A		L	
Accessing the PCV Setup Utility.....	2-2	Lab Data Entry 4.x	1-3
Assigning a Reason Code.....	4-8	Comparing.....	1-3
C		Converting.....	1-3
Configuring	3-1	Lab Entry Screen	
Lab Data Entry Screens.....	3-2	Multicolumn	4-4
Tags.....	3-1	Lab Entry Screens	3-4
Console Configuration Option	2-3	Multicolumn	3-4
Console Startup Options	2-2	Regular.....	3-4, 4-1
Conventions	1-3	N	
D		Network.....	4-1
Data Entry Screen		R	
Regular	4-4	Requirements.....	1-1
Displays	5-2	Hardware.....	1-1
Graphic	5-1	Software	1-1
SPC	5-2	S	
Trend	5-2	Sample Times	3-4
E		Entering.....	4-6
Entering		System Generated	3-4, 4-4
Data	4-2, 4-6	User Entered	3-4, 4-3
Note	4-8	Saving the Data	4-9
Sample Time.....	4-6	Screen Parameters	3-4
Export	3-6	T	
Comment.....	3-6	Tags.....	3-1
Reason Code.....	3-7	Assigning Exports	3-6
I		Assigning to a Screen	3-4
Installing on Network	2-1	Exports Assigned	5-1
		Values	5-1

Visit Elsag Bailey on the World Wide Web at <http://www.ebpa.com>

Our worldwide staff of professionals is ready to meet *your* needs for process automation.
For the location nearest you, please contact the appropriate regional office.

AMERICAS

29801 Euclid Avenue
Wickliffe, Ohio USA 44092
Telephone 1-440-585-8500
Telefax 1-440-585-8756

ASIA/PACIFIC

152 Beach Road
Gateway East #20-04
Singapore 189721
Telephone 65-391-0800
Telefax 65-292-9011

EUROPE, AFRICA, MIDDLE EAST

Via Puccini 2
16154 Genoa, Italy
Telephone 39-10-6582-943
Telefax 39-10-6582-941

GERMANY

Graefstrasse 97
D-60487 Frankfurt Main
Germany
Telephone 49-69-799-0
Telefax 49-69-799-2406