XI581AH / XI582AH

BUSWIDE OPERATOR INTERFACE

USER GUIDE

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Revision information

The following pages have been changed from the previous issue of this document:

Page:	Change:
3, 6, 8	Information on cable for connecting the Excel 800 Controller Module was added.

INTRODUCTION

The XI581AH/XI582AH Buswide Operator Interface allows you to view and change basic information programmed into an Excel controller. The controller information you can change depends on your security access level and is always restricted to basic information that controls day-to-day controller operation. To make major database changes, you must use the XI584 Operator and Service Software or Honeywell's Excel CARE software application programming tool.

Controller models

Excel controller models you can directly access include the 50, 100, 500, 500-XCL5010 (with XI582AH, only), 600, and 800. You can also indirectly access the following controllers:

- Excel 10 Controllers via XI581/2 hookup to an Excel 10 Zone Manager Controller
- Excel 20 Controllers via XI581/2 hookup to an Excel 500 or 600 Controller

In addition, the XI581/2 can operate in the buswide access mode, which permits communication with remote controllers. Remote controllers can be any Excel controller that connects to the same C-bus as the Excel controller to which the XI581/2 is connected.

NOTE: The Excel controllers must have up-to-date software that includes the buswide access mode feature. The "GETTING STARTED" section describes buswide operation and restrictions.

XI581/2 differences

The XI581AH (Fig. 1) and XI582AH (Fig. 2) look and operate very much alike. The difference is that the XI581AH mounts directly on the front of an Excel 500 or 600 Controller, while the XI582AH is a desktop unit that you can place up to 50 ft. (15 m) away from an Excel controller or mount on a wall.

NOTE: Since it is not possible to connect a controller-mounted operator terminal, the Excel 500-XCL5010 is operable only with the XI582AH.
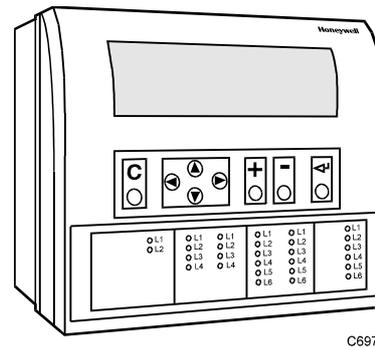
Fig. 1. XI581AH Controller-Mounted Operator Terminal.
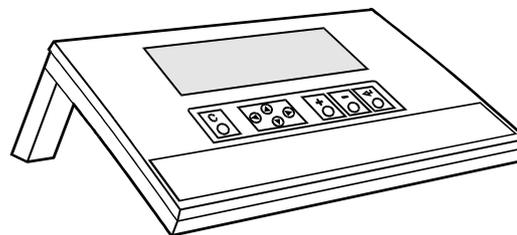
Fig. 2. XI582AH Desktop Operator Terminal.

Manual Organization

Purpose   This manual explains how to connect and operate the XI581/2.

Organization   This manual is divided into the following sections, including this introductory section.

The *Introduction* section briefly describes the XI581/2 and highlights similarities and differences between the two operator terminal models.

The *Getting Started* section describes:

- XI582AH connection to an Excel controller. (The XI581AH is mounted directly on an Excel controller at installation time.)
- Buswide access mode.
- Display area description and keypad operations.
- Password access levels that determine whether you can view and/or modify information using the XI581/2.

The *Everyday Operations* section explains tasks that you might perform daily or weekly.

The *Alphabetic Reference* section explains tasks that you do not perform regularly or in any particular order. The tasks are arranged alphabetically for easy lookup.

Appendix A: Hardware Setup describes how to route the cable for an XI582AH that does not mount on the wall or an Excel controller. This section also describes how to enable/disable the integrated backlighting feature for either the XI581AH or XI582AH.

The *Index* provides page number references to topics.

GETTING STARTED

About this section   This section describes:

- Connection options
- Screen display after start-up
- Description of display window and keypad operations
- Password access levels that determine the information you can view and/or modify

Ratings

Electrical Input   Class 2 power supply

Temperature   The XI582AH/XI582 are suitable for use in ambient temperatures of up to 45 °C.

> **NOTE:**   The XI582AH/XI582 must be connected only to Excel 50/100/500/600/800 Controllers.

Connection Options

Connecting the XI581AH   The XI581AH mounts on the front of an Excel 50/100/500/600/800 Controller at installation time and requires no further connection. When the controller is powered, the XI581AH is also powered. If the controller is off and then powered on, the XI581AH displays a message about the power failure. Use the Cancel key (C) to acknowledge the message. The next screen is the main menu. See "Screen Displays" (page 8) for details.

Connecting the XI582AH   The XI582AH requires the connection and routing of an appropriate cable (see Table 1). If your XI582AH does not already have a connected cable, see Appendix A: Hardware Setup, and Excel 500 Installation Instructions (EN1R-1047GE51) or Excel 100C Installation Instructions (EN1R-0144GE52) or Excel 800 Installation Instructions (EN1B-0375GE51) for connection details.

Table 1. Controllers and Compatible Cables

cable	controllers	length
XW564	Excel 500 (prior to XC5010C CPU), 600; with strain relief	7 ft. (2.5 m)
XW565	Excel 500 (prior to XC5010C CPU), 600; without strain relief	16 ft. (5 m)
XW582	Excel 50, Excel 100C (front connector), Excel 500 (XC5010C CPU, front connector) (XCL5010 CPU, serial connector)	16 ft. (5 m)
XW583[1]	Excel 100C (rear terminals),Excel 500 (XC5010C CPU, rear connector)	16 ft. (5 m)
XW584	Adapter cable for XW582 to Excel 100B, 500 (older CPUs), 600	6 in. (16 cm)
XW882[2]	Excel 800 Controller Module (XCL8010A), RJ45 jack	16 ft. (5 m)
XW884	Adapter cable from XW882 to 9-pin Sub-D front connector of Excel 50/100C, XC5010C, XCL5010	6 in. (16 cm)

[1]Use this cable if the XI582AH is to be permanently connected to an Excel 100C. With the XW582 connected, the cover of the Excel 100C cannot be closed.

[2]In lieu of the XW882 cable, it is possible to use an XW582 connected with an XW586.

When the operator terminal has a connected cable, you can move it to any controller and attach it. If the controller has buswide capability, you can leave the XI582AH attached to it and then access other controllers on the bus via remote login.

For information about connecting to various controllers, see below. After connection, see "Screen Displays" (page 8) for details on XI582AH screen displays.

- Excel 100C Controllers have a RS232 serial port connection at the bottom of the device as shown in the following diagram. An additional serial port connection is provided at the terminals on the base of the Excel 100C. A port selector switch is located on the front to select front or rear port (see below).

  IMPORTANT

  It is imperative that the Excel 100C Controller's port selector switch be properly set. Thus, after having operated an MMI via the front port, the switch has to be set back to its left position to reactivate a modem being connected to the rear terminals. If the switch is set to "front port", the rear terminals are deactivated, and vice versa.

- Excel 500 and 600 Controllers have the serial port connection at the top of the controller as shown in the following diagram.
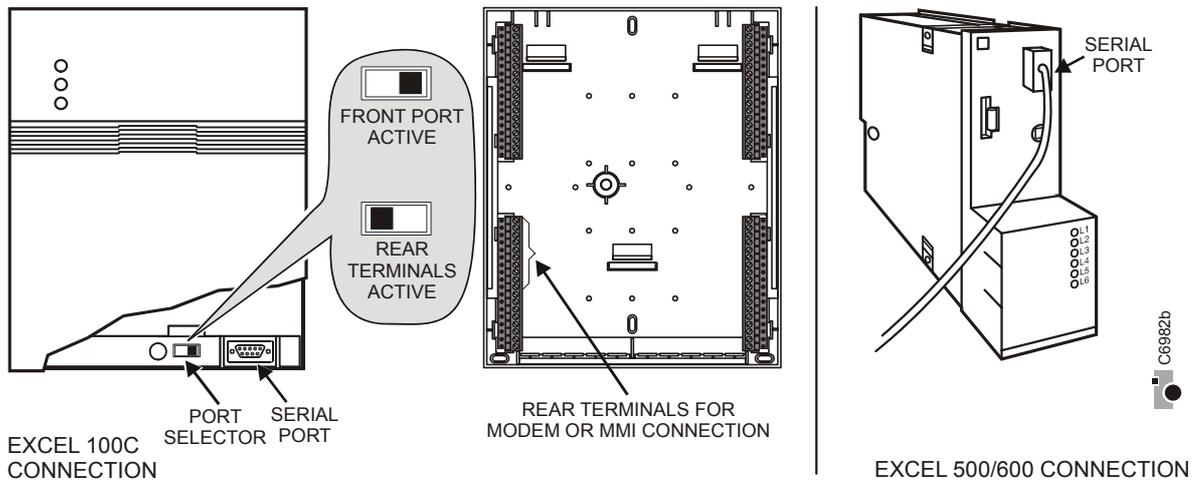
Fig. 3. Excel 100C and Excel 500/600 MMI connection.

- The XC5010C CPU for Excel 500 has an additional serial port connection at the terminal block on the back of the unit and a switch on the front to select front or rear port.
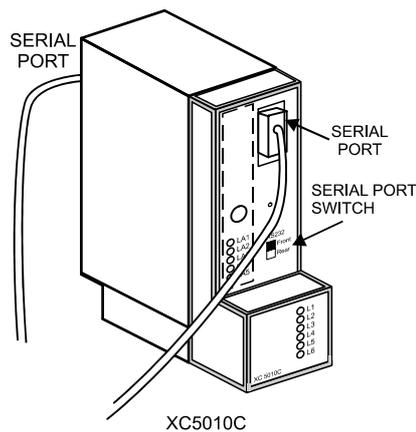
Fig. 4. Excel 500-XC5010C MMI connection.

- Excel 50 and Excel 500-XCL5010 Controllers require the XW582 cable which connects to the serial port on the bottom of the device as shown below.

EXCEL 50
EXCEL 500-XCL5010
(REAR VIEW)   SERIAL PORT
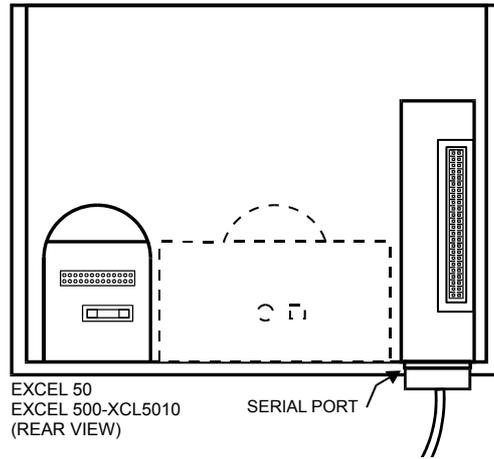
Fig. 5. Excel 50 and Excel 500-XCL5010 MMI connection.

- Excel 10 Zone Manager and Excel 100B Controllers have a serial port connection at the bottom of the device as shown in the following diagram. The XI581/2 reads the data for the Excel 10 Controllers that connect to the Excel 10 Zone Manager.

EXCEL 10
ZONE MANAGER   SERIAL
AND EXCEL 100B   PORT
CONNECTION
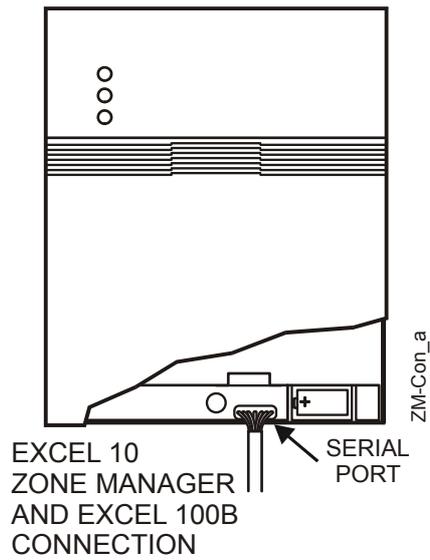
Fig. 6. Excel 10 Zone Manager and Excel 100B MMI connection.

- The Excel 800 Controller Module (XCL8010A) features an RJ45 serial connection on the front (see Fig. 7) for connection (using the XW882 cable; alternately: the XW582 together with the XW586) of Human-Machine-Interfaces (HMIs).

HMI INTERFACE
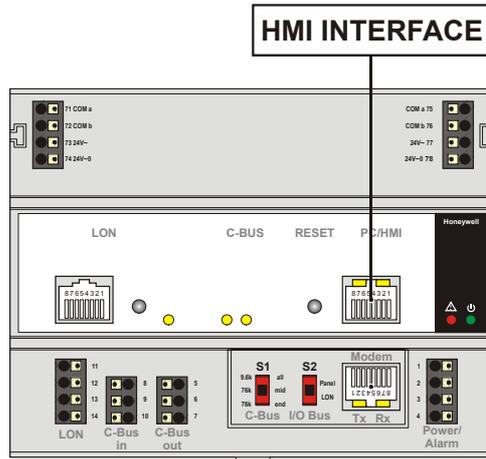
Fig. 7. Excel 800 Controller Module and MMI connection.

Buswide Access Mode

The buswide access mode allows communication between an XI581/2 and an Excel controller that is not directly connected to the XI581/2. Communication can include reading from and writing to the remote controller as well as receiving alarm status information.

For example, an XI581/2 on an Excel 500 Controller can log in to an Excel 100 Controller that connects to the same system bus as the Excel 500 Controller.
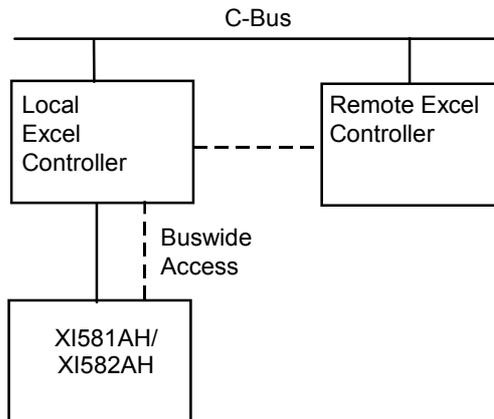
Fig. 8. Buswide access mode

Connection capabilities depend on the version of the controller and whether it has buswide access mode software. Table 2 specifies the versions capable of the buswide access mode.

There are two buswide access modes (active and passive) for controllers that have this capability.

- With *active buswide access*, a controller (for example, Controller A) can access another controller (Controller B) on the same bus if Controller B has at least passive access.

C-Bus

```
┌──────────────────┐                      ┌──────────────────┐
│ Controller A     │                      │ Controller B     │
│ active buswide   │ - - - - - - - - - -> │ active or passive│
│ access           │     Buswide          │ buswide access   │
└──────────────────┘     Access           └──────────────────┘
        │  :
        │  :
┌──────────────────┐
│                  │
│   XI581AH/       │
│   XI582AH        │
│                  │
└──────────────────┘
```
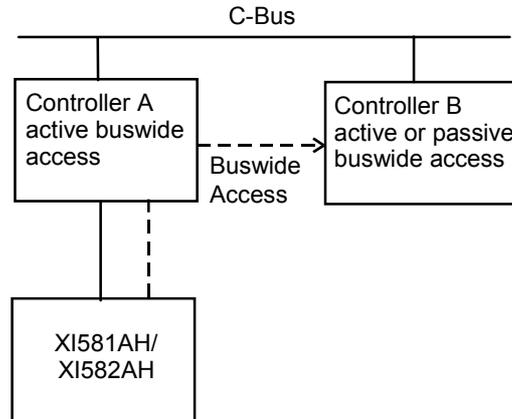
Fig. 9. Active buswide access

- With only *passive buswide access mode*, a controller (for example, Controller B) cannot access another controller (Controller A) on the same bus. However, since Controller B has at least the passive *buswide* access mode, Controller B can be accessed by another controller that has the active buswide access mode (in this case, Controller A).

C-Bus

```
┌──────────────────┐                      ┌──────────────────┐
│ Controller A     │                      │ Controller B     │
│ active buswide   │ <- - - ✕ - - -       │ passive buswide  │
│ access           │                      │ access only      │
└──────────────────┘                      └──────────────────┘
                                                   │
                                          ┌──────────────────┐
                                          │                  │
                                          │   XI581AH/       │
                                          │   XI582AH        │
                                          │                  │
                                          └──────────────────┘
```
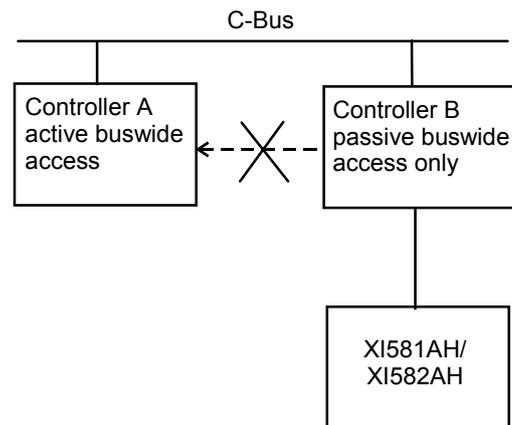
Fig. 10. Passive buswide access

To access a remote controller, you must first log in to the controller. Once you are logged into the remote controller, operation is almost the same as operating a local controller. The menu structure used for operation is always that of the remote controller.

You cannot perform the following tasks while in the buswide access mode:

- Set the controller number.
- Set the communication baud rate.
- Start up a new controller.

Controller versions   Some controller models (mainly older versions) do not support buswide functionality or support passive buswide functionality only after installation of a Firmware EPROM upgrade kit. Please contact your local branch or affiliate for further information on EPROM upgrade kits.

Table 2. Buswide Access Capability of Different Devices

device	buswide access mode
Excel 50, 100, 500, 600, 800 Controller	Yes, with Firmware EPROM Version Excel 500/600/800 1.03.00 or newer.[1] Version 1.01 cannot support the active access mode.[2]
Excel 20 Controller	Passive buswide access mode, only.
Excel 10 Zone Manager	Excel 10 Zone Manager supports the passive buswide access mode only with Firmware EPROM Version 1.02.xx or newer[3].
XIP100	no

[1]Excel 100/500/600 Controllers running under Firmware EPROM Version Excel 500/600 1.2.XX can be upgraded by changing the Firmware EPROM to Version 1.03. The controllers then support full buswide functionality, i.e. passive and active buswide access. Excel 800 controllers support this with any firmware version, starting with 3.00.xx.

[2]Excel 100/500/600 Controllers running under Firmware EPROM Version Excel 500 Version 1.01 must be equipped with the Excel 1.01 upgrade kit for the buswide access mode. They then support the passive buswide access mode. However, Version 1.01 Controllers do not support the active buswide access mode.

[3]Excel 800 controllers support this with any firmware version, starting with 3.00.xx.

Buswide alarms

The XI581/2 does not directly report buswide alarms on screen, but you can set it to an "alarm standby" mode where it listens to the system bus and then reports the occurrence of a new alarm somewhere on the system bus. In a separate screen, you can view the contents of the alarm buffer which will tell you where on the system bus the new alarm has occurred. You can then log in to the appropriate controller and look in the alarm buffer of the remote controller to find the cause of the alarm.

To enable the buswide alarm flag, set the XI581/2 to Alarm Standby Flag mode in the 'Buswide Access' screen. To enable receiving of buswide alarms, set the XI581/2 to 'Alarm Standby On'. The "Alarm Information" section describes these options.

When alarm standby is on and the alarm flag enabled, a screen symbol starts flashing as soon as a new buswide alarm arrives from somewhere on the system bus.

NOTE: Local alarms will not show when you are logged in to a remote controller.

The reading of a buswide alarm from an XI581/2 is independent of the XBS/XBS-i mechanism for alarm acknowledgment.

Performance

Only one buswide XI581/2 (local or remote) can be logged onto a controller at any one time. However, there is no restriction as to the total number of buswide XI581/2 used on the same system bus. When XBS PCs are also on the bus, there may be up to four XBS PCs on the same bus and one buswide XI581/2 that is in remote access at the same time.

All XI581/2 are of equal priority, so that whichever device signs on first gains access to a controller and no other device (local or remote) can sign on to the same controller during this time.

Screen Displays

Initial screen displays depend on the status of the controller and its pending alarms.

Powered controller

After you plug an XI582AH into a powered controller, the main menu appears in the display window.

An XI581AH that is always attached to a controller typically displays the main menu unless an operator has penetrated to some other menu.

Controller power-on	The first display screen that appears after power-on is a message about the power failure. Use the Cancel key (C) to acknowledge the message. The main menu is displayed.
CPU reset	If you press the controller's CPU reset switch, the controller restarts and the XI581/2 displays the 'title/copyright' screen.

Memory Cleared

>*If you push the reset switch, everything in the controller is deleted. Use the reset switch only for servicing.*

To reload the controller, follow the download procedure as explained in the Flash EPROM and RAM Management procedures (in the "ALPHABETIC REFERENCE" section). If the controller does not have Flash EPROM, use Excel CARE software to download the controller.

Brightness control   If desired, adjust the contrast of the screen display by turning the brightness control knob on the bottom of the XI581/2:
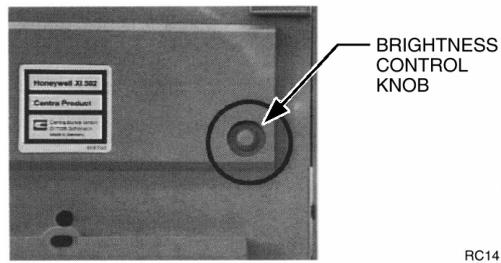
Fig. 11. Brightness control on XI581/2.

Operation   The rest of this section describes the XI581/2 display area and its access levels. If you are familiar with this information, continue with the sign-on procedure in the "Local and Remote Sign-On and Sign-Off " section.

Display Area Description
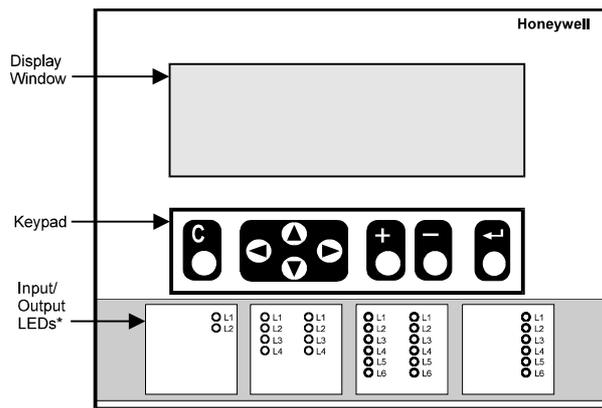
Fig. 12. MMI display area.

Display Window

The XI581/2 display window is located above the keypad. The window presents system information, operator entries, and menus of functions that you can perform.

Menu example

For example, the following is the first menu (the main menu) that appears. It shows the controller name, the current time and date, and a list of functions you can select. The word **Password** is highlighted (reverse video on the display) because it is the default selection.

```
     CONTROLLER_07          18:16!
     Running           15.12.1994
  ███████████          Alarms
Time Programmes  Trend Buffer
Data Points      System Clock
                 System Data
```

The buswide alarm flag (exclamation mark, !, in the top right-hand corner of the window) indicates that the buswide alarm notification mode is enabled. If it is blinking, an alarm has occurred. The "Alarm Information" section describes alarm display and acknowledgment.

Time program window example

The following window display appears when you select 'Time Programmes'. It lists the zones that have time programs and waits for operator selection of a zone. The scroll bar is on the right-hand side of the window.

```
Time Programme
              ██████████████
              Ventil. Sys
              Lighting          1
              Heating zone east
              Heating zone west
```

Scroll bar   The XI581/2 display window can show six lines of information at a time. A scroll bar appears on the right-hand side of the window as shown in the 'Time Programme' window example:

▲

■

1

■

▼

The scroll bar allows you to quickly move through the items in the list so you can locate the one you want. The number indicates the number of pages being scrolled using the right and left arrow keys. Use the following keys to scroll (see Table 3).

NOTE: With an Excel 50 directly connected or accessed via the buswide access mode, the display varies from that given for an Excel 100/500/600 controller. The left two-thirds show the MMI information of the Excel 50; the right third shows text equivalents of the four fast-access keys of the Excel 50 (see example below).

```
AHU                 PLANT
TUE 21:09 11:55     TIME
to  06:00 20.0 C    PARAMETERS
 TODAY   NEXT       ALARM


```

Table 3. Scroll Key Descriptions

key	key name	scroll description
	right arrow	Move forward the selected number of pages. See the plus and minus key descriptions to select the number of pages. The default is 1 page.
	left arrow	Move backward the selected number of pages. See the plus and minus key descriptions to select the number of pages. The default is 1 page.
	plus	Increment the number in the scroll bar by 1 (maximum 9). For example, select 2 to scroll two pages. After selecting the number of pages, use the right arrow key to scroll the pages forward.
	minus	Decrement the number in the scroll bar by 1. After selecting the number of pages, use the right arrow key to scroll the pages backwards. If you press the minus key while the number in the scroll bar is 1, a Less-Than symbol (<) appears. If you then press the left arrow key, the first page in the list will be displayed. If you press the minus key again while the Less-Than symbol is in the scroll bar, a Greater-Than symbol (>) appears. If you then press the right arrow key, the last page in the list will be displayed.

The next section describes the other keys available on the keypad as well as other functions for the right arrow, left arrow, plus, and minus keys.

Keypad

The XI581/2 keypad has eight keys that control all operator entries. The following table describes the function of each key. Following the table are tips for moving the cursor around within the display window.

Table 4. Description of Key Functions

key	key name	description
	Cancel	End the task you are performing and return to a previous display window.
		If you press this key after you modify a field, but before pressing Enter, ↵, the XI581/2 erases any new information you input and retains the original information.
		If you press this key after you modify a field *and* press Enter, ↵, the XI581/2 retains the new information you input.
	left arrow	Within a menu or a line of items, the left arrow moves the cursor from one column (or item) to another.
		Within a data field, the left arrow moves the cursor to the left one digit.
	right arrow	Within a menu or a line of items, the right arrow moves the cursor from one column (or item) to another.
		Within a data field, the right arrow moves the cursor to the right one digit.
	down arrow	Move the cursor to the next field, the next column, or to the next line in a column.
	up arrow	Move the cursor to the previous field, the previous column, or to the previous line in a column.
	plus	Increase the value of a digit by one (for example, from 2 to 3). You can also use this key to change the condition of a digital point. For example, press this key to flip a digital point from OFF to ON.
	minus	Decrease the value of a digit by one (for example, from 2 to 1). You can also use this key to change the condition of a digital point. For example, press this key to flip a digital point from OFF to ON.
	Enter	Enter and confirm input values or command choices for the controller. When you press this key, it allow modification of the highlighted field. Pressing Enter (↵) again stores the value in memory.
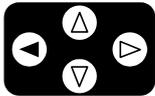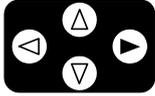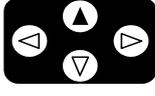
Moving between columns

To move horizontally between columns in a menu or list, press the down arrow key until you reach the bottom of the column. When you press the down arrow key again, the cursor automatically jumps to the first item in the next column.[1]

If the cursor is on the first item in the first column, pressing the right arrow key moves the cursor to the first item in the second column. If the cursor is on the last item in the second column, pressing the down arrow key moves the cursor to the first item in the first column.[1]

[1] **NOTE:** In case not all entries are displayed (e.g. no password entered), this may differ slightly.

Modifying a field	To change information in a field, first use the arrow keys to move to and highlight the field. Then press Enter, ↵. After the change is made, Enter (↵) must be pressed again to confirm the change.
Moving from field to field	Once you begin modifying the digits in a field, you can move from digit to digit within that field using the arrow keys.
	However, to move to a different field, you must press Enter, ↵, after making your last change to the field. The field is then highlighted. You can then use the arrow keys to move to and highlight the next field you wish to modify.
Point order in lists	Points are listed according to hardware type. In other words, all analog points appear first, followed by digital points, and finally totalizer points.
Display of "**"**	The string "****" means that no value is available.

Operator Access Levels

	There are three access levels that control operator access to XI581/2 information. The access levels determine the information an operator can view and which tasks an operator can perform.
Access level 1	Access level 1 is available to all operators and does not require a password. At level 1, you can view some, but not all, of the information programmed into the controller. You cannot modify any data. Specifically, access level 1 allows you to view the following:
	• Time program information
	• Point descriptions
	• System clock
	• Trend log
	• Alarm information
	• Buswide information
Passwords	To operate at level 2 or 3, an operator must enter a password. Passwords are four numerical characters and are controlled by the site administrator. The "Level 2/3 Password Entry" section explains how to enter your password.
Access level 2	Access level 2 allows you to view all information accessible to level-1 operators. In addition, you can modify time programs, set the system clock, and view totalizer information. You can also view and modify information in other controllers on the same system bus.
Access level 3	Access level 3 allows you to perform all tasks accessible to level-1 and level-2 operators. In addition, you can:
	• Modify point descriptions
	• Reset totalizers
	• Modify parameters
	• Change setpoints
	This access level should be reserved for only those users who are responsible and competent in HVAC engineering, such as a commissioning engineer. This is to avoid incorrect operation of the plant. This access level is required for setting the access levels of the other users.
Access level chart	The following chart summarizes the functions available at each access level.
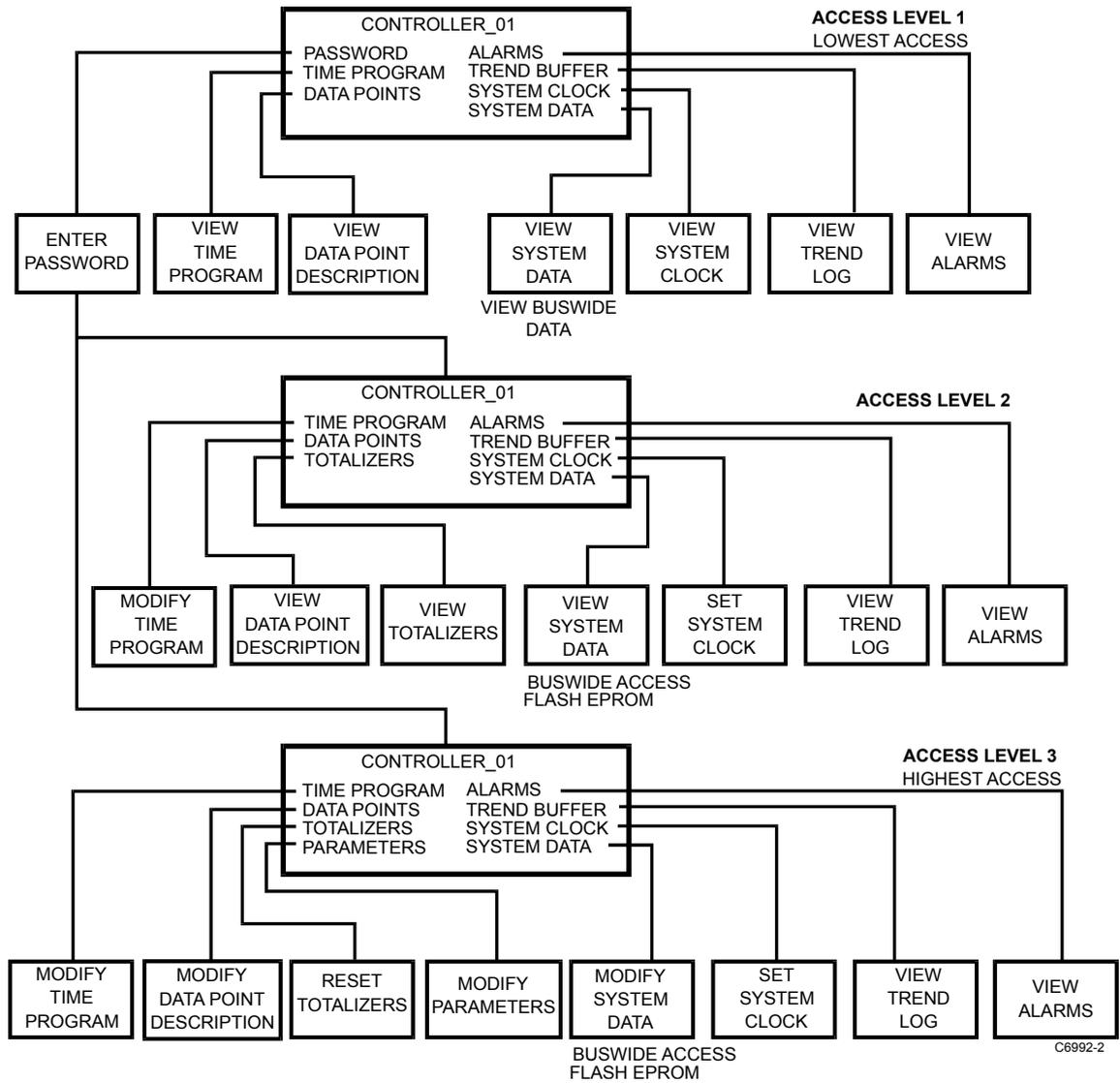
Fig. 13. Operator access level and corresponding functions of XI581/2.

EVERYDAY OPERATIONS

About this section   This section details steps for common everyday procedures. The procedures are grouped by common functions as follows.

Local and Remote Sign-on and Sign-off

- Level-2 and level-3 password entry
- Logging into a remote controller
- Logging off from a remote controller
- Signing off from a controller (local or remote)
- **Alarm Information**
- Viewing alarm information
- Viewing buswide alarms
- Enabling/disabling the buswide alarm mode and alarm flag
- Acknowledging the buswide alarm flag

Viewing point information

Reviewing time program schedules

Requesting a trend log in tabular or graphic format

Listing status of totalizer points

Controller information

- Reading controller date and time
- Viewing controller configuration data

All these procedures, except listing totalizer status, are level-1 operator tasks. The totalizer function is a level-2 or level-3 operator task.

Any procedures requiring access to a remote controller require log-in to that controller.

Point vs. data point   Note that XI581/2 refers to points as "data points". This document uses the term "point" except when the expression "data point" appears in XI581/2 screen displays. EXCEL 5000™ literature generally uses the term "points". The terms have the same meaning.

See also ⇒

Local and Remote Sign-On and Sign-Off

Because the XI581/2 is powered whenever the controller it connects to is powered, there is no "sign-on" and "sign-off" as for other types of operator terminals. Typically, when you plug an XI582AH into a powered controller, the main menu will be displayed and you can begin selecting level-1 functions. Alternatively, you can enter a password to obtain access to level-2 or level-3 functions.

The following are descriptions of the types of screen displays that occur depending on the status of the controller (powered or reset) and its alarms.

Powered controller   When you plug an XI582AH into a powered controller, the main menu appears in the display window.

An XI581AH that is always attached to a controller typically displays the main menu unless an operator has penetrated to some other menu. You can press Cancel (C) repeatedly until the main menu is displayed.

Main menu (access level 1)

```
        CONTROLLER_01        18:16!
        Running         15.12.1994
        █████████        Alarms
   Time Programmes    Trend Buffer
   Data Points        System Clock
                      System Data
```

Level 1 operators   Level-1 operators do not have to enter a password.

Level 2 & 3 operators   Level-2 and level-3 operators must enter a password to perform level-2 and level-3 operations. See "Level 2/3 Password Entry" (page 18) for details.

Controller power-on   The first display screen that appears after power-on is a message about the power failure. Use the Cancel key (C) to acknowledge the message. The main menu will be displayed.

Procedures   This section describes the following procedures:

- Level 2/3 password entry to enter a password if level-2 or level-3 functions are required
- Logging into a remote controller to gain access to a controller that is not directly connected to the XI581/2
- Logging off from a remote controller to disconnect from a remote controller that you previously logged into
- Signing off from a controller (local or remote) to return to the level-1 main menu.

Level 2/3 Password Entry

Purpose   To sign on to an XI581/2 connected to a controller.

Procedure   1. After the XI581/2 is connected to a controller, the main menu automatically appears in the display window unless the controller is reset and needs to be downloaded. If the controller needs to be downloaded, the 'title/copyright' screen will be displayed.

   NOTE: If the main menu does not appear, press Cancel (C) until it does.

   RESULT: The main menu appears and lists information that level-1, -2, and -3 operators can view. The word **Password** is highlighted as the default selection.

Level-2 and -3 operators   2. Level-2 and level-3 operators do not have to enter a password to perform a level-1 task. However, to perform a level-2 or level-3 task, you must enter a password using the 'Password' function. Press Enter (↵) to select the 'Password' function.

   NOTE: If the 'Password' function is not highlighted, use the arrow keys to move to and highlight the item and then press Enter (↵).

   RESULT: XI581/2 asks for your password. The display window shows four asterisks where you enter your password.

```
     Please enter your Password:


              █████
```

Password entry   **3.** Press Enter (↵) to select the password field (four asterisks).

— The display window shows a 5 as the first, left-most digit of the password field.

— If the first digit of your password is higher than 5, press the plus key (or the up arrow key) until the first digit of your password is correct.

— If the first digit of your password is lower than 5, press the minus key (or the down arrow key) until the first digit of your password is correct.

— Use the right arrow key to move the cursor to the second digit. Notice that the first digit becomes an asterisk again to maintain password privacy.

Repeat this procedure until you have correctly input all digits in the password field.

If you incorrectly input a digit, press Cancel (C) to start over again with the first, left-most digit.

Once the password is input, press Enter (↵) to complete password entry. If the password is incorrect, software re-prompts for password entry.

RESULT: If you correctly enter a password, the word **Next** will be displayed. For level-3 operators, the word 'Change' will also be displayed to allow you to change the password. See the "Passwords" section for the procedure to change a password.

```
┌─────────────────────────────────────┐
│  Please enter your Password:        │
│                                     │
│            ****                     │
│                                     │
│   Change                  ███████   │
└─────────────────────────────────────┘
```
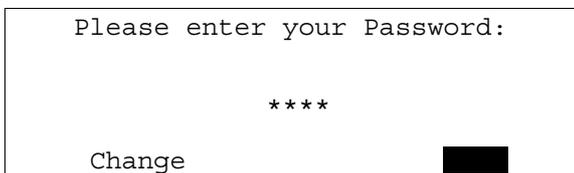
Press Enter (↵) to select **Next**.

RESULT: The display window shows the main menu appropriate for the password you entered.

NOTE: The main menu for access level 2 shows three items ('Time Programmes', 'Data Points', and 'Totalizers') in the left column, while the main menu for access level 3 shows four items ('Time Programmes', 'Data Points', 'Totalizers', and 'Parameters').

Main menu for access level 2

```
┌─────────────────────────────────────┐
│       CONTROLLER_01        18:16    │
│       Running         15.12.1994    │
│ ███████████████      Alarms         │
│ Data Points          Trend Buffer   │
│ Totalizers           System Clock   │
│                      System Data    │
└─────────────────────────────────────┘
```

Main menu for access level 3

```
┌─────────────────────────────────────┐
│       CONTROLLER_01        18:16    │
│       Running         15.12.1994    │
│ ███████████████      Alarms         │
│ Data Points          Trend Buffer   │
│ Totalizers           System Clock   │
│ Parameters           System Data    │
└─────────────────────────────────────┘
```
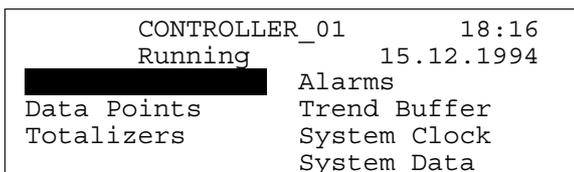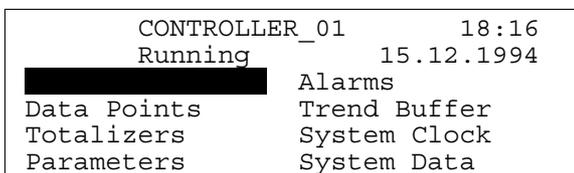
5. Select desired function. The rest of this manual contains procedure for each of the functions.

Logging into a Remote Controller

Purpose   To initiate communication with a remote controller.

Performance   Only one buswide XI581/2 (local or remote) can be logged onto a controller at any one time. However, there is no restriction as to the total number of buswide XI581/2 used on the same system bus. When XBS PCs are also on the bus, there may be up to four XBS PCs on the same bus and one buswide XI581/2 that is in remote access at the same time.

All XI581/2 are of equal priority, so that whichever device signs on first gains access to a controller and no other device (local or remote) can sign on to the same controller during this time.

Procedure   **1.** Sign on to the XI581/2 at the desired user level (1, 2, or 3). See section "Level 2/3 Password Entry" (page 18) if you do not know how.

2. At the main menu, use the arrow keys to move to and highlight **System Data**. Then press Enter (↵) to complete the selection.

RESULT: The display window shows system data, including the 'Buswide Access' option. In the following example, note that the local controller is CONTROLLER_01.

```
System Data

         ██████████
         HW-Interface Config.
         Flash EPROM
         Buswide Access
```

NOTE: The 'Flash EPROM' item will be displayed only if you signed on as a level-3 operator.

3. Use the arrow keys to move to and highlight **Buswide Access**. Then press Enter (↵) to complete the selection.

RESULT: The display window lists the buswide access options you can choose.

```
Buswide Access
CONTROLLER_01
██████████████    Alarm Standby On
Logoff            Alarm Standby Flag
Show All DevicesAlarm Standby Off
```

The option 'Logoff' appears below 'Remote Login' only if you have already logged in on the remote controller (i.e. a connection has been established). 'Logoff' can be used to sever the connection to the remote controller. See section "Logging Off from a Remote Controller" (page 22) for details.

4. Press Enter (↵) to select **Remote Login** (highlighted default).

RESULT: The display window lists all devices available for log-in. Controller name and number are shown for each device.

```
Remote Login
         ████████████████████
         CONTROLLER_09        9
                              1
```

5. Use the arrow keys to move to and highlight the name of the desired controller. Press Enter (↵) to complete the selection.

RESULT: After about 5 seconds, the level-1 main menu of the selected controller will be displayed unless there is a pending alarm. If an alarm is pending in the remote controller, the alarm will be displayed instead of the menu. Press Cancel (C) and log in again to see the remote controller's main menu.

The following example shows the result of selecting CONTROLLER_07.

```
         CONTROLLER_07         18:16!
         Running          15.12.1994
██████████              Alarms
Time Programmes  Trend Buffer
Data Points      System Clock
                 System Data
```

Excel 20 and Excel 50 Controllers
The operator interface for Excel 20 and Excel 50 Controllers has only four lines and varies considerably from the screens in this manual. If you log into a remote Excel 20 or Excel 50 Controller, see the appropriate Controller User Guide for operator interface description and details.

6. Press Enter (↵) to select **Password**.

RESULT: The 'Password' screen will be displayed.

```
  Please enter your Password:


                ██████

  Change                   Next
```

7. Press Enter (↵) to have the same access level as the local controller. To have a higher access level, type in your password and press Enter (↵).

RESULT: The main menu of the selected controller will be displayed. The following example shows level-3 access for CONTROLLER_07.

```
         CONTROLLER_07         18:16
         Running          15.12.1994
██████████████        Alarms
Data Points      Trend Buffer
Totalizers       System Clock
Parameters       System Data
```

⇒ If the selected device is already being accessed (locally or remotely), the log-in fails and the system displays the message "Device logged". Try again when the device is available.

8. Perform listed tasks as desired just as for a local controller. Log off from the remote controller when finished (see section "Logging Off from a Remote Controller", page 22, for details).

Buswide alarm flag   If the buswide alarm flag was enabled on the local controller, the flag disappears after log-in to the remote controller. Set it for the remote controller again to re-establish it, if desired. See section "Alarm Information" (page 23) for procedures.

Logging Off from a Remote Controller

Purpose   To disconnect from a remote controller.

Procedure   1. From the remote controller's main menu, use the arrow keys to move to and highlight **System Data**. Then press Enter (↵) to complete the selection.

RESULT: The display window shows system data, including the 'Buswide Access' option.

```
System Data


       ██████████
       HW-Interface Config.
       Flash EPROM
       Buswide Access
```

NOTE: The 'Flash EPROM' item will be displayed only if you signed on as a level-3 operator.

2. Use the arrow keys to move to and highlight **Buswide Access**. Then press Enter (↵) to complete the selection.

RESULT: The display window lists the buswide access options you can choose for remote CONTROLLER_07.

```
Buswide Access
CONTROLLER 07
██████████████
Logoff
Show All Devices
```

3. Use the arrow keys to move to and highlight **Logoff**. Then press Enter (↵) to complete the selection.

RESULT: Software logs off CONTROLLER_07 and displays the 'Remote Login' menu screen to allow you to log in to another controller.

```
Remote Login
       ██████___████████
       CONTROLLER_09        9
                            1
```

4. Select a remote controller to log into or press Cancel (C) to return to the 'Buswide Access' screen for the local controller.

Controller Sign Off

Purpose   When you have finished using the XI581/2 Operator Terminal to access either a remote or local controller, sign off so no one else can access the controller at the same level that you accessed.

Sign-off   To sign off, press Cancel (C) until the main menu appears with **Password** highlighted.

Main menu

```
        CONTROLLER_01        18:16!
        Running         15.12.1994
   ███████████████      Alarms
Time  Programmes     Trend Buffer
Data  Points         System Clock
                     System Data
```

Auto sign-off   If you are signed on to the XI581/2 and do not press any keys for 10 minutes, the operator terminal automatically signs you off.

Alarm Information

This section describes how to view alarm information from the local controller as well as buswide alarms. For buswide alarms, the section describes how to set the buswide alarm mode and acknowledge the buswide alarm flag.

Viewing Alarm Information

Purpose   To view selected alarm information, including the last 99 alarms, the controller has generated and stored in memory, all current alarms (critical and non-critical), current critical alarms, current non-critical alarms, and buswide alarms. All operators can perform this task.

Select "Alarms"   1.   At the main menu, use the arrow keys to move to and highlight the **Alarms** option. Press Enter (↵) to complete the selection.

RESULT: The 'View Alarms' screen displays options for viewing alarm information.

```
     View Alarms
   ███████████████
  All Points in Alarm
  Critical Points in Alarm
  Non Critical Points in Alarm
  Buswide Alarms
```

Select desired option   2.   Use the arrow keys to move to and highlight the desired option:

Table 5. Alarm Buffer Options and Alarm Type Options

alarm buffer option	alarm type options
Alarm Buffer is highlighted by default when the 'Alarms' screen is displayed. Press Enter (↵) to select **Alarm buffer**. RESULT: The display window lists all alarms in controller memory.	Press the arrow keys to move to and highlight the desired option (**All Points in Alarm**, **Critical Points in Alarm**, **Non Critical Points in Alarm**, or **Buswide Alarms**). Then press Enter (↵) to complete the selection. RESULT: The display window lists points (all, critical, or non critical) currently in alarm.

`Alarm Buffer`
`19.07.93 16:35 Exhaust_fan`
`19.07.93 06:26 Cafe_room_temp`
`18.07.93 23:57 Window_contact_17` 1
`18.07.93 16:07 Conf_room_temp`
 	
`17.07.93 20:17 Htg._zone_pump_1`
	`All Points in Alarm:`
	`Exhaust_fan`
	`Cafe_room_temp`
	`Window_contact_17` 1
	`Conf_room_temp`
	`Htg._zone_pump_1`

First column—The date the controller generated the alarm. The date appears in Date.Month.Year (DD.MM.YY) notation where DD=1-31, MM=1-12, and YY=the last two digits of the year. Second column—The time the controller generated the alarm. The time appears in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59. Third column—The user address of the point in alarm.	**NOTE:** Alarm memory can contain 99 entries. All alarms may not be able to appear in the display window at the same time. To view alarms that do not display, press the right arrow key to display the next page. For other scroll bar functions, see the scroll bar description in the "GETTING STARTED" section.

Select the desired alarm

3. Use the arrow keys to move to and highlight the specific alarm you want to view. Then press Enter (↵) to complete the selection.

   RESULT: The display window shows detailed information about the selected alarm.

```
Alarm Buffer
19.07.93       12:03:31
Cafe_room_temp
Alarm                   Back
CPU not available       with
                        C-Button
```

Second line	Date and time the controller generated the alarm.
Third line	User address of the alarm point.
Fourth line	State or value of the point at the time the alarm was generated. If you selected an analog point, this line displays a value such as a temperature. If you selected a digital point, this line displays a status such as OFF or ON.
Fifth line	Alarm text.

4. Press Cancel (C) to return to the list of alarms.

Viewing Buswide Alarms

Purpose   To view new critical and non-critical alarms that occurred on controllers other than the local controller. You can also view the alarm buffer of a remote controller.

Access level   All users can perform this task.

Requirement   To enable viewing of buswide alarms, see section "Enabling/Disabling Buswide Alarm Mode and Alarm Flag" (page 25).

Procedure   1. At the main menu, use the arrow keys to move to and highlight **Alarms**. Then press Enter (↵) to complete the selection.

RESULT: The 'View Alarms' screen will be displayed.

```
        View Alarms

  All Points in Alarm
  Critical Points in Alarm
  Non Critical Points in Alarm
  Buswide Alarms
```

2. Use the arrow keys to move to and highlight **Buswide Access**. Then press Enter (↵) to complete the selection.

RESULT: The display window lists all devices available for log-in. Controller name and number as well as alarm status information list for each device. The number of the controller appears below 'No'. An 'x' appears below an alarm header (Critical or Non Critical) to indicate the presence of an alarm.

```
Buswide Alarms
Name            No Crit     Non Crit

CONTROLLER_09   9  x           x      1
                                      ■
```

3. Press the arrow keys to move to and highlight the desired controller. Then press Enter (↵) to complete the selection.

RESULT: You are now logged into the alarm buffer of the selected remote controller.

4. View the alarm buffer using the same procedure as for a local controller. See section "Viewing Alarm Information" (page 23) for details if you do not know how. When you are through reading the buffer, log off the remote controller (press Cancel repeatedly).

RESULT: Software removes the controller number character from the alarm buffer to indicate that the alarm(s) were viewed.

Enabling/Disabling Buswide Alarm Mode and Alarm Flag

Purpose   To set up XI581/2 so that it displays the alarm flag, !, when new buswide alarms occur.

Access level   All users can perform this task.

Procedure   1. At the main menu, use the arrow keys to move to and highlight **System Data**. Then press Enter (↵) to complete the selection.

RESULT: The display window show system data, including the 'Buswide Access' option.

```
System Data

              ██████████████
              HW-Interface Config.
              Flash EPROM
              Buswide Access
```

2. Use the arrow keys to move to and highlight **Buswide Access**. Then press Enter (↵) to complete the selection.

    RESULT: The display window lists the buswide access options you can choose.

```
Buswide Access
CONTROLLER 03
████████████████      Alarm Standby On
                      Alarm Standby Flag
Show All DevicesAlarm Standby Off
```

3. Use the arrow keys to move to and highlight **Alarm Standby On**. Then press Enter (↵) to complete the selection.

    RESULT: Software enables buswide alarm mode to enable receiving of buswide alarms into the buffer (the "Viewing Buswide Alarms" section describes the procedure).

           The 'Buswide Access' screen remains on display.

4. Use the arrow keys to move to and highlight **Alarm Standby Flag**. Then press Enter (↵) to complete the selection.

    RESULT: The system is set to place the buswide alarm flag, **!**, in the top right-hand corner of most other windows.

           The 'Buswide Access' screen remains on display.

5. Press Cancel (C) to exit this screen and return to the main menu.

Alarm standby flag example   The following level-3 menu shows the exclamation mark, !, in the upper right-hand corner of the screen.

```
       CONTROLLER_01        18:16!
        Running          15.12.1994
   ██████████████      Alarms
   Data Points         Trend Buffer
   Totalizers          System Clock
   Parameters          System Data
```

When an alarm occurs, the flag starts blinking.

Disable buswide alarm notification   To disable alarm reporting, follow Steps 1 and 2 in the previous procedure. In Step 3, highlight **Alarm Standby Off** and press Enter (↵) to complete the selection. The system removes the flag from all display windows.

Acknowledging the Buswide Alarm Flag

Purpose   To notify the system that you saw the notification of a new buswide alarm (blinking exclamation mark, !, in the top right-hand corner of any display window).

Procedure   Use the arrow keys to move to and highlight the alarm flag. Then press Enter (↵) to complete the selection.

    RESULT: The flag stops blinking but remains on display.

The flag remains as long as buswide alarm notification is enabled. See section "Enabling/Disabling Buswide Alarm Mode and Alarm Flag" (page 25) for details.

Viewing Point Information

Purpose

To display point information for selected points.

⇒ This procedure details only how to select points by their user addresses and how to display their associated point attributes. There are other options on the 'Data Points' screen that provide functions to modify point information and to select points by type or template. If there are many user addresses, it may be easier to select points by type or template.

The "Data Point Description Function" section describes these procedures in detail.

Access level

All users can perform this task.

Procedure

1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The display window lists options for viewing point information. **User Address** is highlighted by default.

```
Data Points

                    Suppress Alarm
Manual Operation    Add Template
Accumul. Runtime    Delete Template
Type Selection      Modify Template
Points in Trend     Template Search
```

NOTE: The 'Add Template', 'Delete Template', and 'Modify Template' items do not display for level-1 operators, and 'Template Search' appears only if there are defined templates. If there are no defined templates, only the 'Add Template' item will be displayed for higher-level operators so they can define templates.

2. Press Enter (↵) to select **User Address**.

⇒ The other options on the 'Data Points' screen provide functions to modify point information and to select points by type or template. The "Data Point Description Function" section describes these procedures in detail.

RESULT: The display window lists points (by user address) that you can view. Example:

```
User Address
Exhaust_fan         1
Hall_main_lights    On
Main_water_meter    000         m3    1
```

Select the desired point

3. Use the arrow keys to move to and highlight the point you wish to view. Then press Enter (↵) to complete the selection.

RESULT: The display window shows detailed information about the selected point in a series of windows. Most points require three windows to fully display their attributes. The following example shows the first window for a digital point.

NOTE: Additional user-defined text for the point may appear on the second line.

```
              Htg_zone_pump_1

Status          : ON
Operating Mode: AUTO
Trend Logging : OFF
                           Back      ████
```

To move forward to the next page, highlight **Next** and press Enter (↵). To move backward a page, press Cancel (C). To return to the previous menu, highlight **Back**, and press Enter (↵).

Second window example:

```
              Htg_zone_pump_1
Technical Address    : 010205
Accumulated Runtime :     12736 h
Service Interval     :       500 h
Hours Since Serviced:       398 h
                           Back      ████
```

Third window example:

```
              Htg_zone_pump_1

Last Changed    : 15:36  07.06.1993
Cycle Count     :        656
Suppress Alarm  : NO
                                     ████
```

The information (or "attributes") appearing in a point description varies depending on the type of point you selected (digital, analog, or totalizer). For more information on the different point descriptions and their attributes, see section "Data Point Description Function" (page 49).

4. Use the arrow keys to move to and highlight **Back** and press Enter (↵) to return to the list of points (by user address). When you are finished, repeatedly press Cancel (C) to return to the main menu.

See also ⇒　　section "Data Point Description Function" (page 49) for attribute information.

section "Selecting Points by Template" (page 56) for details on the Template search function.

section "Selecting Points by Point Type" (page 57) for details on the Type search function.

Reviewing Time Program Schedules

Purpose　　To display time program equipment start/stop schedules. For an overview of time programs (daily programs, weekly programs, annual programs, the TODAY program, and the special days program), see section "Time Programs" (page 77).

Select "Time programmes"　　1. At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

```
Time Programme
                  ████████████
                  Ventil. Sys
                  Lighting          1
                  Heating zone east
                  Heating zone west
```

NOTE: All time programs may not be able to appear in the display window at the same time.

Select the desired time program   2. Use the arrow keys to move to and highlight the desired time program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs.

```
Time Programme  Time Program 1
        ███████
        Daily  Programme
        Weekly Programme
        Annual Programme
        Special Days
```

Select the desired type of time program   3. Use the arrow keys to move to and highlight the desired type of time program (such as TODAY) and then press Enter (↵) to complete the selection.

TODAY Program	Lists TODAY program start/stop times.
Daily Programme	Shows a menu to view data, prompts for selection of the desired daily program, and then displays associated switching point data.
Weekly Programme	Lists the daily program assigned to each day of the week.
Annual Programme	Prompts for starting date and then displays the daily program assigned to each day of the year.
Special Days	Shows a menu to view data and then lists the daily program assigned to special days (holidays) of the year.

For more information on the types of time programs, see section "Time Programs" (page 77).

RESULT: The top line of the display window shows the selected time program. The remaining lines list time program information or show another menu depending on the type of time program selected.

4. When you are finished, repeatedly press Cancel (C) to step backwards and return to the main menu.

Listing Totalizer Status

Purpose   To view totalizer information for points.

Access level   You must have access level 2 or 3 to perform this task.

Select "Totalizers"   1. At the main menu, use the arrow keys to move to and highlight **Totalizers**. Press Enter (↵) to complete the selection.

RESULT: The display window shows two options for listing totalizer data.

```
Totalizers

       ███████████████

       All Totalizers

```

Service interval   Displays a list of digital points and the number of hours.

All Totalizers   Displays a list of totalizer points and the value of the units
                   assigned to them.

Select the desired type of totalizer   **2.** Use the arrow keys to move to and highlight the type of totalizer you want to
view. Then press Enter (↵) to complete the selection.

RESULT: The display window lists totalizer points.

```
Service Interval           h
       ████████████    1267
       Exhaust_fan     1257
       Burner          4761
       Htg._zone_pump   736
       Cafe._hood       123
```

NOTES:
  1. All totalizer points may not be able to appear in the display window at
     the same time.
  2. The appearance of the 'Totalizer' screen differs slightly from that of
     the 'Service interval' screen, although they operate the same.

Select the desired totalizer   **3.** Use the arrow keys to move to and highlight the specific totalizer you want to
view. Press Enter (↵) to complete the selection.

RESULT: The display window shows detailed information about the selected
         totalizer.

```
Service Interval : 1000 h

Supply fan       : 1267 h

Reset            : Yes/NO
                            ███████
```

Service interval   Number of hours a point can run before the controller
                   generates a maintenance alarm.

User Address
(Supply fan)   Number of hours the point has run since it was last serviced.
                   The name of this field reflects the name of the totalizer point
                   you selected.

Reset   Zero the totalizer point after service.

**NOTE:**   Additional user-defined text for the point may appear on the second
              line.

The "Totalizers" section has more details on totalizer options.

4. When you are finished, repeatedly press Cancel (C) to return to the main menu.
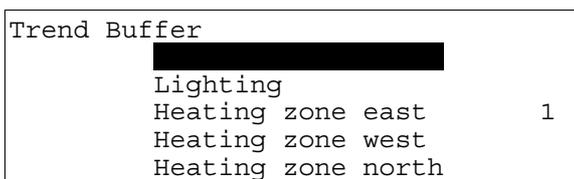
Requesting a Trend Log

Purpose   To request a trend log for a point and view the information in a table or in a graph. All users can perform this task.

Select "Trend Buffer"   1.   At the main menu, use the arrow keys to move to and highlight **Trend Buffer.** Press Enter (↵) to complete the selection.

RESULT: The display window lists two options for viewing a trend log.

```
Trend Buffer

             ██████

             Graph

```
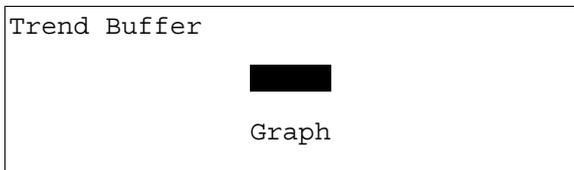
Select the desired trend log format   2.   Choose the desired option for viewing a trend log.

— **Table** is highlighted by default. Press Enter (↵) to complete the selection.

— Use the arrow keys to move to and highlight **Graph**. Then press Enter (↵) to complete the selection.

RESULT: The display window lists points whose activity is recorded in the trend buffer.

```
Trend Buffer
        ████████████████
        Lighting
        Heating zone east        1
        Heating zone west
        Heating zone north
```

NOTES:

1. The controller can collect and save trend log data for up to 20 points. The controller's trend log memory (buffer) can save the latest 200 point change-of-states. In the case of analog points, a value is saved when the point changes a specified amount. In the case of digital points and totalizer points, each change of status is saved.

2. All trend log points may not be able to appear in the display window at the same time.

Select the desired trend log point   3.   Use the arrow keys to move to and highlight the point whose trend log you want to view. Then press Enter (↵) to complete the selection.

Table 6. Trend Log in Tabular and Graph Format

Trend Log in Tabular Format	Trend Log in Graph Format
RESULT: The display window shows the trend log for the selected point in a tabular format.	RESULT: The display window shows a graph.

```
Trend Buffer  Exhaust_fan
16.07.93 17:45 Switched off
███████████████████████████

15.07.93 18:30 Switched off      1
15.07.93 13:30 Switched on
15.07.93 12:00 Switched off
```


C6993

First column—The date that the point's condition or value changed. The date appears in Date.Month.Year (DD.MM.YY) notation where DD=1-31, MM=1-12, and YY=the last two digits of the year.

Second column—The time that the point's condition or value changed. The time appears in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59.

Third column—A description of the change that took place.

Maneuver the graph using the following keys:

Key	Graph Function
plus	Zooms in on graph.
minus	Zooms out on graph.
left or right arrow keys	Scrolls graph left or right.
Enter (↵)	Switches the trend log from a graph format to a tabular format.

You can add an additional point to the trend log graph as long as the two points are different point types. For example, the first point is an analog point and the second point is a digital point.

With the graph of the first trend point displayed, press Cancel (C) to switch back to the list of points whose activity is recorded in a trend log.

Press the up and down arrow keys to highlight the additional point whose trend log you want to view. Then press Enter (↵) to complete the selection.

RESULT: The display window shows the trend log for the selected points in a graph format.

C6994

4. Press Cancel (C) to return to the trend log point list. When you are finished, repeatedly press Cancel (C) to step backwards and to return to the main menu.

Controller Information

Reading the Controller Clock

Purpose To read the controller date and time and the starting/ending daylight savings times. All users can perform this task.

Select "System Clock" 1. At the main menu, use the arrow keys to move to and highlight **System Clock**. Press Enter (↵) to complete the selection.

RESULT: The display window lists two options for viewing controller clock information.

```
System Clock

        ██████████████

        Daylight Savings
```
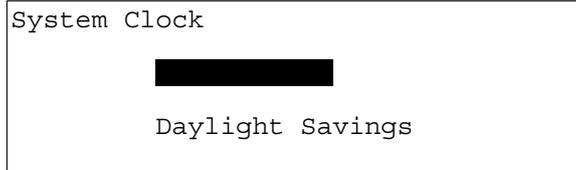
Select the desired clock option 2. Select **Date / Time** to view controller clock or select **Daylight Savings** to view daylight savings time dates as follows:

Table 7. Daylight Savings Time

Date/time	Daylight savings time
Date / Time is highlighted by default. Press Enter (↵) to complete the selection. RESULT: The display window shows the current date and time.	Use the arrow keys to move to and highlight **Daylight Savings.** Press Enter (↵) to complete the selection. RESULT: The display window shows the dates the controller currently uses to determine when to run on Daylight Savings Time.
```System Clock\n\n Date: 23.07.1993\n\n Time: 13:50 ████```	```System Clock\n\nDaylight Savings Start: 25.03\n\n End: 30.09\n ████```

3. Press Enter (↵) to select **Back** (highlighted by default).

RESULT: The 'System Clock' screen is again displayed.

4. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Viewing Controller Configuration Data

Purpose To view system data for the controller.

Access level All users can perform this task.

Select "System Data" 1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen displays four possible options (depending on access level).

```
System Data

         ███████████
         HW-Interface Config.
         Flash EPROM
         Buswide Access
```

System Info	Displays names of project, application, controller and system version number.
HW-Interface Config.	Provides access to the hardware interface configuration settings such as baud rates.
Flash EPROM	Access to Flash EPROM functions. These functions include erasing Flash EPROM and saving application data from RAM to Flash EPROM. See section "Flash EPROM and RAM Management" (page 65) for details.
Buswide Access	Access to buswide access mode functions. These functions include:

- Display a list of all currently active bus devices (see section "Viewing Bus Devices", page 98).

- Initiate remote log-in to remote controllers (see section "Logging into a Remote Controller", page 20).

- Display buswide alarms (see section "Viewing Buswide Alarms", page 24).

- Enable/disable buswide alarm notification (see section "Enabling/Disabling Buswide Alarm Mode and Alarm Flag", page 25)

2. To display more information for a controller, highlight **Next** and then press Enter (↵) to complete the selection. The following screen will be displayed.

```
System Info
Project Name   : APPL_4
Applic. Name   : CONTROLLER_03
Controller Name: CONTROLLER_03
Burn Date      : 01.01.2000 14:30
System Version : V 2.04.01    ██████
```

Project Name	Project name given during CARE engineering.
Applic. Name	The name of the currently selected application in the controller.
Controller Name	Controller's system name.
Burn Date	Burn date of the application after it is saved in Flash (prior to that, '00.00.0000 00:00' is displayed; older applications display blanks).
System Version	Versions of the operating system.

3. To display more information for a controller, highlight **Next** and press Enter (↵). The following screen displays the tool identification information.

```
Tool Identification Data
Name: CARE     Version: 3.00.00
User Name:
User ID: xxxxxxxxx-xxxx-xxxx-xxxx
         -xxxxxxxxxxxx
 Back                        ████
```

Tool Name	This is the name of the tool used to create the currently loaded application
Tool Version	The version of the tool used to create the current application.
User Name	The name of the user who created the current application.
User ID	The license number of the tool used to create the current application.

NOTE: In he case of CARE 4.00.00, there is no value for the "User ID" field.

4. To display more information for a controller, highlight **Next** and press Enter (↵). The following screen displays the AMA and ATX file revisions.

```
Operating Sequence Revision

AMA Revision:  1.16.1.12
ATX Revision:  1.16.1.12

                             ████
```

This screen displays the revision numbers for the AMA and ATX files used to create the operating sequence. Asterisks will appear before and after the AMA revision number if the AMA or ADS files have been changed before the compilation. Asterisks will also appear before and after the ATX revision number if the ATX file has been changed before compilation. **'Back'** is preselected to move to the previous screen. Confirm with ENTER

Start-Up and Configuration

Purpose   To start up the controller and configure its hardware interfaces.

Reset the controller   1. Reset the controller by pressing the square reset switch on the CPU module.

RESULT: The screen displays system information and version number. **CONTINUE** is highlighted by default.

```
            HONEYWELL
         E X C E L — 5000
            produced in
         SCHOENAICH GERMANY
      SYSTEM VERSION : V2.03.00
                          ████████
```

2.   Press Enter (↵) to select **CONTINUE**.

RESULT: The 'date and time' screen is displayed. Also displayed is whether or not modem communication is enabled and the size of application memory. Several start-up options are listed. **Controller Setup** is highlighted by default.

```
01.01.1999          Controller: 23
14:45        Modem   Part: inactive
             Applic. Mem. Size: 128 KB
████████████████
Application Selection
Data Point Wiring Check
```

Modem Part	Shows whether modem communication is enabled for the controller. Disabling modem communication frees up additional memory resources. Enabling/disabling modem communication is done in a later screen.
Applic. Mem. Size	Shows the amount of memory reserved for the application. Reducing this number frees additional memory resources. The application memory size is changed in a later screen.
Controller Setup	Displays screens for configuring the hardware interfaces for the controller.
Application Selection	Loads a user-selected application program from Flash EPROM to RAM, or permits an application download.
Data Point Wiring Check	Starts a test mode with default data points to allow easy checkout of input/output wiring.

Change date/time/controller number   3. To modify the date, time, or controller number, use the arrow keys to move to and highlight appropriate field. Press Enter (↵) to complete the selection.

RESULT: The first, left-most digit that you can modify blinks.

4. Use the plus or minus keys to increment or decrement the digit, respectively. When the digit is correct, use the arrow keys to move to the next digit. Repeat this procedure until all digits are correct. Press Enter (↵) to complete the modification. Repeat for any other fields to be modified.

Hardware Interface Configuration

5. From the second screen of the Start-up Sequence (shown above), select
Controller Setup and press Enter (↵).

RESULT: A screen appears with a list of hardware interface configuration
options.

```
┌─────────────────────────────────────────────┐
│ HW-Interface Configuration                    │
│                                               │
│  ███████                                      │
│  Lon-Bus                          1           │
│  B-Port                                       │
│                                               │
└─────────────────────────────────────────────┘
```

The contents of this listbox will depend upon the exact hardware configuration of the
controller.

6. Select a hardware interface and press Enter (↵) to continue.

C-Bus

If **C-Bus** is selected from the 'Hardware Configuration' listbox, the following screen
appears:

```
┌─────────────────────────────────────────────┐
│ C-Bus Configuration                           │
│                                               │
│ Baudrate      :    █████                      │
│ Controller No.:     23                        │
│                                               │
│                                    BACK       │
└─────────────────────────────────────────────┘
```

7. The 'Baudrate' value field is highlighted by default. Or use the down arrow key to
move to and highlight the 'Controller No.' value field. In either case, after
pressing Enter (↵) to select the given field, one of the digits will begin blinking.
Use the plus and minus keys to increment/decrement data, and press Enter (↵)
to complete the field entry.

NOTE: If you set the bus ID to a non-zero value, the C-bus baudrate will be
immediately disabled (i.e. it is then no longer editable). See also section
"LON-Bus" below.

NOTE: The bus ID is accessible only in the start-up sequence. After downloading
the application, it is hence no longer possible to change the bus ID.

IMPORTANT
*If no controller number is set or if the number shown is not reconfirmed, the
controller will not go online on the C-Bus after start-up.*

8. Use the right arrow key to move to and highlight **BACK**. Press Enter (↵).

LON-Bus

If **LON-Bus** (i.e. LONWORKS network) is selected from the Hardware Configuration
listbox, the following screen appears:

```
LON-Bus Configuration

Contr. Neuron ID: ACF123BDE789
Bus ID:        1


                            ██████
```

NOTE: The bus ID is accessible only in the start-up sequence. After downloading the application, it is hence no longer possible to change the bus ID.

The Neuron ID is the unique number assigned to the controller's processor and cannot be edited.

Bus ID The bus ID is a non-unique number (i.e. different Excel 500 controllers can have the same bus ID in common) between 0 and 99 (inclusive) which the user can edit after a reset during the controller's start-up sequence or (in the case of controllers with firmware version 2.06.xx) by changing the configuration property nciXL500BusSetup. The factory default is "0".

Zero value If the bus ID of an Excel 500 controller is set to **zero**, the C-bus baudrate is enabled (i.e. editable). Such controllers can communicate not only via the LONWORKS bus, but also via C-bus.

Non-zero value If the bus ID of an Excel 500 controller is set to a **non-zero value**, the C-bus baudrate is disabled (i.e. non-editable). Such controllers cannot communicate via the C-bus, but rather only via the LONWORKS bus.

Same non-zero value If the bus IDs of several Excel 500 controllers are set to the **same non-zero value**, so-called "C-bus tunneling" is possible. Such controllers can send, via the LONWORKS bus, encapsulated signals containing information of the type which could otherwise be sent only via the C-bus. In addition to regular LONWORKS messages, such controllers can thus communicate schedules, alarms, trends, and dial-ups among each other; they can also be accessed using a buswide MMI.

7. Press Enter (↵) to select **BACK**.

B-Port

If B-Port is selected from the listbox above, the following screen appears to allow configuration of the serial link used for external user interfaces:

```
B-Port Configuration

Baudrate:     ██████


                                BACK
```

7. The 'Baudrate' value field is highlighted by default. After pressing Enter (↵) to select this field, one of the digits will begin blinking. Use the plus and minus keys to increment/decrement data, and press Enter (↵) to complete the field entry. The 'Baudrate' value field will then be highlighted again.

8. Use the right arrow key to move to and highlight **BACK**. Press Enter (↵).

Modem and Remote Trend Buffer

If 'Modem' is selected from the 'Hardware Configuration' listbox, the following screen appears:

```
Modem Configuration

████████████████████
Enable Remote Trend Buffer
Configure Remote Trend Buffer
Disable Remote Trend Buffer
```
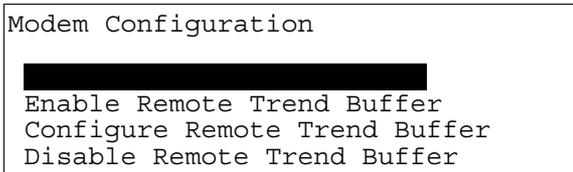
Configure Modem
Interface   is always displayed, allows configuration of serial link used for external modems. (highlighted by default).

Enable/Disable
Remote
Trend Buffer   "Enable" appears if trend buffer is currently disabled. "Disable" appears only if trend buffer is currently enabled.

Configure
Remote
Trend Buffer   Appears only if Remote Trend Buffer is currently enabled and allows entering in new application memory size to make more memory available for remote trending.

7. Use the arrow keys to move to and highlight a field, and press Enter (↵) to select the field.

Configuring the Modem Interface

If **Configure Modem Interface** is selected, the following screen appears:

```
Modem Configuration

Baudrate:       ██████
GSM PIN : ********

 Reset Modem                    BACK
```

Baudrate   Enter the baudrate for the modem interface.

GSM PIN   Enter the password to enable GSM communication.

Reset Modem   Returns modem to factory default settings, erasing any custom modem initialization. See section "Remote Communication" (page 71) for more information.

8. If necessary, modify the modem baud rate or GSM PIN. Use the arrow keys to move to and highlight a field, press Enter (↵) to select the field, use the plus and minus keys to increment/decrement data, and press Enter (↵) to complete the field entry.

When selecting the 'GSM PIN' field**:**
Press Enter (↵) to select the field. The first, left-most digit in the field begins blinking.
Press the plus or minus keys to increment/decrement the digit.
Press the right arrow key to move to next digit.
When completed, press Enter (↵) once to confirm PIN.

NOTE: The PIN must be entered right-justified.

IMPORTANT:
For GSM communication, MODEM PART must be enabled, and the modem baud rate must be set to 9600.

To send a reset command to the modem to return it to factory default settings, use the arrow keys to move to and highlight **Reset Modem**, and press Enter (↵) to complete the selection.

9. Use the arrow keys to move to and highlight **BACK** and press Enter (↵) to return.

Enabling/Disabling the Remote Trend Buffer

If 'Enable Remote Trend Buffer' or 'Disable Remote Trend Buffer' is selected, the following screen appears:

```
        Please be patient,
     while firmware restarts
```

RESULT: If either 'Enable Remote Trend Buffer' or 'Disable Remote Trend Buffer' are selected, the controller restarts with the new memory configuration.

Configuring the Remote Trend Buffer

If 'Configure Remote Trend Buffer' is selected, the following screen appears:

```
Modem Configuration
Application Memory Size:
    ███   Kbytes
Remote Trend Buffer
    104 Entries
                            BACK
```

This screen is used to increase or decrease the size of the adjustable remote trend buffer. The number of entries (trend samples) that can be stored in the buffer for Remote Building Central A is determined by a calculation by the controller based upon the Application Memory Size entered in this screen. This calculation is as follows: The value entered in this screen is subtracted from the total application memory, and the resulting number, in Kbytes, represents the amount of memory available for remote trend buffering. The following figure provides an example for the adjustable remote trend buffer.
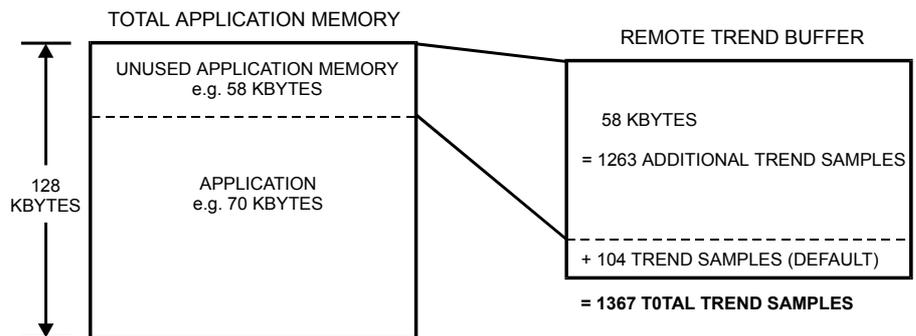

Fig. 14. Adjustable remote trend buffer example

The default for Application Memory Size is the size of total application memory detected by the controller. The default number of trend buffer entries is 104.

The maximum number of trend samples will be displayed once a value for Application Memory Size is entered. For a full explanation of this feature of the controller, see Excel 100/500/600 Software Description, EN0B-092.

NOTE: The minimum Application Memory Size is 38 Kbytes.

7. To increase the size of the buffer, enter a new (lower) value for Application Memory Size using the cursor keys and confirming with Enter. The controller will perform a calculation and then display the new number of entries or samples that the remote trend buffer can hold. After this, **RESTART** appears highlighted at the bottom of the screen.

```
Modem Configuration
Application Memory Size:
   58 Kbytes
Remote Trend Buffer:
 1360 Entries
```

8. Press Enter (↵) to restart the controller.

IMPORTANT:
If the application being downloaded exceeds the Application Memory Size entered in this screen, an error message will occur, and the download will not be executed.

NOTE: Firmware V2.03.01 or later and CARE V2.02.00 or later enable the controller to run RACL partly from out of the Flash EPROM. Thus, the application memory calculation is different compared to older versions. This has to be considered during start up once you enter the application memory size.

1. CARE V2.02.00 or later:
   The maximum application size is 128 Kbytes (128 Kbytes flash memory). Enter the application size calculated by CARE.

2. CARE versions before V2.02.00 without modem:
   The maximum application size calculated by the old CARE is 113 Kbytes because the complete application including RACL runs from out of the RAM. The controller will not run if the application is bigger. You need to use CARE at least V2.02.00 if your applications require more than 113 Kbytes.
   Applications bigger than 113 Kbytes without modem will not run out of flash memory after firmware download of OS V2.03.01 if they were done with CARE versions before V2.02.00.

3. CARE versions before V2.02.00 with modem:
   The maximum application size calculated by the old CARE is 100 Kbytes. The controller will not run if the application is bigger. For the calculation of the trend buffer, you need to enter 28 Kbytes plus the application size calculated by the old CARE version, e.g. CARE V2.02.xx calculated 98 Kbytes, thus you will enter 126 Kbytes (98 Kbytes + 28 Kbytes) on the MMI of the controller.
   We strongly recommend using CARE V2.02.00 or later if you use modem communication. This will allow for applications with up to 128 Kbytes (128 Kbytes flash memory).
   Applications bigger than 100 Kbytes with modem will not run out of flash memory after firmware download of OS V2.03.01 if they were done with CARE versions before V2.02.00.

Application Selection

Steps 1 and 2 of the Start-up Sequence bring up the following screen:

```
01.01.1999          Controller: 23
14:45        Modem   Part: inactive
          Applic. Mem. Size: 128 KB
███████████████████
Application Selection
Data Point Wiring Check
```

3. Use the arrow keys to move to and highlight **Application Selection** and press Enter (↵) to complete the selection.

RESULT: The first 'Application Selection' screen appears.

```
Application Selection

██████████████████████████████
Request Download

```

> **NOTE**:   The **'**Select FLASH Application' option appears only if there is at least one application loaded in Flash EPROM.

Select the desired flash application

4. Use the arrow keys to move to and highlight **Select FLASH Application** and press Enter (↵) to complete the selection.

RESULT: The display window lists application programs in Flash EPROM with their burn date and time.

```
Please choose Fixed Application
████████████████████████████████
APPL_2            17.03.96 17:02
APPL_3            11.11.97 23:00 1
APPL_4_NAME_ZU_LA 26.03.98 20:30
APPL_5            08.08.98 14.26
```

> **NOTE:**   The Flash EPROM can save more than one controller application program. If two or more application programs have the same name, the most recently saved application program appears at the bottom of the list of application programs.

Load the desired flash application

5. Use the arrow keys to move to and highlight the desired application program and then press Enter (↵) to complete the selection.

RESULT: The application program in Flash EPROM loads in RAM and the display window shows the main menu (access level 1).

```
     CONTROLLER_07        18:16
     Init             15.12.1994
████████████     Alarms
Time Programmes  Trend Buffer
Data Points      System Clock
                 System Data
```

Requesting a Download

New applications can be downloaded to the controller's Flash memory via the C-Bus or the B-port. The controller must request the download from the device executing the download. This option is found in the first 'Application Selection' screen.
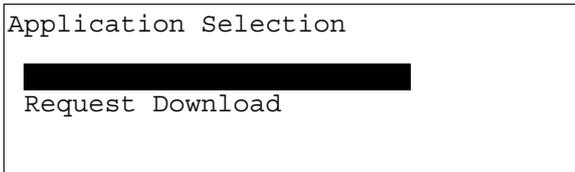
```
Application Selection

████████████████████████
Request Download


```

> **NOTE**:   The **Select FLASH Application** option appears only if there is at least one application loaded in Flash EPROM.

Select "Request Download"   **4.**   Use the arrow keys to move to and highlight **Request Download** and press Enter (↵) to complete the selection.

RESULT: The following screen appears.

```


Please Execute Download


```
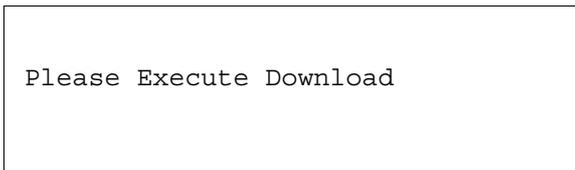
> **NOTE**:   After an application has been downloaded, the controller checks the CARE application's user ID and will not start the application if the ID is invalid. An alarm "Invalid User ID" will be issued (valid for CARE 3.00.00 onwards).

Data Point Wiring Check

Purpose   To check out or troubleshoot the system by manually setting outputs and verifying inputs.

Steps 1 and 2 of the Start-up Sequence bring up the following screen:

```
01.01.1999          Controller: 23
14:45        Modem   Part: inactive
         Applic. Mem. Size: 128 KB
███████████████████
Application Selection
Data Point Wiring Check
```
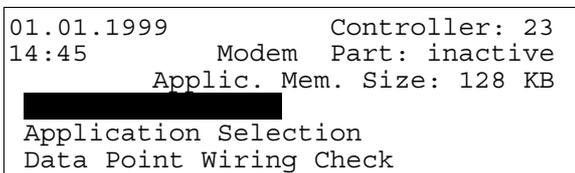
3.   Use the arrow keys to move to and highlight **Data Point Wiring Check** and press Enter (↵) to complete the selection.

RESULT: The first 'Data Point Wiring Check' screen appears.
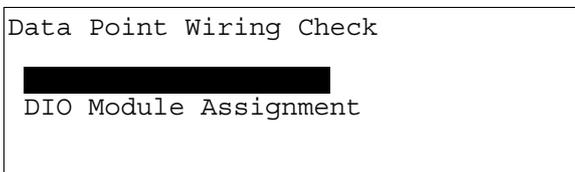
```
Data Point Wiring Check

████████████████████████
DIO Module Assignment


```

> **NOTE**:   The **DIO Module Assignment** option appears only if there is a LonMark™ interface available.

Default Data Points

Purpose	To set up the test mode with default user addresses for each of the physical inputs and outputs.
Select "Default Data Points"	**4.** From the 'Data Point Wiring Check' screen shown above, select **Default Data Points** and press Enter (↵) to complete the selection.

RESULT: The following screen appears with additional options.

```
Default Data Points

████████████████████
Alarm History

                              BACK
```

Alarm History   Displays current alarms.

Display
Data Points   Displays data points according to point type.

5. Use the arrow keys to move to and highlight **Display Data Points** and press Enter (↵) to complete the selection.

RESULT: The display window lists the default data points.

```
Default Data Points
        AI0101                0.0
        AI0102                0.0
        AI0103                0.0 1
        AI0104                0.0
        AI0105                0.0
```

The default user addresses are coded to correspond with the physical I/O in the following way:

AI0101	— Analog input, board 1, input 1
AO0201	— Analog output, board 2, output 1
DI0301	— Digital input, board 3, input 1
DO0401	— Digital output, board 4, output 1
3P0101	— Motor output, board 1, output 1

Values are displayed (0/1 for digital points) for each of the default data points, and the values are refreshed in this screen as they change. Data points related to Distributed I/O modules will appear in the same way, with module number appearing instead of board number.

Manually set the desired output   **6.** Use the arrow keys to move to and highlight desired output and then press Enter (↵) to complete the selection.

RESULT: The selected output data point is shown with its value/state:

```
            AO0101

    STATE/VALUE :     0.0 %


                          ██████
```

7. Select 'State/Value' and press Enter (↵) to modify it. Or, select **BACK** to return to the 'Data Points' list.

View alarms   **8.** To view the list of alarms, select **Alarm History** from the 'Display Datapoints/Alarm History' screen (Step **4**, above).

> RESULT: The alarm buffer is shown, listing all system alarms and all changes of state of inputs: Alarms are generated for changes of state/value on inputs, which allows shorting and opening the inputs at the switches and/or sensors and then checking the alarm buffer to verify the wiring.

```
█████████████████████████████
17.09.98 16:34 AI0101
17.09.98 16:32 AI0102                    1
17.09.98 16:30 AI0102
17.09.98 16:28 AI0103
17.09.98 16:30 AI0104
```

9. To view an alarm, move the cursor to select the default user address from the list box using the arrow keys. Confirm with Enter. The following screen will appear showing date, time, user address, data point value, and alarm text.:

```
          !!! ALARM !!!
     16:35:31      17.09.98
     AI0101
                   0.0  BACK
     Alarm              WITH
                        C-BUTTON
```

Press Cancel (C) to return to the previous screen (list of user addresses).

IMPORTANT
> *After using test options, reset the controller to clear the alarm buffer.*

Assigning Distributed I/O Modules

> NOTE: In the case of Excel 500 controllers with controller firmware version 2.04.xx, it is possible to assign Distributed I/O modules even after the application has been downloaded. In the case of controller firmware version 2.06.xx, however, assignments can be neither performed nor displayed once the controller firmware has been downloaded (and the options "show" and "edit" will hence not appear in the corresponding screen).

Purpose   To assign Distributed I/O modules on LONWORKS networks on which there is more than one Excel 500 controller.

> NOTE: If there is only one Excel 500 controller on the LONWORKS network, Distributed I/O modules are assigned automatically.

IMPORTANT
> *To perform the module assignment in this section, Distributed I/O modules must be XFL5xxB 2.xx firmware or later.*

Select "DIO module assignment"   **4.** From the 'Data Point Wiring Check' screen shown above (Step **3**), use the arrow keys to move to and highlight **DIO Module Assignment** and press Enter (↵) to complete the selection.

> NOTE: The **DIO Module Assignment** option appears only if there is a LonMark™ interface available.

> RESULT: The following screen appears with additional options.

```
DIO Module Assignment

███████████████████████████

Create new Assignment

```

Both options will lead to the mask shown below, but with different actions behind them:

Use existent Assignment	Displays current Distributed I/O module assignments. This option is displayed only if at least one Distributed I/O module is already assigned. This option is also used to reactivate / deactivated assignments.
Create new Assignment	Displays empty listbox with no Distributed I/O modules assigned. Any existing Distributed I/O assignments will be cleared.

Select "Use existent Assignment"

5. Use the arrow keys to move to and highlight **Use existent Assignment** and press Enter (↵) to complete the selection.

RESULT: The display window lists the Distributed I/O modules on the LONWORKS network (up to 16, according to the addresses selected on the modules' hex address switches). This screen will be displayed also when 'Create new Assignment' is selected, but with all addresses unassigned.

```
DIO Module Assignment

02   ?   XLF521        0001FC234088
03                     <Unassigned>    1
████████████████████████████████████

05       XFL524        0001FC234062
```

Modules that have been assigned have their module type and Neuron ID displayed beside them. Special characters indicate the module status according to the following key:

!   An exclamation mark indicates that the module was previously assigned to this controller in CARE but is now being used by another controller.

-    A minus sign indicates that the module is assigned but not yet commissioned. This is the default state after assignment.

?   A question mark indicates that the module is assigned but not available or not found during commissioning.

If no special character is seen alongside a module name, this indicates that the module is correctly assigned and commissioned.

6. To change an assignment, select any line (module address) by using the arrow keys to move to and highlight it and then pressing Enter (↵). Could also be done with an assigned module.

RESULT: The display window lists the Distributed I/O module types.

```
DIO Module Assignment
Address: 04
                      None
                      XFL521    1
                      █████████
                      XFL523
```

7. Select a module type, or **None** to clear a module assignment, by using the arrow keys to move to and highlight it and then pressing Enter (↵).

RESULT: If **None** is selected, the display window lists the previous screen with this module (here 04) marked as "<Unassigned>". Module type and Neuron ID are cleared.

           If a specific type is selected, an intermediate mask is displayed, while the controller searches on the LONWORKS network for all modules with the specified module address and module type.

```
   Please be patient, while
 DIO Modules will be searched
```

           After a brief period, the next screen is displayed. The display window lists all modules of the same type and of the same address. The search can be canceled by pressing Cancel (C).

```
DIO Module Assignment
Address: 04
                  Unassign
██████████████████████████    1
      XFL522     0001FC334056
 *    XFL522     0001FC234062
```

Special characters indicate the module status according to the following key:

!   An exclamation mark indicates that the module was previously assigned to this controller in CARE but is now being used by another controller.

*   An asterisk indicates that the module is being used by another controller. It is displayed because module type and address match.

     A blank indicates that this module is free and can be used for assignment.

8. Select a module by using the arrow keys to move to and highlight it and then pressing Enter (↵).

RESULT: The assignment is accepted and the first 'Distributed I/O Module Assignment' screen is displayed again.

```
DIO Module Assignment

02  ?  XLF521     0001FC234088
03             <Unassigned>   1
██████████████████████████
05     XFL524     0001FC234062
```

A second method can also be used to select a module. While either the screen with the Distributed I/O module types (result of step 6) or the screen with the found Distributed I/O modules (result of step 7) is displayed, press the LONWORKS service pin of the module being selected.

RESULT: If the LONWORKS service pin is pushed, the following screen is displayed:

```
DIO Module Assignment

Module   : 04 XFL522
Neuron ID: 0001FC234088

████████
```

9. **ASSIGN** is highlighted by default. Press Enter (↵) to accept the assignment or press Cancel (C) to return to the previous screen.

RESULT: If the assignment is accepted, the first 'Distributed I/O Module Assignment' screen is displayed again.

```
DIO Module Assignment

02   ?  XLF521      0001FC234088
03                  <Unassigned>    1
████████████████████████████████
05      XFL524      0001FC234062
```

IMPORTANT

Distributed I/O module assignments made while in the test mode are saved in Flash memory.
After loading an application designed to use Distributed I/O modules, these assignments are used to automatically update the assignments in the application, but only if module address and module type match. This update can be inhibited by restarting the controller with the square reset switch on the CPU module – the assignments done in the test mode are deactivated and not used to update the assignments in the application.
To reactivate such deactivated assignments, use the option 'Use existent Assignment' in the 'Distributed I/O Module Assignment' screen as shown above. Then the assignment update is done in the loaded application.
Each time the assignments for a loaded application are changed by the user, the application should be saved to Flash memory to save these changes and to guarantee their availability after any controller restart. This also applies to the test mode during startup.

ALPHABETIC REFERENCE

This section explains procedures that you do not perform regularly. The procedures in this section are presented alphabetically so you can quickly and easily find the one you want. The following procedures are treated:

- ► Data Point Description function
- ► Distributed I/O Module Commissioning
- ► Flash EPROM and RAM Management
- ► Modify GSM PIN
- ► Parameters
- ► Passwords
- ► Remote Communication
- ► System Clock
- ► Template Operations
- ► Test Options
- ► Time Programs
- ► Totalizers
- ► View Bus Devices
- ► View Remote Trend Buffer

Data Point Description Function

Definition A Point Description defines attributes for points. Attributes are descriptive information for points and depend on the type of point. For example, analog points have high and low warning and alarm limits while digital points have runtime values.

Point vs. data point Note that XI581/2 refers to points as "data points". This document uses the term "point" except where "data point" is used in XI581/2 screen displays. EXCEL 5000™ literature generally uses the term "points". The terms have the same meaning.

Purpose This section first describes how to access the 'Data Point Description' function and the options in its menu. It then has subsections that describe:

- The display windows that appear when you select a specific point via user address, template search, or type search
- Point selection and modification via the 'User Address' option
- Point selection and modification via the 'Template Search' option
- Point selection and modification via the 'Type Search' option
- 'Manual Operation' option (manual-to-automatic, only)
- 'Accumulated Runtime' (list only) option
- 'Points in Trend' option (disable trend, only)
- 'Suppress Alarm' option (unsuppress, only)

Procedure At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

> RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
█████████████      Suppress Alarm
Manual Operation   Add Template
Accumul. Runtime   Delete Template
Type Selection     Modify Template
Points in Trend    Template Search
```

Note that the 'Add Template', 'Delete Template', and 'Modify Template' items do not display for level-1 operators, and 'Template Search' appears only if there are defined templates. If there are no defined templates, only the 'Add Template' item will be displayed for higher-level operators so they can define templates.

Descriptions of each menu item follow.

User Address   This option provides a list of available points that you can select to display point description and modify point attributes. Example:

```
User Address
Exhaust_fan        1
Hall_main_lights   On
Main_water_meter   000          m3     1
███████████        23           °C
```

You can select one of these points to view and modify its attributes. See section "Selecting Points by User Address" (page 55) for details. Note that the following options provide specific modification functions that are not available via the User address function.

Manual Operation

Accumul. Runtime

Points in Trend

Suppress Alarm

These options provide a list of points related to the option. For example, if you select 'Accumul. Runtime', all the points that have accumulated runtime enabled appear on the screen with their accumulated hours. Example:

```
Accumulated Runtime
    Supply fan         1267
    Exhaust fan        1257
    Burner              476          1
    Htg. zone pump      736
    Cafe. hood          123
```

Each option displays a different screen with a specific function. See the relevant sections for details:

Manual
Operation   Change from manual to automatic operation

Accumul.
Runtime   List accumulated runtime

Points in Trend   Disable a point from trend log

Suppress Alarm   (Un)suppress a point's alarm reporting

To make other changes (for example, to change from automatic to manual), select the point via the user address, template search, or type search option.

The **Type Selection** option provides a list of point types:

```
███████████          Pseudo Analog
Analog Output        Pseudo Digital
Digital Input        Global Analog
Digital Output       Global Digital
Totalizer            Flexible Point
Pseudo Totalizer     All
```

You can select a point type to display all the points belonging to that type. Example:

```
Analog Input
 ████_█████_█       23          °C
Conf_room_temp      23          °C
Conf_room_RH        10.0        RH    1
Hallway_temp        23          °C
Reception_temp      23          °C
```

You can select one of these points to view and modify its attributes (the same as for the 'User address' option). See section "Selecting Points by Point Type" (page 57) for details.

The 'Add Template', 'Delete Template', and 'Modify Template' items provide functions to create new templates and delete or modify existing templates. See section "Template Operations" (page 73) for details.

The 'Template Search' option provides a list of templates that specify a subset of points. Example of 'Template Search' screen:

```
Template Search:
              *
             *RLT*
             *HSG*               1
             *KAE*
             *NT*
```

You can select one of these templates to view a list of points that conform to template specifications. You can then select a point and view/modify its attributes (the same as for the User address option). See section "Selecting Points by Template" (page 56) for details.

See section "Template Operations" (page 73) for a definition of templates and how to add, modify, and delete them.

Point Description Windows

Description   Typically, a Point Description uses some XI581/2 display windows to list all attributes for a point. Next and Back functions allow you to move from one display window to another.

The following examples illustrate typical point descriptions for a digital point, analog point, and totalizer point. The table below describes the various point description attributes. The actual point attributes that display depend on the type of point as defined in the application program for the controller. See Excel CARE User Guide for more details about the various types of points and point attributes (in the "Editors" section).

NOTE: Additional user-defined text may appear on the second line beneath the user address.

DIGITAL POINT DESCRIPTION

```
        Htg_zone_pump_1

Status        :   On
Operating Mode:   AUTO
Trend Logging :   OFF
                         ▮▮▮      Next
```

```
        Htg_zone_pump_1
Technical Address   :  010205
Accumulated Runtime :     12736 h
Service Interval    :       500 h
Hours Since Serviced:       500 h
                         ▮▮▮      Next
```

```
        Htg_zone_pump_1
Normally Closed: Yes
Last Changed    : 15:36  19.07.1993
Cycle Count     :        656
Suppress Alarm  : NO
                              ▮▮▮
```

ANALOG INPUT POINT DESCRIPTION

```
        Conf_Rm_Setpt

Value          : 70 F
Operating Mode: AUTO

                         ▮▮▮      Next
```

```
        Conf_Rm_Setpt

Technical Address: 010306
Alarm Stat. Chngd: 16:23 23.07.1993
Suppress Alarm   : NO
                         ▮▮▮      Next
```

```
Low Alarm Limit    : 60.0 F
Low Warning Limit  : 54.0 F
High Warning Limit : 74.0 F
High Alarm Limit   : 80.0 F
Alarm Hysteresis   :  1.0 F
                         ▮▮▮      Next
```

```
        Conf_Rm_Setpt
Sensor Offset      :   0.0 F
Trend Logging      :   OFF
Trend Hysteresis   :   1.0 Pct
Trend Cycle        :     0 min
                         ▮▮▮
```

The engineering units that display for the values in the examples are degrees
Fahrenheit. If a point is programmed for metric engineering units, the metric units
display.

TOTALIZER POINT DESCRIPTION

```
        Main_water_meter
Value          : 37530 m³
Operating Mode : AUTO
Trend Logging  : On

███████      Next
```

```
        Main_water_meter

Technical Address : 010603
Interval Limit    : 1000 m³
Suppress Alarm    : No
                         ███████
```

Table 8. Typical Point Description Attributes

typical attribute	description
User Address	Descriptive name for the point. The user address can describe the type of point and/or its physical location.
Status	Current point status, for example, Off or On. Digital points, only.
Value	Point value such as temperature. Analog and totalizer points, only.
Operating Mode	Whether the point is operated manually or whether the controller operates it automatically.
Pulse Duration	Number of energy units the point outputs before it sends a pulse of information to the controller. Totalizer points, only.
Trend Logging	Whether or not the point's activity (such as the number of times it switches on and off) is recorded in the trend log.
Technical Address	Numerical address of the point, corresponds to input or output on the board where the signal is connected.
Accumulated Runtime	Number of hours the point has run since it was last serviced. Digital points, only.
Alarm Stat. Chngd.	Time and date that the controller last issued an alarm for this point.
Interval Limit	How often (in energy units) the point should be serviced. Totalizer points, only.
Service Interval	How often (in hours) the point should be serviced. Digital points, only.
Hours Since Serviced	Hours since the point was last serviced. Digital points, only.
Last Changed	Time and date that the status of the point last changed (the last time the point switched ON or OFF). Digital points, only.
Cycle Count	Number of times the point was switched OFF or ON since it was last serviced. Digital points, only.
Suppress Alarm	Whether the controller reports the alarms it generates for this point. If a point cannot report, the controller no longer reads its inputs or sets its outputs.
High and Low Warning and Alarm Limits	Point value limits. If the point exceeds these limits, the controller generates an alarm.
Time to Open, Time to Close	Time (in seconds) for an analog output to cycle open or closed. Analog output points and three-position output points, only.
Sensor Offset	Offset value that software adds to adjust point value. Analog input points, only.
Trend Hysteresis	Data point value must change positively or negatively by at least this amount to be written into trend buffer.
Trend Cycle	Nonzero value enables time-based trending. A value is logged at the interval specified in Trend Cycle (1440 minutes max.).
Alarm Hysteresis	Change must exceed this minimum value before an alarm is generated.
Normally Open / Normally Closed	Defines relationship between the physical signal of a data point and its logical status.

See also ⇒   Excel CARE User Guide for more details about the various types of points and point attributes (in the "Editors" section)

Mapped Points

Some digital and analog points may be mapped to LONWORKS network variables (NVs) and are not assigned to any I/O board. In this case, the technical address is zero. The mapped NV of a data point can be displayed as one of the data point description screens. An example is shown below.

```
NV Mapping
User Address Htg_zone_pump_1
Out: 4095 nvoHeatPump
In:


                                        ▮▮▮
```

The NV index is shown (0 to 4095) along with the NV name.

Selecting Points by User Address

Purpose   To find and display specific user addresses and modify their attributes.

Access level   All users can display point information. You must have access level 3 to modify point attributes.

Select "Data Points"   1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
▮▮▮▮▮▮▮▮▮▮          Suppress Alarm
Manual Operation    Add Template
Accumul. Runtime    Delete Template
Type Selection      Modify Template
Points in Trend     Template Search
```

2. Press Enter (↵) to select **User Address**.

```
User Address
Exhaust_fan         1
Hall_main_lights    On
Main_water_meter    000        m3    1
▮▮▮▮▮▮▮▮▮▮▮▮        23         °C

```

NOTE: All user addresses for points may not be able to appear in the display window at the same time.

3. Use the arrow keys to move to and highlight the desired point. Press Enter (↵) to complete the selection.

RESULT: The display window shows the description of the point you selected. The information that appears in a point description varies depending on the type of point you selected (digital, analog, or totalizer). The table in the beginning of this "Data Point Description" section describes the various attributes.

Modify attribute of desired point   4. Use the following steps to modify an attribute for the selected point:

a. Use the arrow keys to move to and highlight the field.

b. Press Enter (↵) to select the field.
The field begins blinking and is no longer highlighted.

c. Press the plus or minus keys to toggle or increment/decrement attribute.

d. Press Enter (↵) to complete the entry.

5. When done modifying the point description, press Cancel (C) to return to the point user address list. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Selecting Points by Template

Purpose	To find and display points that conform to a template and modify their attributes.
Access level	All users can display point information. You must have access level 3 to modify point attributes.
Select "Data Points"	**1.** At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

　　　　RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
███████████         Suppress Alarm
Manual Operation    Add Template
Accumul. Runtime    Delete Template
Type Selection      Modify Template
Points in Trend     Template Search
```

2. Use the arrow keys to move to and highlight **Template Search**. Press Enter (↵) to complete the selection.

　　　　RESULT: The 'Templates' screen appears with a list of defined templates.

```
Template Search:
              *
              *RLT*
              *HSG*              1
              *KAE*
              *NT*
```

The 'Add Template', 'Delete Template', and 'Modify Template' items in the previous screen provide functions to create new templates and delete or modify existing templates. See section "Template Operations" (page 73) for details.

NOTE:　　All defined templates may not be able to appear in the display window at the same time.

3. Use the arrow keys to move to and highlight the desired template. Press Enter (↵) to complete the selection.

　　　　RESULT: The display window lists points you can view along with their values and engineering units. The list contains only user addresses of points that match the selected template.

4. Use the arrow keys to move to and highlight the desired point. Press Enter (↵) to complete the selection.

　　　　RESULT: The display window shows the description of the point you selected. The information that appears in a point description varies depending on the type of point you selected (digital, analog, or totalizer). The table in the beginning of this "Data Point Description" section describes the various attributes.

Modify attribute of desired point　　**5.** Use the following steps to modify an attribute for the selected point:

　　a. Use the arrow keys to move to and highlight the field.

　　b. Press Enter (↵) to select the field.
　　　 The field begins blinking and is no longer highlighted.

　　c. Press the plus or minus keys to toggle or increment/decrement attribute.

　　d. Press Enter (↵) to complete the entry.

6. When done modifying the point description, press Cancel (C) to return to the point user address list. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Selecting Points by Point Type

Purpose   To find and display points that belong to a specific point type and modify their attributes.

Access level   All users can display point information. You must have access level 3 to modify point attributes.

Select "Data Points"   1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
                   Suppress Alarm
Manual Operation   Add Template
Accumul. Runtime   Delete Template
Type Selection     Modify Template
Points in Trend    Template Search
```

2. Use the arrow keys to move to and highlight **Type Selection**. Press Enter (↵) to complete the selection.

RESULT: The 'Types' screen appears with a list of defined point types.

```
                   Pseudo Analog
Analog Output      Pseudo Digital
Digital Input      Global Analog
Digital Output     Global Digital
Totalizer          Flexible Point
Pseudo Totalizer   All
```

3. Use the arrow keys to move to and highlight the desired type. Press Enter (↵) to complete the selection.

RESULT: The display window lists points you can view. The list contains only user addresses of points that match the selected type.

4. Use the arrow keys to move to and highlight the desired point. Press Enter (↵) to complete the selection.

NOTE: All user addresses for points may not be able to appear in the display window at the same time.

RESULT: The display window shows the description of the point you selected. The information that appears in a point description varies depending on the type of point you selected (digital, analog, or totalizer). The table in the beginning of this "Data Point Description" section describes the various attributes.

Modify attribute of desired point   5. Use the following steps to modify an attribute for the selected point:

a. Use the arrow keys to move to and highlight the field.

b. Press Enter (↵) to select the field.
The field begins blinking and is no longer highlighted.

c. Press the plus or minus keys to toggle or increment/decrement attribute.

d. Press Enter (↵) to complete the entry.

6. When done modifying the point description, press Cancel (C) to return to the point user address list. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Changing from Manual to Automatic Operation

NOTE: To change a point's operating mode from automatic to manual, see one of the point selection functions (Select Point by User Address, Template Search, or Type Search).

Purpose

To select a point that is currently operating manually, that is, the controller is not automatically changing it. Change its operating mode to automatic.

Procedure

1. At the main menu, use the arrow keys to move to and highlight **Data Points.** Press Enter (↵) to complete the selection.

   RESULT: The 'Data Points' screen will be displayed.

   ```
   Data Points
   ███████████        Suppress Alarm
   Manual Operation   Add Template
   Accumul. Runtime   Delete Template
   Type Selection     Modify Template
   Points in Trend    Template Search
   ```

2. Use the arrow keys to move to and highlight **Manual Operation** and then press Enter (↵) to complete the selection.

   RESULT: The display window lists manually operated points. Example:

   ```
   Manual Operation
            Exhaust_fan
            Hall_main_lights
            Main_water_meter     1
            ███████████████
   ```

   NOTE: All manually operated points may not be able to appear in the display window at the same time.

Select the desired point

3. Use the arrow keys to move to and highlight the point whose operation you want to change from manual operation to automatic controller operation. Press Enter (↵) to complete the selection.

   NOTE: Additional user-defined text may appear on the line beneath the user address.

   RESULT: The display window allows you to change the point's operating mode from manual to automatic.

   ```
   Manual Operation

   Exhaust fan

   Operating Mode: MANUAL
                              ██████
   ```

Change point to automatic operation

4. Use the arrow keys to move to and highlight the **Operating Mode** field. Then press Enter (↵) to complete the selection.

   RESULT: The entry in the **Operating Mode** field starts blinking.

5. Press the plus or minus keys to change operating mode to **AUTO**. Then press Enter (↵) to complete the change.

RESULT: The entry in the **Operating Mode** field stops blinking but is still highlighted.

6. Use the arrow keys to move to and highlight **Back**. Then press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen is again displayed.

Listing Accumulated Runtime

Purpose   To display accumulated runtime information (in hours).

Access level   You must have access level 3 to perform this task.

Select "Data Points"   1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
                        Suppress Alarm
███████████████         Add Template
Manual Operation        Delete Template
Accumul. Runtime        Modify Template
Type Selection          Template Search
Points in Trend
```

Select "Accumul. Runtime"   2. Use the arrow keys to move to and highlight **Accumul. Runtime**. Press Enter (↵) to complete the selection.

RESULT: The display window lists the points and the number of hours each has run since it was last serviced.

```
Accumulated Runtime
    Supply fan              1267
    Exhaust fan             1257
    Burner                   476 1
    Htg. zone pump           736
    Cafe. hood               123
```

NOTE: The hours run for all points may not be able to appear in the display window at the same time.

3. Press Cancel (C) to return to the list of point description options. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Disabling a Point from Trend Log

Trend log memory collects and saves up to 200 of the most recent change-of-state (COS) conditions from up to 20 trend points in a controller. A trend point is a point that is designated (in the controller's application program) to report changes in its state/value to the trend log memory.

Operators can request a trend log report which extracts the trend point COS information from the trend log memory and outputs the trend information in the XI581/2 display window.

This function disables a point so it cannot contribute associated COS activity to the trend log memory and it cannot appear in a trend log report output.

NOTE: To enable a point's trending capability, see section "Selecting Points by User Address" (page 55).

Purpose   To turn off point trending for one or more user addresses.

Access level   You must have access level 3 to perform this task.

Select "Data Points"   **1.** At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen appears. **User Address** is highlighted by default.

```
Data Points
███████████         Suppress Alarm
Manual Operation    Add Template
Accumul. Runtime    Delete Template
Type Selection      Modify Template
Points in Trend     Template Search
```

Select "Points in Trend"   **2.** Use the arrow keys to move to and highlight **Points in Trend**. Press Enter (↵) to complete the selection.

RESULT: The display window lists points with trending capability.

```
Points in Trend
          Exhaust_fan
          Hall_main_lights
          Main_water_meter      1
          ██████████████
```

NOTE: All trend points may not be able to appear in the display window at the same time.

Select the desired point   **3.** Use the arrow keys to move to and highlight the point you want to disable from trending. Press Enter (↵) to complete the selection.

NOTE: Additional user-defined text may appear on the line beneath the user address.

RESULT: The window allows you to **disable** the point from reporting trend information.

```
Points in Trend

Cafeteria_room_temp.

Trend Logging: ON
                              ██████
```

Disable point from trending   **4.** Use the arrow keys to move to and highlight the **Point in Trend** field. Then press Enter (↵) to complete the selection.

RESULT: The entry in the **Point in Trend** field starts blinking.

5. Press the plus or minus keys to change the Point in trend to **OFF**. Then press Enter (↵) to complete the selection.

RESULT: The entry in the **Point in Trend** field stops blinking but is still high-lighted.

6. Use the arrow keys to move to and highlight **Back**. Then press Enter (↵).

RESULT: The 'Data Points' screen is again displayed.

Suppressing Alarm Reporting for a Point

Purpose   To enable/disable alarm reporting for a point.

Access level   You must have access level 3 to perform this task.

Select "Data Points"   **1.** At the main menu, use the arrow keys to move to and highlight **Data Points**.
Press Enter (↵) to complete the selection.

    RESULT: The 'Data Points' screen appears. **User Address** is highlighted by
         default.

```
Data Points
███████████        Suppress Alarm
Manual Operation   Add Template
Accumul. Runtime   Delete Template
Type Selection     Modify Template
Points in Trend    Template Search
```

Select "Suppress Alarm"   **2.** Use the arrow keys to move to and highlight **Suppress Alarm** and then press
Enter (↵) to complete the selection.

    RESULT: The display window lists suppressed points.

```
Suppress Alarm
          Exhaust_fan
          Hall_main_lights
          Main_water_meter    1
          █████████████
```

    NOTE: All suppressed points may not be able to appear in the display
         window at the same time.

Select the desired point   **3.** Use the arrow keys to move to and highlight the point for which you want to
unsuppress alarm conditions. Press Enter (↵) to complete the selection.

    NOTE: Additional user-defined text may appear on the line beneath the user
         address.

    RESULT: The window allows you to **unsuppress** the point so it can report
         alarm information.

    NOTE: Regardless as to whether an alarm is suppressed or not, whenever
         the alarm occurs, it is written to the alarm buffer. The difference is
         that if the alarm is suppressed, it does not display on an operator
         interface.

```
Suppress Alarm

Hall main lights

Suppress Alarm: YES

                        ████████
```

4. Use the arrow keys to move to and highlight the **Suppress Alarm** field. Press
Enter (↵) to complete the selection.

    RESULT: The entry in the **Suppress Alarm** field starts blinking and is no longer
         highlighted.

5. Press the plus or minus keys to change 'Suppress Alarm' between 'Yes' and
'No'. Press Enter (↵) to complete the selection.

    RESULT: The entry in the **Suppress Alarm** field stops blinking but is still high-
         lighted.

6. Use the arrow keys to move to and highlight **Back**. Press Enter (↵).

    RESULT: The 'Data Points' screen is again displayed.

7. Reenter the 'Suppress Alarm' option if you want to verify the change you just
made.
Press Cancel (C) to return to the main menu.

Assigning Distributed I/O Modules / Showing Assignments

NOTE: In the case of Excel 500 controllers with controller firmware version 2.04.xx, it is possible to assign Distributed I/O modules even after the application has been downloaded. In the case of controller firmware version 2.06.xx, however, assignments can be neither performed nor displayed once the controller firmware has been downloaded (and the options "show" and "edit" will hence not appear in the corresponding screen).

Purpose   To assign Distributed I/O modules whenever there is more than one Excel 500 controller on the LONWORKS network.

NOTE: If there is only one Excel 500 controller on the LONWORKS network, Distributed I/O modules are assigned automatically.

IMPORTANT

To perform the module assignment in this section, Distributed I/O modules must be XFL5xxB 2.xx firmware or later.

Access level   You must have access level 3 to perform this task.

Select "System Data"   **1.** At the main menu, highlight **System Data** and press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen displays four possible options (depending on access level).

```
System Data

        ███████████
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

2. Use the arrow keys to move to and highlight **HW-Interface. Config.** Then press Enter (↵) to complete the selection. The following screen will be displayed.

```
HW-Interface Configuration

  ████████
  Lon-Bus                              1
  B-Port
```

3. Use the arrow keys to move to and highlight **LON-Bus** and press Enter (↵) to complete the selection. The 'LON-Bus' screen is displayed.

```
LON-Bus Configuration

Contr. Neuron ID: ACF123BDE789

 Show DIO Module Assignment
 Edit DIO Module Assignment        ██████
```

The Neuron ID is the unique number assigned to the controller's processor and cannot be edited.

4. Use the arrow keys to move to and highlight either the **Show DIO Module Assignment** or **Edit DIO Module Assignment** options and press Enter (↵) to complete the selection.

RESULT: A listbox showing the Distributed I/O modules by address is displayed. If **Show DIO Module Assignment** was selected, the

information is displayed only and cannot be modified. If **Edit DIO Module Assignment** is selected, the following warning screen appears before the listbox screen:

```
           ATTENTION

While next mask is displayed, the
DIO value processing is disabled!

████████                   CONTINUE
```

5. Use the arrow keys to move to and highlight **CONTINUE** and press Enter (↵) to complete the selection.

RESULT: The display window lists the all Distributed I/O modules needed for the loaded applications, even if they are unassigned.

```
Edit DIO Module Assignment

02   !   XFLF521     0001FC234056
██████████████████████████████████
05       XFL522      <Unassigned>
08       XFL524/29   IP-Bus Board
```

Modules that have been assigned have their module type and Neuron ID displayed beside them. Special characters indicate the status module according to the following key:

!   An exclamation mark indicates that the module was previously assigned to this controller in CARE but is now being used by another controller.

-   A minus sign indicates that the module is assigned but not yet commissioned. This is the default state after assignment.

?   A question mark indicates that the module is assigned but not available or not found during commissioning.

If no special character is seen alongside a module name, this indicates that the module is correctly assigned and commissioned.

NOTE: This screen is refreshed to show changes of state of the modules, such as if the module is assigned to another controller, the conflict will be displayed.

6. To change an assignment, select any line (module address) by using the arrow keys to move to and highlight it and then pressing Enter (↵). If a specific module is selected, an intermediate mask is displayed, while the controller searches on the LONWORKS network for all modules with the specified module address and module type.

```
    Please be patient, while
  DIO Modules will be searched

```

After a brief period, the next screen is displayed. The display window lists all modules of the same type and of the same address. The search can be canceled by pressing Cancel (C).

```
Edit DIO Module Assignment
Address: 04
                      Unassign
██████████████████████████████████
       XFL523        0001FC334056
  *    XFL523        0001FC234062
```

Special characters indicate the module status according to the following key:

!   An exclamation mark indicates that the module was previously assigned to this controller in CARE but is now being used by another controller.

*   An asterisk indicates that the module is being used by another controller. It is displayed because module type and address match.

A blank indicates that this module is free and can be used for assignment.

7. Select a module by using the arrow keys to move to and highlight it and then pressing Enter (↵).

RESULT: The assignment is accepted and the first 'Distributed I/O Module Assignment' screen is displayed again.

```
DIO Module Assignment

02  ?  XLF521       0001FC234088
03                  <Unassigned>    1
██████████████████████████████████
05     XFL524       0001FC234062
```

Another method to select a module is to press its LONWORKS service pin while the result of step 6 is displayed.

RESULT: If the LONWORKS service pin is pushed, the following screen is displayed:

```
Edit DIO Module Assignment

Module   : 04 XFL523
Neuron ID: 0001FC234088

  ████████
```

8. Assign is highlighted by default. Press Enter (↵) to accept the assignment or press Cancel (C) to return to the previous screen.

RESULT: If the assignment is accepted, the first 'Distributed I/O Module Assignment' screen is displayed again.

```
Edit DIO Module Assignment

02  !  XFLF521      0001FC234056
██████████████████████████████████
05     XFL522       <Unassigned>
08     XFL524/29    IP-Bus Board
```

IMPORTANT
After making any changes to the Distributed I/O module assignments, the application must be saved to Flash memory so that the application will start with the same module assignment after any kind of restart.

Flash EPROM and RAM Management

General
Excel controllers contain their application data in RAM. However, RAM is a volatile form of memory and the information can be lost in a power outage. To ensure the information is not irretrievably lost, you can save the application data to EPROM which is a nonvolatile form of memory that retains information without power.

Since the save procedure does not require to physically burn an EPROM, and thus is relatively quick, the EPROM is called a "Flash" EPROM and the process is called "flashing" the EPROM.

NOTE: While it is possible to flash additional applications to EPROM without affecting previously stored applications, it is not possible to erase only individual applications (for example, to make space for new applications).

This section describes the procedures that apply to moving data between Flash EPROM and RAM:

— Erasing the Flash EPROM

— Saving application in RAM to Flash EPROM

— Restoring application from Flash EPROM to RAM

Erasing Flash EPROM

Purpose
To clear all application data from Flash EPROM.

Access level
You must have access level 3 to perform this task.

⚠ CAUTION

The following procedure erases ALL application data in Flash EPROM.

Select "System Data"
1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen will be displayed with controller name and software version as well as three possible functions (depending on access level).

```
System Data

        ▮▮▮▮▮▮▮▮▮▮
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

Select "Flash EPROM"
2. Use the arrow keys to move to and highlight **Flash EPROM.** Press Enter (↵) to complete the selection.

RESULT: The display window lists options for controlling Flash EPROM.

```
        Flash EPROM

    ▮▮▮▮▮▮▮▮▮▮▮▮▮
    Erase Flash EPROM
    Show Applications
```

Select "Erase Flash EPROM"
3. Use the arrow keys to move to and highlight **Erase Flash EPROM** and then press Enter (↵) to complete the selection.

RESULT: The controller begins erasing Flash EPROM and displays the message: Erasing Flash EPROM, please wait. Erasing the Flash-EPROM can take up to 30 minutes depending on the activity of your application.

When done, the display window lists options for controlling Flash EPROM. Continue with Step 3 in the procedure for Saving Application Data in RAM to Flash EPROM.

Erasing a specific application   It is not possible to erase one specific application from the EPROM while maintaining other applications.

Saving Application Data from RAM to Flash EPROM

Purpose   To save controller application data from RAM to Flash EPROM.

Access level   You must have access level 3 to perform this task.

Select "System Data"   1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen will be displayed with controller name and software version as well as three possible functions (depending on access level).

```
System Data


        ███████████████
        HW-Interface Config.
        Flash EPROM
        Buswide Access

```

Select "Flash EPROM"   2. Use the arrow keys to move to and highlight **Flash EPROM** and then press Enter (↵) to complete the selection.

RESULT: The 'Flash EPROM' screen lists options for controlling Flash EPROM. **Save Application** is highlighted by default.

```
           Flash EPROM

      ████████████████████
      Erase Flash EPROM
      Show Applications

```

Save application to flash EPROM   3. Press Enter (↵) to select **Save Application**.

NOTE: The save procedure writes application data to Flash EPROM. The save procedure does not affect application data in RAM.

RESULT: If there is sufficient space in the Flash EPROM, the controller begins saving application data in RAM to Flash EPROM and displays the message: burning Flash EPROM, please wait.

When done, the display window lists system data.

If the message "Couldn't burn EPROM" will be displayed, check that the controller has a Flash EPROM. If it does and there are no hardware problems, the Flash EPROM is probably out of memory. Erase the Flash EPROM (previous procedure) and try to save again.

4. Press Cancel (C) to return to the main menu for operator access level 3.

Showing Application Data in Flash EPROM

Purpose	To display controller application data stored in Flash EPROM.
Access level	You must have access level 3 to perform this task.

Select "System Data" 1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen will be displayed with controller name and software version as well as three possible functions (depending on access level).

```
System Data

        ▇▇▇▇▇▇▇▇▇▇▇
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

Select "Flash EPROM" 2. Use the arrow keys to move to and highlight **Flash EPROM** and then press Enter (↵) to complete the selection.

RESULT: The 'Flash EPROM' screen lists options for controlling Flash EPROM. **Save application** is highlighted by default.

```
        Flash EPROM

    ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇
    Erase Flash EPROM
    Show Applications
```

Select "Show Applications" 3. Use the arrow keys to move to and highlight **Show Applications** and then press Enter (↵) to complete the selection.

RESULT: The display window lists application programs in Flash EPROM with their burn date and time.

```
Please choose Fixed Application

▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇
APPL_2              17.03.96 17:02
APPL_3              11.11.97 23:00 1
APPL_4_NAME_ZU_LA 26.03.98 20:30
APPL_5              08.08.98 14.26
```

NOTE: The Flash EPROM can save more than one controller application program. If two or more application programs have the same name, the most recently saved application program appears at the bottom of the list of application programs.

Restoring Application Data from Flash EPROM to RAM

See section "Application Selection" (page 41).

Modifying the GSM PIN

Purpose
To enable communication via GSM, a password (PIN) must be entered into the controller. This password must be entered again after any controller reset or power-up. GSM pin entry at start-up is described in the "Start-Up and Configuration" section.

Access level
You must have access level 3 to perform this task.

Select "System Data"
1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

RESULT: The 'System Data' screen displays four possible options (depending on access level).

```
System Data


        ███████████
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

2. Use the arrow keys to move to and highlight **HW-Interface Config.** Then press Enter (↵) to complete the selection. The following screen will be displayed.

```
HW-Interface Configuration

██████████
Lon-Bus                              1
B-Port
```

3. Use the arrow keys to move to and highlight **Modem** (found by scrolling to below B-Port) and press Enter (↵) to complete the selection. The 'Modem Configuration' screen is displayed.

```
Modem Configuration

Baudrate:       ███████
GSM PIN : ********

 Reset Modem                    NEXT
```

4. When selecting the 'GSM PIN' field**:**
Press Enter (↵) to select the field. The first, left-most digit in the field begins blinking.
Press the plus or minus keys to increment/decrement the digit.
Press left/right arrow keys to move to next digit.
When completed, press Enter (↵) once to confirm PIN.

NOTE: The PIN must be entered right-justified.

IMPORTANT:
For GSM communication MODEM PART must be enabled, and the modem baud rate must be set at 9600.

Parameters

Purpose
To view and modify the value of parameters stored in the parameter files.

Access level   You must have access level 3 to perform this task.

Select "Parameters"   1. At the main menu, use the arrow keys to move to and highlight **Parameters.** Press Enter (↵) to complete the selection.

RESULT: The display window shows the first parameter file associated with the controller. Each parameter file represents a group of up to 127 individual parameters.

```
Parameter File No. :  001
Parameter No.      :  001

Parameter Value    :  70.00


                              ████
```

NOTE: The controller can contain up to 127 parameters in each of 128 parameter files.

Select a parameter file / parameter   2. Use the arrow keys to move to and highlight the parameter file number or parameter number within the file shown and press Enter (↵) to edit. Use the plus and minus keys to increment/decrement data, and press Enter (↵) to complete the field entry.

RESULT: The display window refreshes with the new parameter file.

```
Parameter File No. :  002
Parameter No.      :  001

Parameter Value    :  10.00


                              ████
```

Modify the parameter value   3. Use the arrow keys to move to and highlight the parameter value for the parameter shown and press Enter (↵) to edit.

RESULT: The last, right-most digit in the Value field blinks, indicating that you can modify it.

4. Use the plus or minus keys to increment or decrement the digit, respectively. When the digit is correct, use the arrow keys to move to the next digit. Repeat this procedure until all digits are correct.

Press Enter (↵) to complete entry in the Value field.

5. To return to the main menu, use the arrow keys to move to and highlight **Back**. Press Enter (↵).

Passwords

Purpose   To modify an XI581/2 password.

Access level   You must have access level 3 to perform this task.

Procedure   1. After the XI581/2 is connected to a controller, the main menu automatically appears in the display window.

NOTE: If the main menu does not appear, press Cancel (C) until it does.

RESULT: The main menu appears. **Password** is highlighted by default so that level-2 and level-3 operators can enter their passwords.

```
      CONTROLLER_07          18:16!
        Running        15.12.1994
  ██████████          Alarms
  Time Programmes   Trend Buffer
  Data Points       System Clock
                    System Data
```

Level 2 and 3 operators   **2.** Press Enter (↵) to select the 'Password' function.

      NOTE: If the 'Password' function is not highlighted, use the up or down arrow keys to move to and highlight this item and then press Enter (↵) to complete selection.

      RESULT: Software asks for your password. The display window shows four asterisks to hide your password when you enter it.

```
  Please enter your Password:


            ██████

```

3. Press Enter (↵) to select the password field (four asterisks).

— The display window shows a 5 as the first, left-most digit of the password field.

— If the first digit of your password is higher than 5, press the plus key (or the up arrow key) until the first digit of your password is correct.

— If the first digit of your password is lower than 5, press the minus key (or the down arrow key) until the first digit of your password is correct.

— Press the right arrow key to move the cursor to the second digit. Notice that the first digit becomes an asterisk again to maintain password privacy.

Repeat this procedure until you have correctly entered all digits in the password field.

NOTES:

1. The default password for level-2 operators is 2222 and the default password for level-3 operators is 3333.

2. The password for level-3 operators corresponds to the password for Excel Live CARE. If you change the XI581/2 level-3 password, you will automatically modify the password for Live CARE, too.

4. Press Enter (↵) to complete password entry.

      RESULT: **Next** is highlighted at the bottom of the window.

```
  Please enter your Password:


            ****

   Change              ████████
```

5. Use the arrow keys to move to and highlight **Change** and then press Enter (↵).

      RESULT: The display window lists the current passwords for level-2 and level-3 operator passwords.

```
Change Password

Password Level 2: 2222
Password Level 3: 3333

                                    ████████
```

Enter new password

6. Use the arrow keys to move to and highlight a password field and press Enter (↵) to complete the selection.

   RESULT: The first, left-most digit of the password field begins blinking.

7. Use the plus or minus keys to increment or decrement password number. Press the right arrow key to move the cursor to next digit.

   Repeat this procedure until you have correctly entered all digits of the new password.

   Press Enter (↵) to complete entry of the new password.

8. Use the up and down arrow keys to move to and highlight **Back** and press Enter (↵).

   RESULT: The display window shows the main menu.

Remote Communication

Purpose
To change baud rate of controller and reset modem.

Access level
You must have access level 3 to perform this task.

Select "System Data"

1. At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

   RESULT: The 'System Data' screen displays four possible options (depending on access level).

```
System Data

        ███████████████
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

2. Use the arrow keys to move to and highlight **System Info.** Then press Enter (↵) to complete the selection. The following screen will be displayed.

```
HW-Interface Configuration

  █████████
  Lon-Bus                            1
  B-Port
```

3. Use the arrow keys to move to and highlight **Modem.** Then press Enter (↵) to complete the selection. The 'Modem Configuration' screen is displayed.

```
Modem Configuration

Baudrate:        ███████
GSM PIN : ********


 Reset Modem                      NEXT
```

4. Modify the modem baud rate by using the arrow keys to move to and highlight the field, press Enter (↵) to select the field, use the plus and minus keys to increment/decrement data, and press Enter (↵) to complete the entry.

To send a reset command to the modem to return it to factory default settings, use the arrow keys to move to and highlight **Reset Modem**, and press Enter (↵) to complete the selection.

System Clock

Purpose
To modify the controller date/time and define the range of days for Daylight Savings Time.

Access level
You must have access level 2 to perform this task.

Select "System Clock"
1. At the main menu, use the arrow keys to move to and highlight **System Clock**. Press Enter (↵) to complete the selection.

RESULT: The 'System Clock' screen lists two options for viewing system clock information.

```
System Clock

      ████████████████

         Daylight Savings
```

Select system clock option
2. Select **Date / Time** to change controller clock or select 'Daylight Savings' to set Daylight Savings Time as follows:

Table 9. Daylight Savings Time (Alphabetic Reference)

Date/time	Daylight savings time
Date / Time is highlighted by default. Press Enter ( ) to complete the selection. RESULT: The display window shows the current date and time.	Use the arrow keys to move to and highlight **Daylight Savings.** Press Enter ( ) to complete the selection. RESULT: The display window shows the dates the controller currently uses to determine when to run on Daylight Savings Time.

System Clock
 	
     Date: 23.07.1993
 	
     Time: 13:50
 	
                    ████
	System Clock
	
	Daylight Savings Start: 25.03
	
	          End: 30.09
	
	                    ████

Modify the system clock

3. Use the arrow keys to move to and highlight the appropriate field (Date, Time, Daylight Savings Start, or End). Press Enter (↵) to complete the selection.

    RESULT: The first, left-most digit that you can modify blinks.

4. Use the plus or minus keys to increment or decrement the digit, respectively. When the digit is correct, use the arrow keys to move to the next digit. Repeat this procedure until all digits are correct.

5. Press Enter (↵) to complete the system clock entry.
    Use the arrow keys to move to and highlight the next field for modification. Press Enter (↵) to complete the selection.
    Use the plus and minus keys to change digits as before. Press Enter (↵) to complete the date or time entry.

6. Use the down arrow key to move to and highlight **Back** and then press Enter (↵) to complete the selection.

    RESULT: The display window lists the 'System Clock' options.

7. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Template Operations

Template

A template is a structure specifying a string of characters to be used for point searches. Characters in the template include any that can be used in a user address as well as special characters such as the asterisk, *, that represents any number of random characters and the question mark, ?, that represents exactly one random character.

Template buffer

The template buffer is where defined templates are stored in the controller.

Template search

The template search function generates a list of user addresses which match a specified template. This function helps you to filter a small set of user addresses out of the total set of user addresses in large applications.

For example, a template string such as FLOOR1* can concentrate the search for all user addresses related to the first floor of a building:

FLOOR1_TEMP

FLOOR1_RH

FLOOR1_PRESS

FLOOR1_FAN

Adding a Template

Purpose

To add a new template to the template buffer of your application. You create new templates by modifying existing user addresses.

Access level

You must have access level 2 or 3 to perform this task.

Select "Data Points"

1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

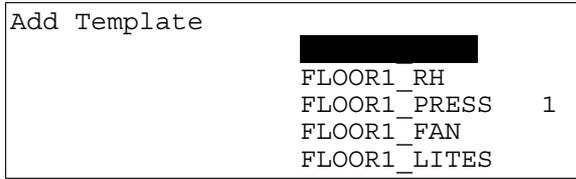   RESULT: The 'Data Points' screen will be displayed.

```
Data Points
                      Suppress Alarm
Manual Operation   Add Template
Accumul. Runtime   Delete Template
Type Selection     Modify Template
Points in Trend    Template Search
```

Select "Add Template"   **2.** Use the arrow keys to move to and highlight **Add Template**. Press Enter (↵) to complete the selection.
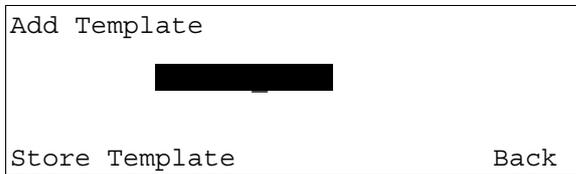
RESULT: The window shows all user addresses in the current controller applications. Example:

```
Add Template
                ██████████
                FLOOR1_RH
                FLOOR1_PRESS    1
                FLOOR1_FAN
                FLOOR1_LITES
```

Select a basic string   **3.** Use the down arrow key to select the basic string that most closely matches the template you want to create. For example, if you want to create the template FLOOR1_ to find all user addresses beginning with the characters FLOOR1_, select any of the strings that begin with FLOOR1_, for example, FLOOR1_TEMP. Press Enter (↵) to complete the selection.

RESULT: Software copies the selected basic string into the modify field. The screen display changes to show your selection.

```
Add Template

        ████████_████


Store Template              Back
```

Select a string   **4.** Press Enter (↵).

RESULT: The first character in the string is now blinking.

Position the cursor   **5.** Use the left and right arrows to position the cursor at the character where you want to modify the string.

RESULT: The selected character is now blinking and can be edited.

Replace a character   **6.** Use the plus and minus keys to choose the character that you want to use to replace the blinking character. Each time you press the plus/minus key, the blinking character changes through a pattern of ?, *, a blank, and then back to the original character.

Question mark

|	
?	Match exactly one character of any type.
Asterisk *	Match any number of characters until the next occurrence of a character that must be matched exactly.
Blank	Delete the selected character after using the right arrow. Or replace with the original character by pressing Enter (↵).
Cut-off string	If you select two asterisks in a row, **, all characters to the right are automatically cleared.

Stop at the desired character. Repeat for each character you want to change.

RESULT: The template will be displayed as created. For example:

```
Add Template

        ████████_██


Store Template              Back
```
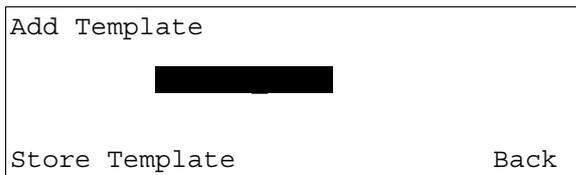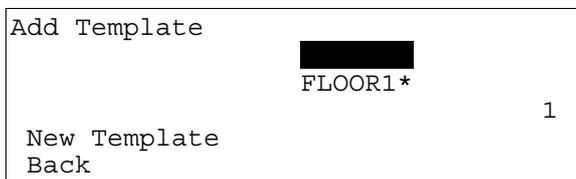
Select "Store Template"   7. Press Enter to highlight the newly created string. Use the arrow keys to move to and highlight **Store Template**. Press Enter (↵) to complete the selection.

Or, if you do not wish to save the template, exit by pressing Cancel (C) before selecting 'Store Template'. If you already stored the template, use the 'Delete a Template' function.

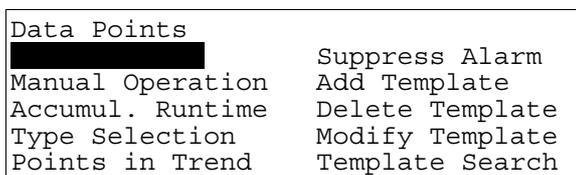RESULT: The new template is added to the template list shown on the display. Example:

```
Add Template
                  ███████
                  FLOOR1*
                                 1
 New Template
 Back
```

Select "New Template"   8. To create another template, highlight **New Template** and then press Enter (↵) to complete the selection. Or, to return to the 'Data Points' screen, highlight **Back** and press Enter (↵).

Deleting a Template

Purpose   To delete a template from the template buffer.

Access level   You must have access level 2 or 3 to perform this task.

Procedure   1. At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen will be displayed.

```
Data Points
 ██████████         Suppress Alarm
 Manual Operation   Add Template
 Accumul. Runtime   Delete Template
 Type Selection     Modify Template
 Points in Trend    Template Search
```

Select "Delete Template"   2. Use the arrow keys to move to and highlight **Delete Template**. Press Enter (↵) to complete the selection.

RESULT: The window shows a list of available templates.
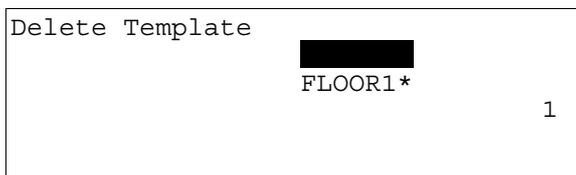
```
Delete Template
                 ███████
                 FLOOR1*
                             1
```

Select the desired template   3. Use the arrow keys to move to and highlight the template you want to delete. Then press Enter (↵) to complete the selection.

RESULT: Software deletes the template. The window displays the list of remaining templates.

4. Press Cancel (C) to return to the Data Points display.

Modifying a Template

Purpose	To modify an existing template in the template buffer.
Access level	You must have access level 2 or 3 to perform this task.
Procedure	**1.** At the main menu, use the arrow keys to move to and highlight **Data Points**. Press Enter (↵) to complete the selection.

RESULT: The 'Data Points' screen will be displayed.

```
Data Points
                      Suppress Alarm
Manual Operation    Add Template
Accumul. Runtime    Delete Template
Type Selection      Modify Template
Points in Trend     Template Search
```

Select "Modify Template"

2. Use the arrow keys to move to and highlight **Modify Template**. Press Enter (↵) to complete the selection.

RESULT: The 'Modify Template' screen shows a list of available templates.

```
Modify Template

                FLOOR1*

                             1

```

Select the desired template

3. Use the arrow keys to move to and highlight the template you want to modify. Then press Enter (↵) to complete the selection.

RESULT: The 'Modify Template' screen displays the selected template.

```
Modify Template



Store Template              Back
```

Select a string

4. Press Enter.

RESULT: The first character in the string is now blinking.

Position the cursor

5. Use the left and right arrows to position the cursor at the character where you want to modify the string.

RESULT: The selected character is now blinking and can be edited.

Replace a character

6. Use the plus and minus keys to choose the character that you want to use to replace the blinking character. Each time you press the plus/minus key, the blinking character changes through a pattern of ?, *, a blank, and then back to the original character.

Question mark

?   Match exactly one character of any type.

Asterisk *   Match any number of characters until the next occurrence of a character that must be matched exactly.

Blank   Delete the selected character after you press the right arrow.
                    Or, replace with the original character if you press Enter.

Cut-off string   If you select two asterisks in a row, **, all characters to the
                    right are automatically cleared.

Stop at the desired character. Repeat for each character you want to change.

RESULT: The template will be displayed as changed. For example:

```
Modify Template


        ██████████


Store Template                    Back
```
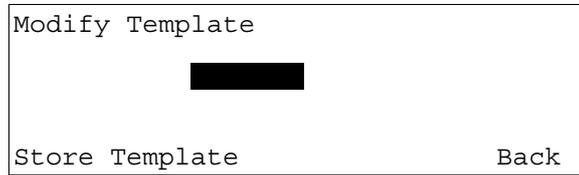
Select "Store Template"   **7.** Press Enter to highlight the string. Use the arrow keys to move to and highlight **Store Template**. Press Enter (↵) to complete the selection.

Or, if you do not wish to save the changes, exit by pressing Cancel (C) before selecting 'Store Template'. If you already stored the template, use the 'Delete a Template' function.

RESULT: The changed template is added to the template list shown on the display. Example:

```
Modify Template
              ████████████
              FLOOR1?

                              1

```
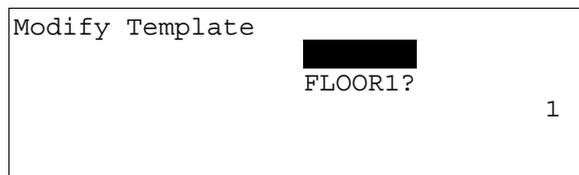
8. Select another template and press Enter (↵) to modify it. Or, press Cancel (C) to return to the 'Data Points' screen.

Test Options

Purpose   To checkout or troubleshoot the system by manually setting outputs and verifying inputs. See section "Default Data Points" (page 44).

Time Programs

General   Excel controllers allow equipment control based on time of day. For example, you can set HVAC equipment start and stop times. Time programs implement this control strategy. Each controller can have a maximum of 20 time programs.

The following figure illustrates a time program that controls lighting in a school. Each time program specifies one weekly program. This weekly program schedules the normal daily activity of the system by specifying which daily programs an Excel controller should use for each day of a normal week (Sunday through Saturday).

Daily programs list points and point actions for the Excel controller to execute. The points and point actions are called switch points. Daily programs with their switch points are assigned to weekly programs to provide for automatic operations on scheduled days.

An annual program applies the weekly program to each week of the year. The controller operates according to the annual program.

To accommodate special events (such as unplanned conferences and after-hour assemblies), a TODAY program can override a point action or switch point

associated with the daily program that is assigned to a specific day in the annual program. The TODAY program is assigned up to 24 hours before the daily program would normally execute.

To accommodate holidays, a special days function can override the daily program assigned to a specific day in the annual program. Special days are assigned on a yearly basis. The special days program assigns a different daily program (such as a holiday) to a specific day in the annual program.

TIME PROGRAM--SCHOOL LIGHTING
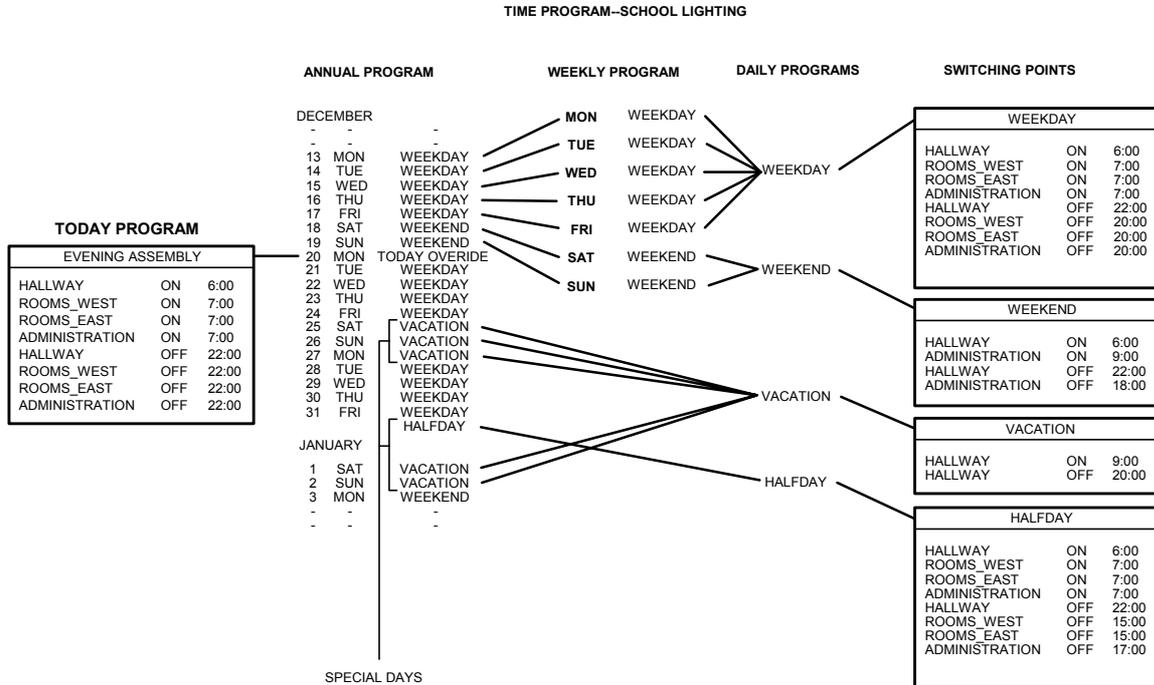
| **Back Function** | If you select the Back function on a time program screen, the 'Time Programme' screen is again displayed so you can select the TODAY program, daily program, weekly program, annual program, or the special days program. |

Daily Programs

Purpose	To view/modify a daily program, create a new daily program, copy an existing daily program, or delete a daily program that is not being used in any weekly or annual programs.
Access level	Any operator can view a daily program.
	You must have access level 2 or 3 for any other function.
Select "Time Programmes"	**1.** At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.
	RESULT: The 'Time Programme' screen lists available time programs.

```
Time Programme
              ████████████
              Ventil. Sys
              Lighting         1
              Heating zone east
              Heating zone west
```

NOTE: All time programs may not be able to appear in the display window at the same time.

Select the desired time program   2. Use the arrow keys to move to and highlight the time program having the desired daily program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs.

```
Time Programme  Time Program 1
                ███████
         Daily Programme
         Weekly Programme
         Annual Programme
         Special Days
```

Select "Daily Programme"   3. Use the arrow keys to move to and highlight **Daily Programme** and then press Enter (↵) to complete the selection.

RESULT: The top line of the display window shows the selected time program. The remaining lines list daily program functions.

```
Time Programme:  Time Program 1

   Modify        Delete
   New           Copy
```

Continue with the appropriate daily program procedure:

New   See section "New Daily Programs" (page 79) for details.

Copy   See section "Copying Daily Programs" (page 81) for details.

Delete   See section "Deleting Daily Programs" (page 82) for details.

Modify   See section "Switch Points" (page 83) for details.

New Daily Programs

Purpose   To create a new daily program.

Access level   You must have access level 2 or 3 to perform this task.

Procedure   1. Display the 'Daily Program' screen that lists daily program functions ('Modify', 'New', 'Delete', and 'Copy'), if the menu is not already on display.

Summary of steps:

a. At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

b. Use the arrow keys to move to and highlight the time program having the desired daily program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of Time Programs ('Today', 'Daily Programme', etc.).

c. Use the arrow keys to move to and highlight **Daily Programme** and then press Enter (↵) to complete the selection.

RESULT: The top line of the display window shows the selected time program. The remaining lines list daily program functions ('Modify', 'New', 'Delete', and 'Copy').

```
Time Programme:  Time Program 1

    Modify          Delete
    New             Copy

```

Select "New"   **2.** Use the arrow keys to move to and highlight the **New** daily program function. Press Enter (↵) to complete the selection.

RESULT: The controller creates a new daily program and assigns it a non-descriptive name: the letters TZ (for Time Program) followed by a number. The display window also lists the various points that can be controlled by the new daily program.

```
Time Progr. : Time Program 1
Daily Progr.: TZ 4
              ██████████████
              Cafeteria_temp.   1
              Office_room_temp.
              Main_lights
```

NOTE: All points may not be able to appear in the display window at the same time.

Select the desired point   **3.** Use the arrow keys to move to and highlight the point to which the first switch point applies. Then press Enter (↵) to complete the selection.

RESULT: The user address associated with the selected point appears in the 'Address' field of the 'Switch Point' screen.

```
Time  Progr.: Time Program 1
Daily Progr.: TZ 4
Address: Conf._room_temp.
Time   : 00:00
Value  : 0 F          Opt.: OFF
███    Previous  New  Delete   Back
```

Switch point information   **4.** Enter new switch point information as follows:

Time   Time of day when the change in state or value should occur. Time is in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59. For example, enter the time you want the temperature in the conference room to change.

Value   If the selected point is an analog point, enter the new value that the controller should execute (for example, the new set point temperature for the conference room). If the selected point is a digital point, enter the new state (for example, OFF, ON, or AUTO).

Opt.   If the DDC program uses this point for optimization, select ON to enable optimization or OFF to disable optimization. If the DDC program DOES NOT use this point for optimization, you cannot select this value.

— Press the up and down arrow keys to move to and highlight a field and press Enter (↵). The first digit you can input begins to blink.

— Press the plus and minus keys to increment and decrement the value of the digit.

— Press the right arrow key to move to the next digit within the field.

— Repeat this input procedure until the entire field is correct. Then press Enter
(↵) to complete the field entry. The cursor highlights the field you just
modified.

5. To add more switch points, highlight New and press Enter (↵) to display the list
of user addresses. You can select the same one to define another switch point
for it. When the desired one is on the screen, set its values as in Step **4**.

To define a name for the new daily program (other than the non-descriptive
name the controller assigned), you must use the XI584 Operator and Service
Software.

RESULT: The new switch point becomes part of the new daily program for the
selected point.

6. Press Cancel (C) to return to the list of time programs. When you are finished,
repeatedly press Cancel (C) to return to the main menu.

Copying Daily Programs

Purpose   To copy a daily program in order to create a new daily program.

Access level   You must have access level 2 or 3 to perform this task.

Procedure   1. Display the 'Daily Program' screen that lists daily program functions ('Modify',
'New', 'Delete', and 'Copy'), if the menu is not already on display.

Summary of steps:

a. At the main menu, use the arrow keys to move to and highlight **Time
Programme**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

b. Use the arrow keys to move to and highlight the time program having the
desired daily program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time
program. The remaining lines display the types of time
programs ('Today', 'Daily Programme', etc.).

c. Use the arrow keys to move to and highlight **Daily Programme** and then
press Enter (↵) to complete the selection.

RESULT: The top line of the display window shows the selected time
program. The remaining lines list daily program functions
(Modify, New, Delete, and Copy).

```
Time Programme:   Time Program 1

    Modify          Delete
    New             Copy

```

Select "Copy"   2. Use the arrow keys to move to and highlight **Copy** and then press Enter (↵) to
complete the selection.

RESULT: The window lists the daily programs you can copy.

```
Time Programme:  Time Program 1
                 ███████████
                 Weekend
                 Holiday            1
                 Workday
                 Annual leave

```

> **NOTE:** All daily programs may not be able to appear in the display window at the same time.

Select a daily program to copy

3. Use the arrow keys to move to and highlight the daily program to which you want to copy (for example, Everyday). Then press Enter (↵) to complete the selection.

RESULT: The controller copies the daily program and assigns it a non-descriptive name: the letters TZ (for Time Program) followed by a number. The window displays the name of the selected time program, the name of the daily program you copied, and the non-descriptive name of the new copy.

```
Time Programme: Time Program 1

                Weekday

Copied to:    TZ 14
                                    ▮
```

4. To change switch points in the copied daily program, use the procedure in the "Modify Switch Point" section.

To define a name for the copied daily program (other than the non-descriptive name the controller assigned), you must use the XI584 Operator and Service Software.

5. Use the arrow keys to move to and highlight **Back** and press Enter (↵) to return to the list of time programs.

Deleting Daily Programs

Purpose   To delete a daily program.

Access level You must have Access Level 2 or 3 to perform this task.

Procedure   **1.** Display the 'Daily Program' screen that lists daily program functions ('Modify', 'New', 'Delete', and 'Copy'), if the menu is not already on display.

Summary of steps:

a. At the main menu, use the arrow keys to move to and highlight **Time Programme**. Press Enter (↵) to complete the selection.

    RESULT: The 'Time Programme' screen lists available time programs.

b. Use the arrow keys to move to and highlight the time program having the desired daily program. Then press Enter (↵) to complete the selection.

    RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs ('Today', 'Daily Programme', etc.).

c. Use the arrow keys to move to and highlight **Daily Programme** and then press Enter (↵) to complete the selection.

```
Time Programme:   Time Program 1

    Modify          Delete
    New             Copy

```

    RESULT: The top line of the display window shows the selected time program. The remaining lines list daily program functions (Modify, New, Delete, and Copy).

Select "Delete" 2. Use the arrow keys to move to and highlight **Delete** and then press Enter (↵) to complete the selection.

RESULT: The window lists the daily programs you can delete.

```
Time Programme: Time Program 1
                ███████████
                Weekend
                Holiday            1
                Workday
                Annual leave
```

NOTE: All daily programs may not be able to appear in the display window at the same time.

Select a daily program to delete 3. Use the arrow keys to move to and highlight the daily program you want to delete (for example, Holiday). Then press Enter (↵) to complete the selection.

RESULT: The window asks you to confirm that you really want to delete the daily program.

```
Time Progr. : Time Program 1
Daily Progr.: Holiday


Really delete?     Yes
                   ███
```

Confirm deletion 4. If you do *not* want to delete the daily program, press Enter (↵).

If you do want to delete the daily program, use the arrow keys to move to and highlight **Yes** and press Enter (↵) to complete the selection.

RESULT: If the daily program could not be deleted because it is still part of a weekly or annual program, the message DELETE IMPOSSIBLE flashes at the bottom of the display window.

If the program was deleted (or you canceled the deletion), the 'Time Programme' screen lists available time programs.

5. Press Cancel (C) to return to the list of time programs.

Switch Points

Purpose   To add, modify, or delete a daily program switch point.

Access level   You must have Access Level 2 or 3 to perform this task.

Procedure   1. Display the 'Daily Program' screen that lists daily program functions ('Modify', 'New', 'Delete', and 'Copy'), if the menu is not already on display.

Summary of steps:

a. At the main menu, use the arrow keys to move to and highlight **Time Programme**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

b. Use the arrow keys to move to and highlight the time program having the desired daily program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs ('Today', 'Daily Programme', etc.).

c. Use the arrow keys to move to and highlight **Daily Programme** and then press Enter (↵) to complete the selection.

RESULT: The top line of the display window shows the selected time program. The remaining lines list daily program functions ('Modify', 'New', 'Delete', and 'Copy').

```
Time Programme:  Time Program 1

   Modify          Delete
   New             Copy

```

Select "Modify"   **2.** Use the arrow keys to move to and highlight **Modify** and then press Enter (↵) to complete the selection.

RESULT: The display window lists the daily programs that exist for the selected time program.

```
Time Programme: Time Program 1

                Weekend
                Holiday           1
                Workday
                Annual leave
```

NOTE: All daily programs may not be able to appear in the display window at the same time.

Select the desired daily program   **3.** Use the arrow keys to move to and highlight the desired daily program (for example, Weekday). Then press Enter (↵) to complete the selection.

RESULT: The display window lists switch points in the selected daily program.

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday

10:01 C1_DO_1        0.00         1

```

Select the desired switch point   **4.** Use the arrow keys to move to and highlight the desired switch point. Then press Enter (↵) to complete the selection.

NOTE: All points may not be able to appear in the display window at the same time.

RESULT: The display window shows information about the switch point. Example:

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday
Address: C1_DO_1
Time   : 08:00
Value  : On            Opt.: OFF
        Previous  New  Delete   Back
```

Continue with the appropriate switch point procedure:

Next   Display next switch point assigned to the daily program.

Previous   Display the previous switch point.

New   See section "New Switch Point" (page 85) to create a new switch point.

Delete   See section "Delete Switch Point" (page 87) for details.

Back   Return to the 'Time Programme' screen.

Arrow keys   Use the up/down arrows, plus, and minus keys to modify the
                    address, time, or value/status for a switch point. See section
                    "Modify Switch Point" (page 86) for details.

Continued from the previous section.

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday
Address: C1_DO_1
Time   : 08:00
Value  : On            Opt.: OFF
▮▮▮▮    Previous  New  Delete   Back
```

Select "New"   **5.** To create a new switch point for the daily program, use the arrow keys to move
                    to and highlight **New** and then press Enter (↵) to complete the selection.

RESULT: The display window lists the points that are controlled by the selected
         daily program.

```
Time Progr. : Time Program 1
Daily Progr.: Weekday
              ▮▮▮▮▮▮▮▮
              Cafeteria_temp.   1
              Office_room_temp.
              Main_lights
```

NOTE: All points may not be able to appear in the display window at the
            same time.

Select the desired point   **6.** Use the arrow keys to move to and highlight the point for which you want to add
                    another switch point, for example, C1_DO_1. Then press Enter (↵) to complete
                    the selection.

RESULT: The display window lists fields in which you can enter information
         about the new switch point. The fields contain information on the
         selected point. The 'User Address' field displays the user address of
         the selected point.

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday
Address: C1_DO_1
Time   : 08:00
Value  : On            Opt.: OFF
▮▮▮▮    Previous  New  Delete   Back
```

Add the switch point   **7.** Enter new information over the existing information.

You can enter information in the following fields:

Time   Time of day when the change in state or value should occur.
                    Time is in 24-hour (HH.MM) notation where HH=00-23 and
                    MM=00-59. For example, enter the time you want the
                    temperature in the conference room to change.

Value   If the selected point is an analog point, enter the new value
                    that the controller should execute (for example, the new set
                    point temperature for the conference room). If the selected

point is a digital point, enter the new state (for example, OFF, ON, or AUTO).

Opt.   If the DDC program uses this point for optimization, select ON to enable optimization or OFF to disable optimization.

— Use the arrow keys to move to and highlight a field and press Enter (↵) to complete the selection. The first digit you can input begins to blink.

— Press the plus and minus keys to increment and decrement the value of the digit.

— Press the right arrow key to move to the next digit within the field.

— Repeat this input procedure until the entire field is correct. Then press Enter (↵) to complete the field entry. The cursor highlights the field you just modified.

8.   To create additional switch point fields, repeat previous process.

RESULT: The new switch point becomes part of the selected daily program for the selected point.

9.   Press Cancel (C) to return to the list of time programs.

Modify Switch Point

Continued from the "Switch Points" section.

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday
Address: C1_DO_1
Time   : 08:00
Value  : On              Opt.: OFF
███     Previous   New  Delete   Back
```

Select the switch point   **5.** If the switch point in the window is not the one you want to modify, use the arrow keys to move to and highlight **Next** or **Previous** and press Enter (↵) to display other switch points.

Modify the switch point   **6.** You can modify information in the following fields:

Time   Time of day when the change in state or value should occur. Time is in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59. For example, enter the time you want the temperature in the conference room to change.

Value/Status   If the selected point is an analog point, enter the new value that the controller should execute (for example, the new set point temperature for the conference room). If the selected point is a digital point, enter the new state (for example, OFF, ON, or AUTO).

— Use the arrow keys to move to and highlight a field and press Enter (↵) to complete the selection. The first digit you can input begins to blink.

— Press the plus and minus keys to increment and decrement the value of the digit.

— Press the right arrow key to move to the next digit within the field.

— Repeat this input procedure until the entire field is correct. Then press Enter (↵) to complete the field entry. The cursor highlights the field you just modified.

7.   To modify additional switch point fields, repeat previous process.

RESULT: The modified switch point becomes part of the selected daily program for the selected point.

8.   Press Cancel (C) to return to the list of time programs.

Continued from the "Switch Points" section.

```
Time  Progr.: Time Program 1
Daily Progr.: Weekday
Address: C1_DO_1
Time  : 08:00
Value : On            Opt.: OFF
        Previous  New  Delete   Back
```

Select the switch point   **7.** If the switch point in the window is not the one you want to delete, use the arrow keys to move to and highlight **Next** or **Previous** and press Enter (↵) to display other switch points.

6. When the display window shows the switch point you want to delete, highlight **Delete**. Press Enter (↵) to complete the selection.

RESULT: The controller asks you to confirm that you really want to delete the switch point.

```
Really delete switch point?

            Yes

```

Delete the switch point   **7.** If you do *not* want to delete the switch point, press Enter (↵) to complete the selection.

If you *do* want to delete the switch point, highlight **Yes** and press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

Weekly Programs

Purpose   To modify weekly program in order to assign a different daily program to a specific day of the week.

Access level   You must have Access Level 2 or 3 to perform this task.

Select "Time Programme"   **1.** At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The display window lists the available time programs.

```
Time Programme
        ▓▓▓▓▓▓▓▓▓▓▓▓▓
        Ventil. Sys
        Lighting          1
        Heating zone east
        Heating zone west
```

NOTE: All time programs may not be able to appear in the display window at the same time.

Select the desired time program   **2.** Use the arrow keys to move to and highlight the time program having the desired weekly program. Then press Enter (↵) to complete the selection.

```
Time Programme  Time Program 1
                ██████
                Daily Programme
                Weekly Programme
                Annual Programme
                Special Days
```

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs.

Select "Weekly Programme"   3. Use the arrow keys to move to and highlight **Weekly Programme** and then press Enter (↵) to complete the selection.

RESULT: The display window lists the days of the week and the associated daily program.

```
Weekly Progr.: Time Program 1
████████████████████████
TUESDAY         Halfday
WEDNESDAY       Holiday              1
THURSDAY        Annual leave
FRIDAY          Weekend
```

NOTE: Not all seven days of the week can fit in the window at one time. If the day of the week that you want to modify does not appear, press the right arrow key to display the next page.

Select a day of the week   4. Use the arrow keys to move to and highlight the day you want to modify. Press Enter (↵) to complete the selection.

RESULT: The window lists the types of daily programs that you can apply to the selected day of the week.

```
Weekly Progr.: Time Program 1
                ██████████
                Halfday
                Holiday              1
                Annual leave
                Weekend
```

Select a new daily program   5. Press the up and down arrow keys until the cursor highlights the daily program you want to assign to the selected day of the week. Then press Enter (↵) to complete the selection.

RESULT: The display window lists the selected day of the week with its new daily program assignment. Example:

```
Weekly Progr.: Time Program 1

Week Day    : MONDAY
Daily Progr.: Weekday

  Back     Switch Points        ██████████
```

6. To assign the selected program, press Enter (↵). The software assigns the daily program and redisplays the 'Weekly Progr.' screen with the new assignment.

To redisplay the 'Time Programme' screen with the 'Today', 'Daily Programme', etc., menu items, use the arrow keys to move to and highlight **Back** and press Enter (↵). The software does not change the assignment for the day.

To display the 'Switch Points' screen for assignment of new switch times (that is, modify the daily program), use the arrow keys to move to and highlight **Switch**

Points and press Enter (↵) to complete the selection. To modify the switching point, refer to the "Modify Switch Point" section for details.

7. Select another day to modify or press Cancel (C) to return to the 'Time Programme' screen.

Annual Programs

Purpose To modify an annual program in order to assign a different daily program to a specific day of the week.

Access level You must have Access Level 2 or 3 to perform this task.

Select "Time Programme" **1.** At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The display window shows the available time programs.

```
Time Programme
                ██████████████
                Ventil. Sys
                Lighting         1
                Heating zone east
                Heating zone west
```

NOTE: All time programs may not be able to appear in the display window at the same time.

Select the desired time program **2.** Use the arrow keys to move to and highlight the time program having the desired annual program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the display window shows the selected time program. The remaining lines display the types of time programs you can select.

```
Time Programme   Time Program 1
         ██████████
         Daily Programme
         Weekly Programme
         Annual Programme
         Special Days
```

Select "Annual Programme" **3.** Use the arrow keys to move to and highlight **Annual Programme** and press Enter (↵) to complete the selection.

RESULT: The controller asks you to specify the date from which it should begin listing the days of the year. The 'Display from' date is highlighted.

```
Annual Progr.: Time Program 1


Display from : ████████████████
                                    Next
```

Specify beginning list date **4.** Press the left arrow key to select the date field if you want to change the 'Display from' date. Then press Enter (↵) to complete the selection.

RESULT: The month digit blinks.

5. Use the arrow keys and plus/minus keys to change date as desired:

— Use the arrow keys to move to first digit you want to change.

— Press the plus and minus keys to increment and decrement the value of the digit.

— Use the arrow keys to move to the next digit.

— Repeat the process for every digit until the entire field is correct.

6. Press Enter (↵) to complete the 'Display from' field entry. Use the arrow keys to move to and highlight **Next** and press Enter (↵) to complete the selection.

```
Annual Progr.: Time Program 1
██████████████████████████████
25.07 TUESDAY    Weekend
26.07 WEDNESDAY Weekend            1
27.07 THURSDAY   Weekend
28.07 FRIDAY     Weekend
```

RESULT: The window lists the days of the year, beginning with the date you entered. It also lists the daily program associated with each day.

Specify date to change

7. Use the arrow keys to move to and highlight date you want to assign a new daily program. Press Enter (↵) to complete the selection.

RESULT: The window lists the different types of daily programs you can apply to the date you specified.

```
Time Progr. : Time Program 1
              Weekday
              ██████████
              Holiday              1
              Weekend
```

NOTE: All types of daily programs may not be able to appear in the display window at the same time.

Assign daily program

8. Use the arrow keys to move to and highlight the daily program you want to apply to the specified date . Then press Enter (↵) to complete the selection.

RESULT: The display window lists the selected day with its new daily program assignment. Example:

```
Annual Progr.: Time Program 1

Selected Day : 24.07.1995
Daily Progr. : Everyday

   Back    Switch Points    ██████████
```

9. To assign the selected program, press Enter (↵). The software assigns the daily program and redisplays the 'Annual Program' screen with the new assignment.

To redisplay the 'Time Programme' screen with the 'Today', 'Daily Programme', etc., menu items, use the arrow keys to move to and highlight **Back** and press Enter (↵). The software does not change the assignment for the day.

To display the 'Switch Points' screen for assignment of new switch times (that is, modify the daily program), use the arrow keys to move to and highlight **Switch Points** and press Enter (↵) to complete the selection. To modify the switching point, refer to the "Modify Switch Point" section for details.

10. Select another day to modify or press Cancel (C) to return to the 'Time Programme' screen.

RESULT: The 'Time Programme' screen appears. To verify that the controller made the change, you must reaccess the annual program.

TODAY Programs

Purpose   To create or modify the TODAY program. To accommodate special events (such as unplanned conferences and after-hour assemblies), the TODAY program can override a point action or switch point associated with the daily program that is assigned to a specific day in the annual program.

Assign the TODAY program up to 24 hours before the daily program would normally execute.

Access level   You must have Access Level 2 or 3 to perform this task.

Select "Time Programme"   **1.** At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

```
Time Programme
                  ██████████████
                  Ventil. Sys
                  Lighting           1
                  Heating zone east
                  Heating zone west
```

NOTE: All time programs may not be able to appear in the display window at the same time.

Select the desired time program   **2.** Use the arrow keys to move to and highlight desired time program. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs.

```
Time Programme  Time Program 1
                  ████████
                  Daily Programme
                  Weekly Programme
                  Annual Programme
                  Special Days
```

Select "Today"   **3.** Press Enter (↵) to select **Today**.

RESULT: The top line of the display window shows the selected time program. If this is the first time you selected today in the current session, the list of switch points will be displayed.

```
Today : Time Program 1
                  ████████
                  C1_DO_2              *
                  Office_room_temp.    1
                  Canteen_room_temp.
                  Main_lights
```

If you have already selected the TODAY program, the information screen for the current switch point will be displayed. See the RESULT paragraph in the next step.

An asterisk on the same line as a user address indicates that a TODAY program is already assigned to it.

Select the desired point   **4.** Use the arrow keys to move to and highlight the desired switch point and press Enter (↵) to complete the selection.

RESULT: Information for the switch point will be displayed. Example:

```
┌─────────────────────────────────────────┐
│Today    : Heating zone east              │
│Address  : C1_DO_1                        │
│Time from: 13:14                          │
│Time to  : 13:14                          │
│Value    : ******************             │
│              Select          ███████     │
└─────────────────────────────────────────┘
```

Create/modify the today program

5. Enter or modify information as follows:

— Use the arrow keys to move to and highlight a field and press Enter (↵). The first digit you can input begins to blink.

— Press the plus and minus keys to increment and decrement the value of the digit.

— Press the right arrow key to move to the next digit within the field.

— Repeat this input procedure until the entire field is correct. Then press Enter (↵) to complete the field entry. The cursor highlights the field you just modified.

Time from	Time the controller should *start* using the Today Program. Input time in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59. For example, enter the time you want the temperature in the conference room to change.
Time to	Time the controller should *stop* using the Today Program. Input time in 24-hour (HH.MM) notation where HH=00-23 and MM=00-59. For example, enter the time you want the temperature in the conference room to return.

NOTES:

1. The entry in the 'Time from' field cannot be more than 24 hours after the *current system time*.

2. The entry in the 'Time to' field cannot be more than 24 hours after the 'Time from' field.

   For example, given the following times:

Current system time=	10:00 (Monday)
Time from=	9:00
Time to=	8:00

   The Today Program functions as follows:

Starts	9 a.m. Tuesday (23 hours after the current system time)
Stops	8 a.m. Wednesday (23 hours after the 'Time from' field entry)
Value	If the selected data point is an analog point, enter the new value that the controller should execute (for example, the new set point temperature for the conference room). If the selected data point is a digital point, enter the new state (for example, OFF, ON, or AUTO).

6. To modify additional Today Program fields, repeat previous process. When you are done, highlight **Back** and press Enter (↵) to return to the list of points.

To redisplay the list of switch points, use the arrow keys to move to and highlight **Select** and press Enter (↵) to complete the selection.

7. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Special Days

Purpose	To modify (assign) or delete a special day assignment or change status (enable/disable) of the special days program.
Access level	You must have Access Level 2 or 3 to perform this task.
Select "Time Programme"	**1.** At the main menu, use the arrow keys to move to and highlight **Time Programmes**. Press Enter (↵) to complete the selection.

RESULT: The 'Time Programme' screen lists available time programs.

```
Time Programme
               ████████████
               Ventil. Sys
               Lighting        1
               Heating zone east
                               ♦
```

> **NOTE:** All time programs may not be able to appear in the display window at the same time. To view time programs that do not display, press the right arrow key to display the next page.

Select the desired time program

2. Use the arrow keys to move to and highlight the time program having the daily program you want to assign to a special day. Then press Enter (↵) to complete the selection.

RESULT: The top line of the window displays the selected time program. The remaining lines display the types of time programs you can select.

```
Time Programme: Time Program 1
      ████████
         Daily Programme
         Weekly Programme
         Annual Programme
         Special Days
```

Select "Special Days"

3. Use the arrow keys to move to and highlight **Special days** and press Enter (↵) to complete the selection.

RESULT: The display window lists options for special days.

```
Special Days: Time Program 1

Status      : On


        Modify         Delete
```

Continue with desired special days procedure:

Modify	Change the daily program assignment for special days in the system. See section "Modify Special Days" (page 94) for details.
Delete	Delete a special day. See section "Delete Special Days" (page 95) for details.
Status	Enable/disable the special days feature. See section "Change Status (Enable/Disable) Special Days Function" (page 95) for details.

Continued from the previous procedure.

```
Special Days: Time Program 1

Status     : On


           Modify        Delete
```

Select "Modify"   **4.** Use the arrow keys to move to and highlight **Modify** and press Enter (↵) to complete the selection.

RESULT: The display window chronologically lists all special days and the assigned daily programs (if assigned). If a special day does not have a daily program assignment, that day uses the daily program specified in the weekly program.

```
Special Days: Time Program 1
██████████████████████
Epiphany         Workday
Shrove Tuesday                 1
Ash Wednesday    Workday
Good Friday      Halfday
```

NOTE: All special days may not be able to appear in the display window at the same time. To view special days that do not display, press the right arrow key to display the next page.

Select a special day   **5.** Use the arrow keys to move to and highlight the special day for which you want to modify the daily program assignment. Then press Enter (↵) to complete the selection.

RESULT: The display window lists the types of daily programs you can assign to the selected special day.

```
Special Days: Time Program 1
                ██████████
                Weekend
                Halfday        1
                Holiday
```

NOTE: All daily programs may not be able to appear in the display window at the same time. To view daily programs that do not display, press the right arrow key to display the next page.

Assign the daily program   **6.** Use the arrow keys to move to and highlight the daily program you want to assign to the special day. Then press Enter (↵) to complete the selection.

RESULT: The display window lists the special day and the new daily program you just selected.

```
Special Days  : Time Program 1

Special Day   : New Year's Day
Daily  Progr. : Holiday

  Back     Switch Points    ██████
```

7. To assign the selected program, press Enter (↵). The software assigns the daily program and redisplays the 'Special Days' screen with the new assignment.

    To redisplay the 'Time Programme' screen with the 'Today', 'Daily Programme', etc., menu items, use the arrow keys to move to and highlight **Back** and press Enter (↵). The software does not change the assignment for the day.

    To display the 'Switch Points' screen for assignment of new switch times (that is, modify the 'Daily Program'), use the arrow keys to move to and highlight **Switch Points** and press Enter (↵) to complete the selection. To modify the switching point, refer to the "Modify Switch Point" section for details.

8. Select another day to modify or press Cancel (C) to return to the 'Time Programme' menu.

    RESULT: The 'Time Programme' screen appears. To verify that the controller made the change, you must reaccess the annual program.

Delete Special Days

Continued from the special days procedure.

```
┌─────────────────────────────────────────┐
│ Special Days: Time Program 1            │
│                                          │
│ Status       : On                        │
│                                          │
│                                          │
│              Modify         Delete       │
└─────────────────────────────────────────┘
```

Select "Delete"

4. Use the arrow keys to move to and highlight **Delete** and press Enter (↵) to complete the selection.

    RESULT: The display window chronologically lists all special days and the assigned daily programs (if assigned). If a special day does not have a daily program assignment, that day uses the daily program specified in the weekly program.

```
┌─────────────────────────────────────────┐
│ Special Days: Time Program 1            │
│ ███████████████████████████             │
│ Epiphany          Workday                │
│ Shrove Tuesday                       1   │
│ Ash Wednesday     Workday                │
│ Good Friday       Halfday                │
└─────────────────────────────────────────┘
```

NOTE: All special days or holidays may not be able to appear in the display window at the same time. To view special days that do not display, press the right arrow key to display the next page.

Delete the special day assignment

5. Use the arrow keys to move to and highlight the special day or holiday whose assignment you want to delete. Then press Enter (↵) to complete the selection.

    RESULT: The controller deletes the special day assignment, and the window redisplays the special days list.

6. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Change Status (Enable/Disable) Special Days Function

Continued from the special days procedure.

```
┌─────────────────────────────────────────┐
│ Special Days: Time Program 1             │
│                                          │
│ Status       : On                        │
│                                          │
│                                          │
│             Modify        Delete         │
└─────────────────────────────────────────┘
```

Change the status   4. Use the arrow keys to move to and highlight the status value (**On** in this example) and press Enter (↵) to complete the selection.

RESULT: The **Status** field blinks.

5. Press the plus or minus key to change the entry in the 'Status' field from 'On' to 'Off' or vice versa. Then press Enter (↵) to complete the selection.

RESULT: The controller changes the status of the special days feature.

6. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Totalizers

Purpose   To reset the totalizers, display totalizer point value since last reset, and set the service interval.

Totalizers keep track of when particular points need to be serviced. They count the number of hours a point has run or the number of energy units it has produced since it was last serviced. You should reset a data point's totalizer each time the data point is serviced to ensure that the totalizer keeps an accurate record.

Access level   You must have Access Level 3 to perform this task.

Select "Totalizers"   1. At the main menu, use the arrow keys to move to and highlight **Totalizers**. Press Enter (↵) to complete the selection.

RESULT: The display window lists two options for viewing totalizer information.

```
┌─────────────────────────────────────────┐
│ Totalizers                               │
│                                          │
│             ███████████████              │
│                                          │
│             All Totalizers               │
│                                          │
└─────────────────────────────────────────┘
```

Service Interval   Displays a list of digital points and the number of hours each has operated.

All Totalizers   Displays a list of totalizer points and the value for the units assigned to the points.

Select the desired type of totalizer   2. Use the arrow keys to move to and highlight the type of totalizer you want to reset. Then press Enter (↵) to complete the selection.

RESULT: The display window lists totalizer points. The following example shows the service interval display window.

```
┌─────────────────────────────────────────┐
│ Service Interval              h          │
│ █████████████████                        │
│    Exhaust fan            1257           │
│    Burner                  476 1         │
│    Htg. zone pump          736           │
│    Cafe. hood              123           │
└─────────────────────────────────────────┘
```

NOTES:

1. All totalizer points may not be able to appear in the display window at the same time. To view totalizers that do not display, press the right arrow key to display the next page.

2. The appearance of the 'All Totalizer' screen differs slightly from that of the 'Service interval' screen, although they operate the same.

Select the desired totalizer

3. Use the arrow keys to move to and highlight the specific totalizer you want to reset. Then press Enter (↵) to complete the selection.

   NOTE: Additional user-defined text for the point may appear on the second line.

   RESULT: The display window shows detailed information about the selected totalizer.

```
Service Interval : 1000 h

Supply fan       : 1267 h

Reset            : Yes/NO
                                    ████
```

Service interval	Number of hours a point can run before the controller generates a maintenance alarm.
Supply fan	Number of hours the point has run since it was last serviced. The name of this field (Supply fan) is the user address of the totalizer point you selected.
Reset	Zero the totalizer point after service.

4. Reset the totalizer or define the service interval as follows:

Table 10. Resetting the Totalizer / Defining the Service Interval

reset the totalizer	define service interval
Use the up/down arrow keys to move to and highlight **Yes**. Press Enter (↵) to select 'Yes' and to reset the totalizer. RESULT: The controller resets the totalizer and the display window returns to the list of totalizer points. Notice that the accumulated number for the reset point is zero. NOTE: To avoid resetting the totalizer, use the arrow keys to move to and highlight **NO** and press Enter (↵).	Use the arrow keys to move to and highlight the **Service interval** field. Press Enter (↵). RESULT: The entry in the Service interval field starts blinking and the high-lighting disappears. Press the plus or minus key to incre-ment or decrement the Service Inter-val digit from 0 to 9. Use the right or left arrow key to move to the tens, hundreds, thousands, etc., digit. Press Enter (↵). RESULT: The entry in **the Service interval** field stops blinking but is highlighted.

5. Press Cancel (C) or 'Back' to return to the totalizer data point list. When you are finished, repeatedly press Cancel (C) to return to the main menu.

Viewing Bus Devices

Purpose   To display a list of devices currently active on the system bus. The list can include devices that do not have buswide access mode capability, so a remote log-in may not be possible to all the listed devices.

Access level   All users can perform this task. The display is available only while in local controller mode.

Procedure   1. At the main menu, use the arrow keys to move to and highlight **System Data**. Press Enter (↵) to complete the selection.

RESULT: The display window show some controller data and the **Buswide Access** option.

```
System Data

        System Info
        HW-Interface Config.
        Flash EPROM
        ███████████████
```

2. Use the arrow keys to move to and highlight **Buswide Access** and press Enter (↵) to complete the selection.

RESULT: The display window lists the buswide access options you can choose.

```
Buswide Access
CONTROLLER 01
████████████         Alarm Standby On
                     Alarm Standby Flag
Show All DevicesAlarm Standby Off
```

3. Use the arrow keys to move to and highlight **Show All Devices**. Press Enter (↵) to complete the selection.

RESULT: The display window lists all devices that are currently active on the system bus. Controller name and number show for each device.

```
Show All Devices
                  █████████████
                  CPU_B       2
                  CPU_C       3      1
                  CPU_D       4
                  CPU_E       5
```

4. Press Cancel (C) to exit this display. Note that you cannot log in to any of these controllers from this window.

RESULT: The previous menu is displayed.

See also ⇒   section "Logging into a Remote Controller" (page 20) for the procedure to log in to a remote controller.

Viewing the Remote Trend Buffer

Purpose   With Excel 500 firmware 2.03.xx or newer, memory that is not used by the application can be used as additional remote trend buffer for XBS Central A. For a

full explanation of this feature of the controller, see Excel 100/500/600 Software Description, EN0B-092. This section describes how to view the remote trend buffer information. Modifying the values requires that the controller be reset and the steps described in the "Modem and Remote Trend Buffer" section and the "Configuring the Remote Trend Buffer" section be carried out.

Access level   You must have access level 3 to perform this task.

Select "System Data"   **1.** At the main menu, use the arrow keys to move to and highlight **System Data.** Press Enter (↵) to complete the selection.

         RESULT: The 'System Data' screen displays four possible options (depending on access level).

```
System Data

        ██████████
        HW-Interface Config.
        Flash EPROM
        Buswide Access
```

2. Use the arrow keys to move to and highlight **HW-Interface Config.** Then press Enter (↵) to complete the selection. The following screen will be displayed.

```
HW-Interface Configuration

 ████████
 Lon-Bus                            1
 B-Port
```

3. Use the arrow keys to move to and highlight **Modem** and press Enter (↵) to complete the selection. The 'Modem Configuration' screen is displayed.

```
Modem Configuration

Baudrate:        ███████
GSM PIN : ********

 Reset Modem                   NEXT
```

4. Use the arrow keys to move to and highlight **NEXT**. Press Enter (↵) to continue to the following screen.

```
Modem Configuration
Application Memory Size:
    128 Kbytes
Remote Trend Buffer
    108 Entries
                          ██████████
```

This screen displays the size of the remote trend buffer. The number of entries (trend samples) that can be stored in the buffer for Remote Building Central A is determined by a calculation by the controller based upon the Application Memory Size entered in the Start-up Sequence.

The given values can be changed only during controller setup, i.e. only during the Start-up Sequence after resetting the controller, and not after application selection.

Appendix A: Hardware SETUP

This section describes how to route the cable for an XI582AH that does not mount on the wall or an Excel controller. The section also describes how to enable / disable the integrated backlighting feature for either the XI581AH or XI582AH.

NOTE: XI581/2-to-controller connection is also shown in the Excel 100 Controller Installation Instructions and Excel 500/600 Installation Instructions (see section "Applicable Literature" for form numbers).

Procedure   **1.** Remove the front cover from the XI582AH by inserting tip of an awl (or a similar narrow, pointed object) into the small hole on one side of the operator terminal. When the latch releases, insert the awl into the small hole on the other side of operator terminal and pry off the cover.
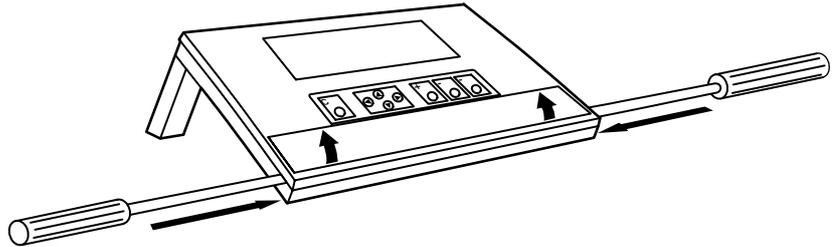
C6972

2. The XI581/2 display provides an integrated backlighting feature. The position of a jumper on the back of the XI581/2 cover enables or disables the backlighting feature. Enable (or disable) XI581/2 backlighting as follows:

— Disconnect the connector next to the jumper.
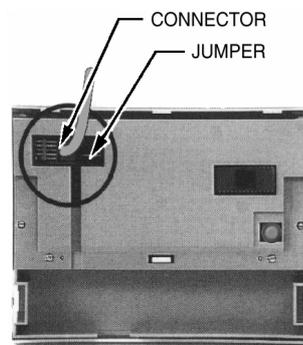
CONNECTOR
JUMPER

RC11

— Pull off the jumper with tweezers and move to desired position.
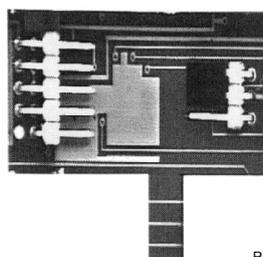
JUMPER
ON
POSITION
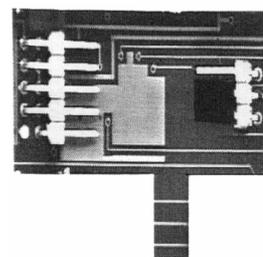
JUMPER
OFF
POSITION

RC12   RC13

— Reconnect connector next to jumper.

When the backlighting jumper is enabled, the first key stroke from any of the eight operating keys activates the backlighting feature. If no key entry occurs for more than 10 minutes, the backlighting automatically turns itself off until the next keystroke occurs.

3. For XI581AH units, continue with Step 6.

For XI582AH units, route wire end of XW564/XW565/XW582/XW583 Cable through round opening (back to front) in XI582AH back cover, and fix cable with the strain relief.
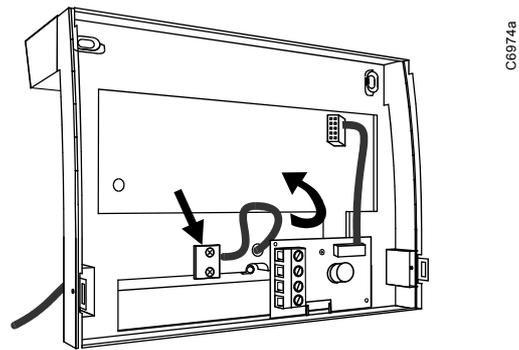
4. Attach wires to terminal block on inside of XI582AH back cover according to the following figure and the wiring diagram sticker inside the XI582AH.
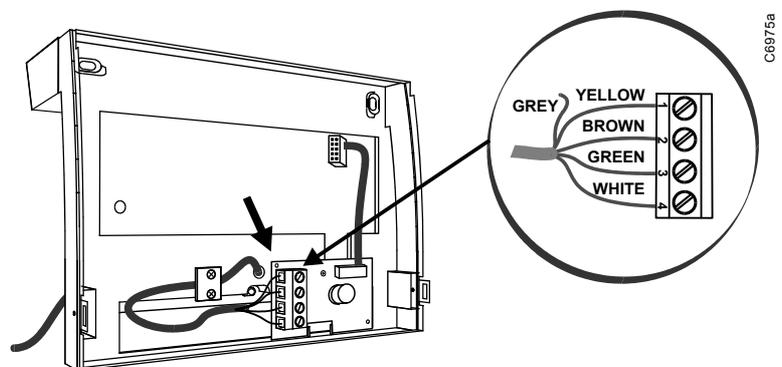
NOTE: Grey wire is not used.

5. Replace the connector removed in Step **3**.

6. Snap XI582AH back cover in place.

RESULT: The XI582AH can now be moved to the desired Excel controller and connected to it. See section "GETTING STARTED" (page 3) for details.

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