

System 2 Version 2

and System4

User Manual

6656-0195

Issue 3.1

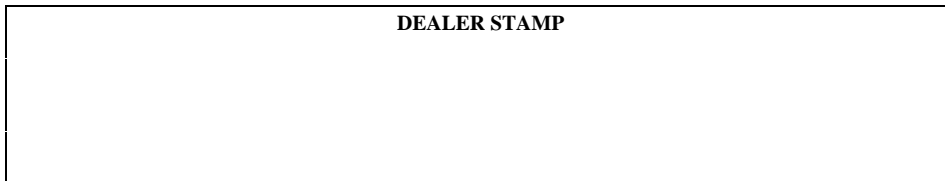
Supplier information

MICROLOCK System2 and System4 are designed and manufactured by:

TDSi Ltd.,
Crestworth House,
Sterte Avenue West,
Poole,
Dorset BH15 2AL
England

Telephone: Within U.K. 01202 666222
 International + 44 1202 666222
Fax: Within U.K. 01202 679730
 International +44 1202 679730
E-mail address: info@tdsi.co.uk

Other supplier information:



Copyright

Copyright © 1989, 1991, 1992, 1993. Time and Data Systems International Ltd., Poole. All rights reserved. This document, and any software supplied with it, may not be reproduced in any form or by any means in whole or in part without prior written consent of the copyright owners.

Policy

Time and Data Systems has a policy to continuously improve its products. Therefore the company reserve the right to change specifications, colours or prices of its products at any time without prior notice.

Disclaimer

Limited Warranty: Subject to the provisions of the Limitation of Liability given below, Seller warrants to Buyer, and only to Buyer, that under normal use and service the System sold and the Software licensed hereunder shall be free of defects in material or workmanship, ordinary wear and tear excepted, and where applicable shall meet the specifications contained or expressly referred to in the Special Conditions (if any) for a period of one (1) year after the date of manufacture, provided that (a) the System and the Software are installed, maintained and operated in strict compliance with the Seller's specifications and recommendations, (b) the System is altered or modified by Buyer only with the express written approval of Seller in accordance with Seller's instructions, (c) the Software is not modified or altered in any manner by Buyer, and (d) the System is not subject to any misuse, abuse, neglect, accident, improper alteration or modification or negligence in use, storage, transportation or handling. Should the System or the Software prove defective during the warranty period, Buyer shall notify Seller in writing of such defect promptly, but in no event later than ten (10) days after the expiration of the warranty period. Seller's sole obligation, and Buyer's exclusive remedy under this warranty shall be limited to the repair or replacement, at Seller's option, of any part of the System or Software which proves defective in materials or workmanship during the warranty period. **Except as expressly provided in this paragraph, seller makes no representations or warranties of any kind, nature or description, express or implied, including, without limitation, any warranty of merchantability or fitness of any and all of the system or software for any particular purpose, and hereby disclaims the same. Seller shall not be responsible for any defects in the system or the software arising out of any design made, furnished or supplied by the buyer.**

Limitation of liability

In no event shall seller be liable to buyer, whether in contract or in tort or under any other legal theory, for lost profits or revenues, loss of use, or similar economic loss, or for any indirect, special, incidental, consequential or similar damages, arising out of or in connection with the sale, delivery, non-delivery, servicing, use, maintenance, condition or possession of any and all of the system or software, or for any claim made against buyer by any other party, even if seller has been advised of the possibility of such claim. In no event shall seller's liability under any claim made by buyer exceed the amounts paid for the system and the use of the software in respect of which such claim is made.

Table of Contents

HOW TO USE THIS MANUAL	5
INTRODUCTION TO MICROLOCK SYSTEM2 AND SYSTEM4	6
Access Control Unit	6
Kd1	6
Ultragard.....	6
Description of options	6
Scroll and select programming.....	10
Menu Map (System2).....	15
Menu Map (System4).....	20
REFERENCE SECTION.....	25
How to use this section.....	25
Alarms.....	26
Alarm Shunt.....	28
Anti pass-back (System2).....	29
Anti pass-back (System4).....	31
Card+PIN access.....	35
Clock and calendar	37
Communications.....	39
Communications diagnostics.....	41
Configuration.....	42
Diagnostics	44
Display.....	45
Display diagnostics.....	45
Door ajar alarm	46
Door sensor type.....	47
Edit.....	49
Egress	50
Elevator control	51
Inputs.....	52
Input diagnostics.....	53
Keypad diagnostics	54
Keypad	55
Language.....	56
Lock time	57
Mantrap	58
Memory partition.....	62
Messages.....	65
Password	69
PIN-only access	72
Printer	75
Printouts.....	76
Quit	78
RAM diagnostics.....	79
Reader diagnostics	80

Reader type	81
Relays.....	83
Timed relays	87
Relay control	90
Relay diagnostics	92
Resets	93
ROM diagnostics	94
Time zones	95
Time zone control.....	100
Time zone holidays	102
Validating cards and PIN-only numbers	103
Visitors cards.....	106
Voiding cards and PIN-only numbers.....	107
Which prompts.....	108
APPENDICES.....	110
Appendix 1: Troubleshooting.....	110
Appendix 2: Kd1 messages.....	111
Appendix 3: Printer messages.....	113
Appendix 4: Access criteria	114
Appendix 5: Glossary	115
Appendix 7: Expiry by date	117
EFFECTIVITY NOTICE.....	118
INDEX.....	120

How to use this manual

This manual deals with programming an ACU using a Kd1 (if you have a PC running Ultragard software then you should be using the manual supplied with Ultragard instead of this manual).

This manual starts where the Installer manual left off. In other words, it assumes that the ACU is correctly installed, that the switch settings are correct, that a Kd1 is installed, and that power is ON.

FIRST

Read the Introduction which starts overleaf

WE STRONGLY RECOMMEND THAT YOU READ EVERY WORD IN THE INTRODUCTION SECTION.

The introduction section contains the following:

- a brief description of every option that can be programmed in an Access Control Unit (ACU)
- a description of the user-friendly 'Scroll + Select' programming method
- a 'map' of how the programming menus are laid out.

THEN

Use the Reference section

Once you know what you want to do, look it up in the main part of this manual under its subject heading. This part of the manual is arranged alphabetically with cross-references where appropriate. But if you can't find what you're looking for, try the index which is at the back of the manual.

If you find that something isn't working as you would expect, use the Troubleshooting section.

Introduction to Microlock System2 and System4

Access Control Unit

MICROLOCK System2 and System4 are Access Control Units (ACU). Each ACU performs as an independent unit, whether or not it linked to a central point. This central point will usually be a personal computer running Ultragard software.

A System2 ACU can be used to control two doors each with one reader, or one door with two readers (in and out). Alternatively, System2 (fitted with an input/output board) can be used to control an Elevator with up to 12 floors or floor groups.

System4 can be used to control up to four doors using four readers. An ACU can be connected directly to most serial printers, or to a parallel printer via a serial-to-parallel converter. The ACU is programmable—that is, you must program it to do what you want it to do. The very least you will have to program is the numbers of the cards which are to be allowed access. This programming can be done at one of two programmers; a Kd1 or a PC running Ultragard software. These options are described below.

Kd1

A small keypad/display unit installed within ACU. Used for programming, this makes System2 and System4 the most user-friendly access control products yet. If no PC is installed then every ACU must have a Kd1. Alternatively, a PC permits programming from a single location—see below.

Ultragard

A software package for IBM or compatible personal computers. Provides central programming and monitoring features allowing detailed analysis of events. Ultragard retains the ACU data for refresh purposes. If you have a PC installed, then no Kd1s need to be fitted to the ACUs.

Description of options

Anti pass-back

There are two types of anti pass-back you can choose from: True and Timed. True APB prevents a card from being used at one reader twice in succession; i.e. the card must be used to go 'out' before it can be used to come 'in' again. Timed APB prevents a card from being used twice within a given time period (1 minute to 24 hours). A Forgiveness feature allows you to 'reset' every card once per day. The default is no anti pass-back.

Block-validate cards

Validates a range of cards, all with the same time group and expiry limit, from a start number to an end number. Of course, names are not included. PINs are also excluded for security reasons—every card should not have the same PIN.

Block-void cards

voids a range of cards from a start number to an end number.

Card+PIN

If this is ON then if a person uses a valid card at the reader he must also key-in a 4-digit PIN. If no PIN exists in memory against his card number, he can type in ANY PIN. He is allowed access and that PIN is put in memory: it becomes his PIN from that point onwards. Each reader can have anti pass-back on or off as required; if a door has a reader on each side then a PIN may be required in one direction but not the other. There is an automatic DURESS ALARM function associated with Card+PIN entry. You can turn this mode of access on using the Kd1 or Ultragard. You can also turn it on by using an input (for example, controlled by a key-switch), or you can have it turn on and off automatically according to the time of day. You can also turn it on and off using a special "control card" which you can validate. Default is OFF; i.e. no PIN is required.

Clock and calendar

This allows you to set the correct date and time, and to pre-program the change-over for daylight savings.

Communications

If you have selected a unit number of 0 using the switches on the circuit board, then the controller assumes that it is a stand-alone unit. The communications then defaults to 9600 baud, even parity. If you select any other unit number then the controller assumes it is going to be on-line to a PC running Ultragard software. The communications then defaults to the special protocol required for this type of installation. The 'communications' option allows you to change these defaults if required.

Configuration

Configuration only appears in System4 and is used during installation to specify the number of doors and readers and their relationships (although the configuration can be modified after installation if necessary). In System2 this function is performed by switch settings.

Control Card

This allows you to validate a card (or PIN-only) which will turn on and off a relay, access mode or time group. (For a Control PIN to work, PIN-only must be on)

Diagnostics

This allows you to test various parts of the hardware. Because of the way in which it works, all access control functions are halted.

Door ajar local time

If the door stays open for more than this time then the LOCAL AJAR alarm is triggered: this may be a message to the printer and/or a relay trigger. Default is 15 seconds.

Door ajar remote time

If the door stays open for more than this time then the REMOTE AJAR alarm is triggered: this may be a message to the printer and/or a relay trigger. Default is 45 minutes.

Door sensor type

This allows connection of either normally-open or normally-closed contacts. Default is normally-closed (i. e. door open = contacts closed).

Elevator Control

This allows up to 12 floors to be controlled; each card can be allowed access to any combination of the twelve floors. The access control unit (ACU) does not function as an access control unit when elevator control is enabled.

Holidays

This allows you to decide whether certain features (Relays, Time Groups, Card+PIN access, PIN-only access) are active on holidays or not.

Language

Allows user to select the language used for on-screen prompts, and messages to printer.

Lock time

This is the maximum length of time the lock release relay will be energised for. The relay is de-energised if the door opens before this time has expired. Default is 4 seconds.

Mantrap

This can be used to prevent someone going through one door unless another door is shut.

Memory option

This allows you to choose how much memory is used for cards, events and Time Control Lines (TCLs). It also allows you to choose whether you want store names against cards (only needed if connected to a printer), and if so how many characters to reserve for each name.

Messages

This allows you complete control over which messages are sent to the printer.

Password

This allows you to define the master password. You can also define up to 10 users, each with their own password and limited access rights.

PIN-only

For PIN-only access, there are two requirements: PIN-ONLY must be ON and the PIN you want to use must be valid (see VALIDATE PIN-ONLY). This might seem unnecessary, having to use two commands to use the function. But it does allow you to turn the function on and off (for example ON during the day and OFF at night). In a one-door, two reader situation you can allow PIN-ONLY in one direction or both directions. There is a DURESS ALARM function associated with PIN-ONLY entry. You can choose how many digits are required for every PIN-only; 4, 5, 6, 7 or 8. You can turn this mode of access on using the Kd1 or Ultragard. You can also turn it on by using an input (for example, controlled by a key-switch), or you can have it turn on and off automatically according to the time of day. You can also turn it on and off by using a special "control card" which you can validate. Default for the PIN-ONLY function is OFF.

Printouts

In normal use, the controller will send event reports directly to the printer as and when they occur. The PRINTOUTS option in the main menu is a separate function to allow you to interrogate the controller. You can ask for reports on each of the programming functions with their current settings.

Reader type

(System2 only) Allows selection of reader type from the following: Infra-Red, Proximity, Wiegand or Mag-stripe. If using mag-stripe swipe readers, cards can be used in either direction through the reader. Wiegand cards may be TDSi's unique 40-bit cards, or any 26-bit format. Default is Infra-Red. System4 may only use infra-red readers.

Relays

There are four relays on an ACU; you can add another 8 by fitting an IOB (input/output board). For each door controlled by an ACU, one of the four ACU relays is used for controlling the lock strike. This may leave as many as 3 (or as few as none) relays spare: in System2 spare relays have factory-default settings but you can change these. In System4, spare relays have no factory-default settings.

Resets

Several RESET functions are provided in case you want to clear out certain parts of the programming.

Time zones

There are 16 time groups (one of which always allows 24-hour access) : you allocate each person to just one of these groups. A time group consists of a series of time control lines: you define a time, day(s) of the week and whether access is 'free' or 'barred' from this time forward.

Validate card

This is where you can validate a new card or edit one that is already in memory. If it is a new card, you will be asked for the following (depending upon the WHICH PROMPTS selection made in the ACU FUNCTIONS menu):

PIN

If this field is blank then the card-holder can choose his own PIN the first time it is used.

Time Group

This is the Group of Time Zones which apply to this card.

Expiry

(See Appendix 7 for extended validity) Enter the number of DAYS (1–14) for which this card is valid. Enter 15 for un-limited use. Enter 0 for already expired.

Name

The number keys on the Kd1 become letter keys when this option is on the screen.

Validate PIN-only

Same as VALIDATE CARD, but you are not prompted for a PIN.

Void card

If the card is in memory for both doors, then you will be asked to confirm which door/s.

Void PIN-only

Same as VOID card.

Which prompts?

This function affects only card and PIN validation functions. It allows you to decide in advance which functions you are going to use. When you validate cards or PINs, you will then only be prompted for those functions you have chosen. The prompts which you can turn on and off are: PIN with Card, Time Group, Expiry. Default is all prompts OFF.

Scroll and select programming

The Kd1, despite its small size and limited number of keys, is a very easy-to-use programmer thanks to the Scroll + Select method of programming.

What the Kd1 keys do:

Number keys

You use these to enter numerical data. Sometimes, instead of typing in the numbers you want, you can use the up/down arrows to increase/decrease the number shown on the display.

Above the number keys are the letters of the alphabet (plus SPACE and a period). These keys are used to enter letters when you are putting names to cards.

Up/down arrows

You use these to go up and down menus, and to go through a list of available options. In all cases, menus and option-lists are CIRCULAR. That is, when you get down to the last item, the next press of the down key lands you on the first item again. The same is true when going up.

Left/right arrows

The left and right arrows are used when entering data, to position the cursor. Mostly, this is so you can make corrections—during most data entry operations, as you enter a character the cursor automatically moves on to the next position.

Q key

This is the Quit key. Pressing this key part-way through any programming operation cancels what you were doing. In most cases you are taken back to the menu that got you to that function and any data you had entered is thrown away.

E key

This is the Execute key. Press this when the display shows what you want—whether a menu item or an option, or data that you have entered and are happy with.

Selecting a menu item

All this means is that you use the UP and DOWN arrows to SCROLL through the various options. When the option you want is showing on the display, press E (for EXECUTE) and you are taken to the next appropriate display.

Entering data

There are some occasions when you can't scroll through the options—for example when entering card numbers or names. Here, all you do is enter the information requested and press E when finished. If you make a mistake, the LEFT and RIGHT arrows allow you to move the cursor to the character or figure you wish to correct. When the display shows what you want (the cursor does not have to be at the end of the line) press E.

Entering names

When entering names, the number keys become letter keys. The number keys have letters above them—press a number key once and you get the number, press it a second time and you get the FIRST letter (the cursor stays where it is). Press that number key again and you get the SECOND letter and so on. When you see the letter you want, press the right-arrow; that letter is accepted and the cursor moves on ready for the next letter. When you have finished entering the name, press E and the name is accepted.

Starting programming

Programming is password-protected. If it is more than 10 minutes since you last programmed the ACU, then it will have "timed out" of programming mode, back into normal operating mode. You must proceed as follows:

1. Press any key (except the Q key). The display now shows:
ENTER PIN >
2. Type in the four digit PIN (or PASSWORD)—the default is 1234—and press E. The top line of the display now shows MAIN MENU (in the case of an un-configured System4 this is not the case; instead you will be asked to configure the ACU first - this is explained under "Configuration" in the reference section.)

If you get lost within the menu structure, look at the Kd1 display and use the following instructions:

To get to the main menu

If top line of the Kd1 display shows time and date:

(bottom line shows last event when in this mode) This indicates that the ACU is in normal operating mode. Follow the instructions above.

If bottom line of the Kd1 display shows ENTER PIN:

Enter the correct 4-digit PIN using the number-keys on the Kd1, then press E. (The default PIN is 1234) This takes you to the next step.

If top line of the Kd1 display shows MAIN MENU:

System2 is in programming mode; the bottom line shows the main menu item that will be selected if you press E.

If the Kd1 display shows none of the above:

System2 is already in programming mode, but not in the main menu. Keep pressing Q (quit) until the top line shows 'MAIN MENU'.

Routes: an explanation

Throughout the REFERENCE section of this manual, you will see references to a ROUTE. A route explains how to get to the thing you want to program.

Example:

If you decide you want to change the time for which the lock is released, you look up LOCK RELEASE TIME in the reference section. This contains the following information:

Route: MAIN MENU
 DOOR FUNCTIONS
 (select [S2] or enter [S4] door numbers if prompted)
 LOCK TIME
 (select time in seconds)

The way you follow this route is as follows:

- 1 Get to the main menu (see “Starting Programming”). The display looks something like this:

```

MAIN MENU
XXXXXXXXXXXXXXXXXXXX
  
```

where the bottom line shows one of the main menu options.

- 2 You now use the up or down arrow until the display looks like this:

```

MAIN MENU
DOOR FUNCTIONS
  
```

Now press E (for 'EXECUTE') and the bottom line moves up to the top. If you are working on a one-door installation, the next screen is missed out—you go to step 3

- 2a If you are working on a two, three or four door installation, the display looks like this:

```

DOOR FUNCTIONS
WHICH DOOR>
  
```

In System2, use the up/down arrows to display the numbers of the doors you want this to apply to; for example:

```

DOOR FUNCTIONS
WHICH DOOR>1+2
  
```

In System4, type in the numbers of the doors you want this to apply to; for example, if you want to change both Door 2 and Door 3 then type in "23":

```

DOOR FUNCTIONS
WHICH DOOR>23
  
```

When the display shows what you want, press E and you are taken to step 3

3 The screen now shows:

```
DOOR FUNCTIONS
LOCK TIME
```

Now, as it happens, the first item in the DOOR FUNCTIONS menu is the one that you want. If it hadn't been then you would simply have used the UP or DOWN arrows until the words LOCK TIME appeared on the bottom line.

4 Press E and the display changes to:

```
LOCK TIME
(SECONDS) >4
```

The bottom line now shows the CURRENT SETTING for the lock time (4 seconds in this example). To change it, use the UP or DOWN arrow repeatedly until the desired value is showing. Alternatively, you can type in the value required using the number keys.

5 Press E to have the new value accepted, or Q to quit.
The display changes to:

```
DOOR FUNCTIONS
LOCK TIME
```

It is now ready for you to select another item from the DOOR FUNCTIONS sub-menu. Or you can press Q to quit back to the main menu.

Menu Map (System2)

ACU functions	Man-trap	on
		off
	Reader type	Microcard
		TDSi Wiegand
		Proximity
		Magnetic (swipe)
		Magnetic (insert)
		26-bit Wiegand
	PIN-only digits	4
		5
		6
		7
		8
	Memory options	Names with cards
		No. of TCLs
		No. of events
		No. of cards
	Language (up to 10 languages)	English
		French
		German
Dutch		
Which prompts	PIN with card	
	Time group	
	Expiry	
No. of floors	1-12	
Door functions	Lock time	1-99 seconds
	Door sensor type	Normally open
		Normally closed
	Ajar time (L)	1-99 seconds
	Ajar time (R)	1-99 minutes
	Alarm shunt off	Door closed
		Door ajar (L)
		Door ajar (R)
	Anti pass-back	Enable
		Time
		Forgiveness
		Mode

Validate	Validate card	
	Validate PIN	
	Block validation	
Void	Void card	
	Void PIN	
	Block void	
Access modes	Control	Card+PIN
		PIN-only
	Program	Card+PIN
		PIN-only
	Holidays	Card+PIN
		PIN-only
	Control card	Validate card
		Validate PIN
Relays	Control	Relay 1-12
	Program	Relay 1-12
	Holidays	Relay 1-12
	Hold-on time	Relay 1-12
	Control card	Validate card
		Validate PIN
Time Zones	Control	Time Group 1-15
	Program	Time Group 1-15
	Holidays	Time Group 1-15
	Control card	Validate card
		Validate PIN

Messages	Access messages	Access granted
		Id not known
		Id not in door
		Id expired
		Wrong time zone
		Wrong anti pass-back
		No PIN
		Wrong PIN
		4th wrong PIN
		Mantrap enforced
		Lock latched off
		Control ID on
		Control ID off
		Alarm messages
	Reader error	
	Duress	
	Door opened	
	Door forced	
	Door ajar (L)	
	Door ajar (R)	
	Egress on	
	Egress off	
	RB gone	
	RB returned	
	Reader gone	
	Reader returned	
	Input messages	All inputs
		Individual input
	Relay messages	All relays
		Individual relay
	Access modes	PIN-only
		Card+PIN
	System messages	All messages
Clocks forward		
Clocks back		
IOB gone		
IOB returned		
	ACU restarted	

Printouts	ACU functions	
	Door functions	
	ID store	
	Access Modes	
	Relays	
	Time zones	
	Messages	
	System	
Communications	Unit number	0-1022
	Mode	Polled or Immediate
	Baud rate	300
		600
		1200
		2400
		4800
		9600
		19200
	Data bits	7 or 8
	Parity	Even
		Odd
		Space
		Mark
		None
Stop bits	1 or 2	
Duplex	Full or Half	
Flow control	XON/XOF	
	CTS	
	XON/XOF + CTS	
	None	
Clock	Time	
	Date	
	Date format	
	Clocks forward	
	Clocks back	
	Holidays	

Diagnostics	Display	
	Keypad	
	Inputs	
	Relays	
	Readers	
	RAM	
	ROM	
	Communications	
Reset	Warm restart	
	Erase id store	
	Erase events	
	Reset parameters	
	System reset	
Password	Change password	
	Multi-user mode	on
		off
	Modify user	Change password
Permissions		
Quit		

The following shows the additional menu structure for supervised inputs. This menu structure only appears if a supervised input/output board is connected.

Inputs	Polarity	Normally open
		Normally closed
	Type	UK supervised
		US supervised
		Normal
	On delay	0-6553 seconds
	Off delay	0-6553 seconds

Menu Map (System4)

ACU functions	PIN-only digits	4
		5
		6
		7
		8
	Memory options	Names with cards
		Expiry type
		No. of TCLs
		No. of events
		No. of cards
	Language (up to 10 languages)	English
		French
		German
		Dutch
	Which prompts	PIN with card
		Time group
		Expiry
	Configuration	Add door
		Remove door
		Modify reader
Door functions	Lock time	1-99 seconds
	Door sensor type	Normally open
		Normally closed
	Ajar time (L)	1-99 seconds
	Ajar time (R)	1-99 minutes
	Alarm shunt off	Door closed
		Door ajar (L)
		Door ajar (R)
	Man Trap	Group
		Inner/outer
	Anti pass-back	Enable
		Check Zone
		Clear Zone
		Time
Forgiveness		

Validate	Validate card	
	Validate PIN	
	Block validation	
Void	Void card	
	Void PIN	
	Block void	
Access modes	Control	Card+PIN
		PIN-only
	Program	Card+PIN
		PIN-only
	Holidays	Card+PIN
		PIN-only
	Control card	Validate card
		Validate PIN
Relays	Control	Relay 1-12
	Program	Relay 1-12
	Holidays	Relay 1-12
	Hold-on time	Relay 1-12
	Control card	Validate card
		Validate PIN
Time Zones	Control	Time Group 1-15
	Program	Time Group 1-15
	Holidays	Time Group 1-15
	Control card	Validate card
		Validate PIN

Messages	Access messages	Access granted
		Id not known
		Id not in door
		Id expired
		Wrong time zone
		Wrong anti pass-back
		No PIN
		Wrong PIN
		4th wrong PIN
		Mantrap enforced
		Lock latched off
		Control ID on
		Control ID off
		Alarm messages
	Reader error	
	Duress	
	Door opened	
	Door forced	
	Door ajar (L)	
	Door ajar (R)	
	Egress on	
	Egress off	
	RB gone	
	RB returned	
	Reader gone	
	Reader returned	
	Input messages	All inputs
		Individual input
	Relay messages	All relays
		Individual relay
	Access modes	PIN-only
		Card+PIN
	System messages	All messages
Clocks forward		
Clocks back		
IOB gone		
IOB returned		
	ACU restarted	

Printouts	ACU functions	
	Door functions	
	ID store	
	Access Modes	
	Relays	
	Time zones	
	Messages	
	System	
Communications	Unit number	0-1022
	Mode	Polled or Immediate
	Baud rate	300
		600
		1200
		2400
		4800
		9600
		19200
	Data bits	7 or 8
	Parity	Even
		Odd
		Space
		Mark
		None
	Stop bits	1 or 2
Duplex	Full or Half	
Flow control	XON/XOF	
	CTS	
	XON/XOF + CTS	
	None	
Clock	Time	
	Date	
	Date format	
	Clocks forward	
	Clocks back	
	Holidays	

Menu Map (System4)

Diagnostics	Display	
	Keypad	
	Inputs	
	Relays	
	Readers	
	RAM	
	ROM	
	Communications	
Reset	Warm restart	
	Erase id store	
	Erase events	
	Reset parameters	
	System reset	
Password	Change password	
	Multi-user mode	on
		off
	Modify user	Change password
	Permissions	
Quit		

Reference section

How to use this section

This section of the manual is in **alphabetical** order. The top corner of each page shows the subject heading as an aid to 'flipping' through the manual.

Cross-references are provided in a lot of cases, but the index is more comprehensive if you are having difficulty finding what you want.

Routes

Routes are explained in the INTRODUCTION section. Briefly, when you see a table headed 'ROUTE', then that is showing how to get to the item you want to program.

Defaults

Defaults are the settings that apply after a RESET, which is usually the case in units as they are shipped from the factory. However, to be sure, part of the installation procedure involves performing a full reset. This is covered both in the ACU installation manual and in this manual.

Alarms

In System2 and System4, an alarm occurs when something unusual happens; for example, someone uses a card which is not valid.

There is no programming function for alarms—what you program is what happens when a specific alarm occurs. There are two things that can happen as a result of an alarm:

- an alarm may result in a message to the printer (see MESSAGES).
- an alarm may also cause a relay to come on (see RELAYS).

Definition of alarms

ACCESS DENIED

Access may be denied for any of the following reasons:

- Card not valid
- Time zone not current
- Bad PIN (four attempts allowed)
- Anti pass-back applied
- Card has expired
- Mantrap enforced
- Relay latched off

Note that any message will identify WHY access was denied. But if you want a relay to come on then it will come on for ANY of the above reasons.

DOOR FORCED

The door opened while the lock release relay was not energised. (The lock release relay can be energised in one of three ways: access granted after a card or PIN entry, egress button used, relay latched on).

DOOR AJAR (LOCAL)

The door was open for longer than the programmed permitted time.

DOOR AJAR (REMOTE)

The door was open for longer than the programmed permitted time.

READER GONE

The reader wires have been cut or disconnected.

BAD PIN

After four (or more) unsuccessful attempts to enter a PIN (as part of a PIN-ONLY or a Card+PIN sequence).

DURESS

A PIN has been used (as part of a PIN-ONLY or a Card+PIN sequence) which was one digit higher than the expected PIN. For example, if 1234 was expected, then entering 1235 will cause this alarm.

Related topics

MESSAGES, RELAYS, DOOR AJAR, INPUTS

Alarm Shunt

If you have programmed a relay to provide an alarm shunt function (i.e. to bypass door-sense contacts on an intruder alarm system) then you can also program which one of three events will cause the relay to de-energise. If the door does not open at all, the alarm shunt relay is de-energised when the lock strike time expires. Programming a relay to provide an alarm shunt is fully covered in the section headed Relays, but the route is repeated below for convenience.

How to program a relay for Alarm Shunt

Route: RELAYS
PROGRAM
(select relay number)
ALARM SHUNT
(select [S2] or enter [S4] required door number, press "E")

How to choose when alarm shunt ends

Route: MAIN MENU
DOOR FUNCTIONS
ALARM SHUNT OFF
(select chosen event, press "E")

Options: Door closed
Door ajar (L)
Door ajar (R)

Glossary

Door closed

No matter how long the door remains open, the Alarm Shunt relay de-energises when the door closes.

Door ajar (L)

The alarm shunt relay de-energises when the Door Ajar (Local) time expires. This does not require a relay to be programmed as a Door Ajar (Local) alarm, and does not even require the Door Ajar (Local) message to be enabled. Your intruder alarm system can therefore signal the Door Ajar (L) alarm instead if System2.

Door ajar (R)

The alarm shunt relay de-energises when the Door Ajar (Remote) time expires. This does not require a relay to be programmed as a Door Ajar (Remote) alarm, and does not even require the Door Ajar (Remote) message to be enabled. Your intruder alarm system can therefore signal the Door Ajar (R) alarm instead if System2.

Default

If the door opens during the lock strike time, the alarm shunt relay is de-energised when the door closes. If the door does not open, the alarm shunt relay is de-energised when the lock strike time expires.

Related topics

DOOR AJAR ALARM, LOCK TIME

Anti pass-back (System2)

Anti pass-back is used to stop two people from using one card to gain access. If access is denied because of this, this will result in an alarm message to the printer. It may also result in a relay being energised if you have programmed one to do so.

Types of anti pass-back

There are two types of anti pass-back; TRUE and TIMED. The type you use is determined by the type of installation:

- one door one reader = TIMED
- one door with in/out readers = TRUE
- two independent doors = TIMED
- two doors, one in one out = TRUE

Menu Structure

The menu for anti pass-back looks like this:

Door Functions	Anti pass-back	Enable	On
			Off
		Time	
		Forgiveness	Never
			Noon
			Midnight
			Now
		Mode	Linked (in/out)
			Independent
			Linked (in/in)

How to program anti pass-back

General notes

With timed anti pass-back, if you set a time of 0, then this will allow each card to be used once only - "Forgiveness" can be used to re-set every card.

Use "Enable" to turn anti pass-back on and off as required.

Use "Forgiveness" if required to reset cards at noon or midnight each day - this may be needed if people go through doors without using cards; e.g. someone else has opened it for them.

One door, one reader

Use "Time" to set the time allowed between card entries.

One door with two in readers

This might be useful for vehicle entry, with one reader at car-window height and the other at truck-window height.

Use "Time" to set the time allowed between card entries.

Use "Mode" to select "Linked (in/in)".

One door with in/out readers

Use "Time" to set a time of 0

Use "Mode" to select "Linked (in/out)

Two in doors

Use "Time" to select the time allowed between card entries.

Use "Mode" to select "Linked (in/in)

Two doors, one in one out

Use "Time" to set a time of 0

Use "Mode" to select "Linked (in/out)

Related topics

MESSAGES, ALARMS, RELAYS

Anti pass-back (System4)

Anti pass-back is used to stop two people from using one card to gain access. If access is denied because of this, this will result in an alarm message to the printer. It may also result in a relay being energised if you have programmed one to do so.

How to program anti pass-back

To be able to program your anti pass-back (APB) requirements you must first start to think of your site as a number of "zones". Each reader allows access into a zone. Reader 1 allows access to Zone 1, Reader 2 allows access to Zone 2 and so on. This means that if both Reader 1 and Reader 2 allow access to the same room, then this room is considered to be both Zones 1 and Zone 2.

When a card is used at a reader, you must decide:

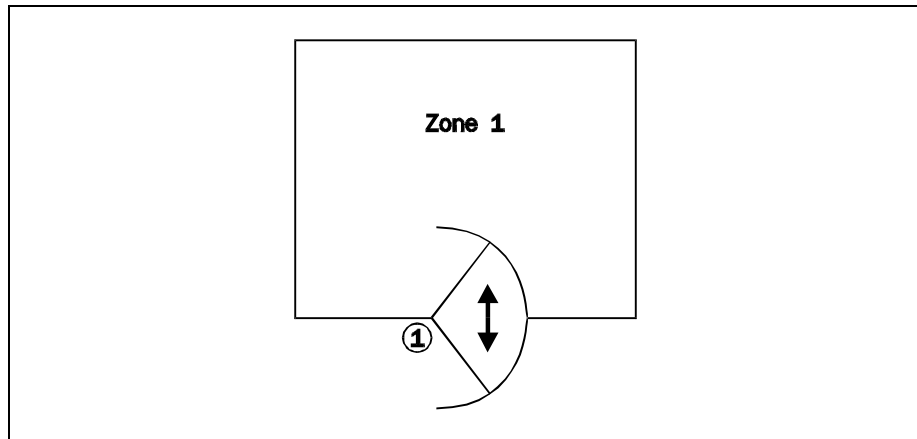
- which zone will be "checked" - if the card is found to be already "in" that zone then access will be denied.
- which zone will be "cleared" - i.e. if access is granted which zone is the card leaving.

General Notes on Anti pass-back

- If it is possible to move from one room to another without using a reader, then both rooms must be in the same zone(s).
- If two readers allow you into one room, that room must be in two zones, and any "Check Zone" that checks one of these zones must also check the other.
- In addition to programming the Check and Clear Zone options for a reader, you must also use the Enable option to turn APB on.
- The Time option gives an alternative way of programming APB. The effect is the same as "Clear" - for example if you set a time of 60 minutes for Reader 1, then 60 minutes after card is used at Reader 1, System 4 will Clear Zone 1 for that card. (If, for example, Reader 2 is programmed to Clear Zone 1 then using the card at reader 2 has exactly the same effect as the expiry of the 60 minutes - the card may be used at Reader 1 again).

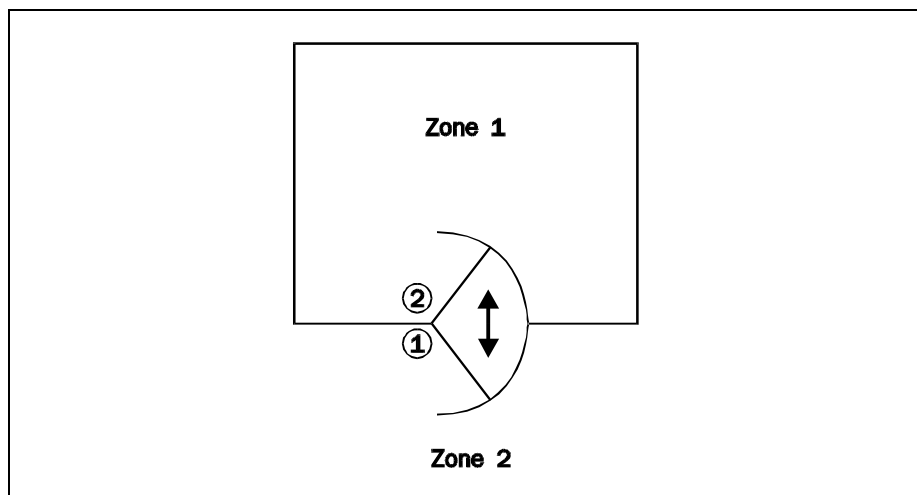
Anti pass-back examples

(i) One door, 1 reader (i.e. timed anti pass-back); 1 hour time period:



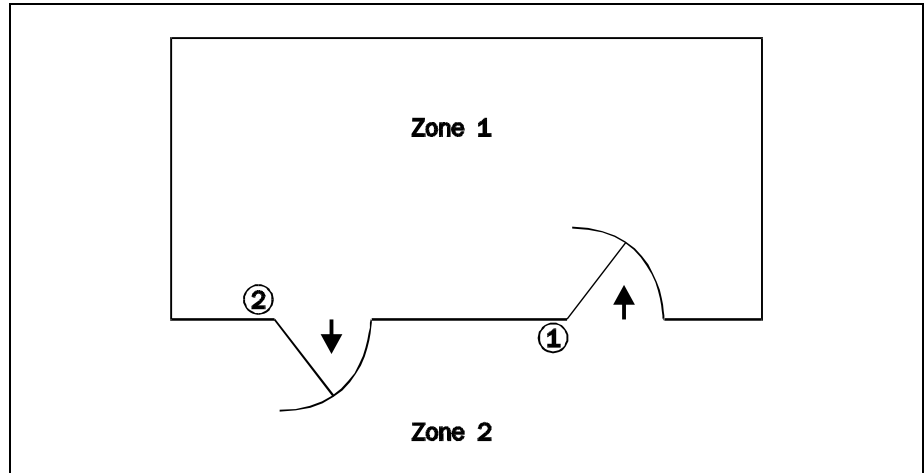
Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x								60
Reader 2									0
Reader 3									0
Reader 4									0

(ii) 1 door 2 readers; i.e. true anti pass-back



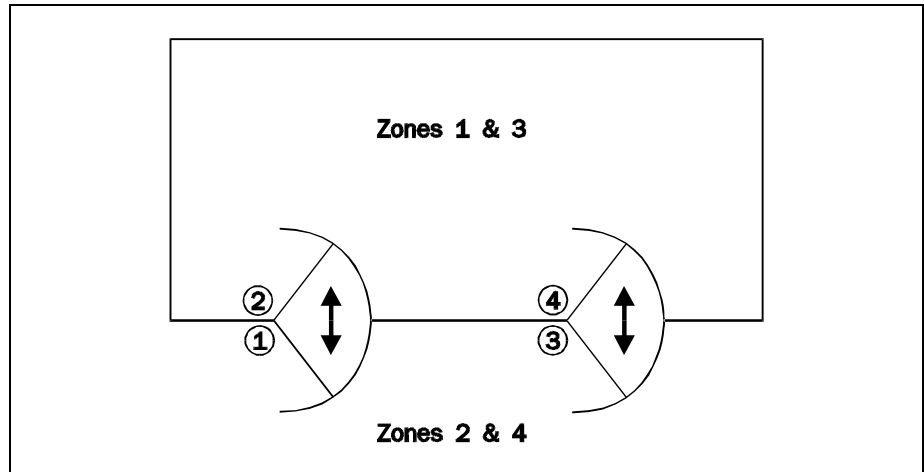
Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x					x			0
Reader 2		x			x				0
Reader 3									0
Reader 4									0

(iii) Two doors, 1 reader each; i.e. True anti pass-back



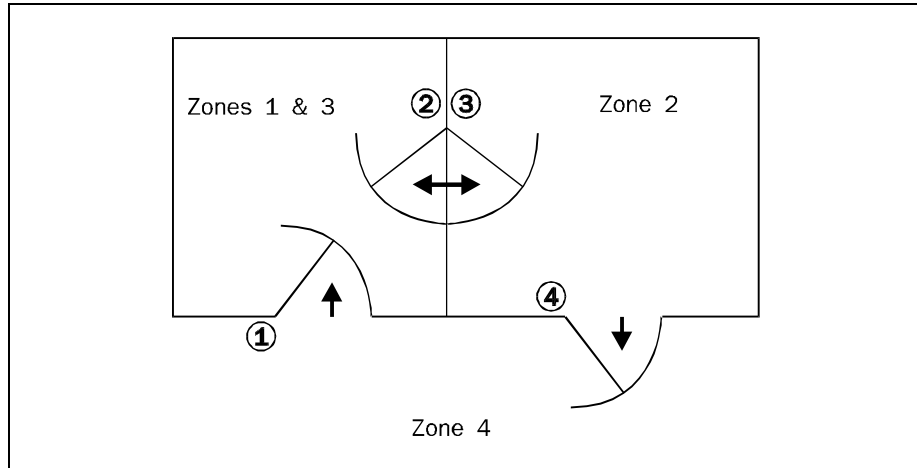
Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x					x			0
Reader 2		x			x				0
Reader 3									0
Reader 4									0

(iv) 2 doors 4 readers



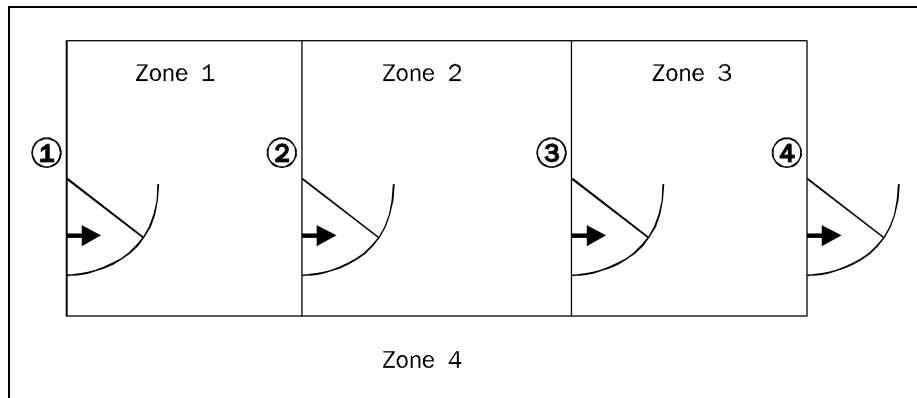
Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x		x			x		x	0
Reader 2		x		x	x		x		0
Reader 3	x		x			x		x	0
Reader 4		x		x	x		x		0

(v) Two doors, 1 reader each; One door, two readers; True anti pass-back



Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x		x					x	0
Reader 2		x			x		x		0
Reader 3	x		x			x			0
Reader 4				x		x			0

(vi) Four doors, 1 reader each; True anti pass-back



Reader Name	Check				Clear				Time
	1	2	3	4	1	2	3	4	
Reader 1	x							x	0
Reader 2		x			x				0
Reader 3			x			x			0
Reader 4				x			x		0

Related topics

MESSAGES, ALARMS, RELAYS

Card+PIN access

Application

The Card+PIN function provides a higher level of security than card alone. This is because if a card is lost or stolen, you may not get chance to void it before someone tries to use it.

Every card can have a different PIN. You can choose this PIN while validating the CARD, or you can add a PIN to a card which is already in memory. You can also change the PIN for a card. But perhaps the easiest way to use this feature is to let the cardholders choose their own PINs—you do this simply by NOT allocating PINs to the cards.

Restrictions

Obviously, you must only program Card+PIN access at a door if a user keypad is fitted. Note that PIN-ONLY access can be ON or OFF as required, as it does not conflict with Card+PIN access.

How Card+PIN works

If Card+PIN is ON, when you use a valid card at the reader the LED starts flashing at a different rate. This signals the fact that you must now key-in the correct 4-digit PIN. 10 seconds are allowed for entering the PIN.

If no PIN exists in memory against the card number, you can type in any four digits. You are allowed access and that PIN is put in memory: it becomes your PIN from that point onwards (for both doors in a two-door installation).

If the four digits you enter don't exactly match the number in memory (or if you don't complete the entry in time) then you are given another three attempts to get it right. If you don't get it right at the fourth attempt, then this is treated as an ALARM. There is a message to the printer (unless you have turned the message off). You can also program a relay to energise for such an alarm. Of course, all other access criteria have to be satisfied as well. There is a set order in which the ACU checks a PIN-ONLY to decide whether to allow access. This order is described in Appendix 4: Access criteria.

Programming Card+PIN access

There are four different ways of turning this mode of access on and off:

- you can turn it on so that it stays on until you turn it off
- you can turn it on and off using an input
- you can have it turn on and off automatically at certain times
- you can turn it on by using a special (control) card or PIN at the reader

Everything to do with Card+PIN is in the Access Modes menu, in which there are four options:

Control

This allows you to turn Card+PIN on and off. The "programmed/on" and "programmed/off" options provide a means of turning the access mode on or off temporarily, until the next TCL or control card.

Program

This allows you to program time control lines (TCLs) which will cause Card+PIN to turn on and off automatically according to time-of-day and day-of-week. You can also program an input which can then be used to turn it on and off.

Holidays

If you are using TCLs or an input to turn this mode off access on and off, then the Holidays feature allows you to program whether this mode of access will be active on holidays or not.

Control card

This allows you to validate a card (or PIN-only) which, when used at a reader, will cause this access mode to turn on and off. This works as if you had used the Control option; the first time you use the card it is like selecting "on"; the second time it is like selecting "programmed". For a Control PIN to work, PIN-only must be on.

Default

Card+PIN OFF (i. e. card-only access).

Related topics

VALIDATE CARD, RELAYS, MESSAGES

Clock and calendar

Application

The following data can be entered in the CLOCK & CALENDAR menu:

- TIME
- DATE
- DATE FORMAT
- CLOCKS FORWARD
- CLOCKS BACK
- HOLIDAYS

It is important to have the correct time and date set in the controller for two reasons:

- the time and date is recorded as part of every event record
- the time and day-of-week is used for time zones and timed-relay switching (the controller calculates the current day-of-week from the date)

Programming the clock and calendar

Route: MAIN MENU
CLOCK
(select item to program, press E)
(enter correct data - see below - , press E)

TIME

You must enter the time in 24-hour format; e. g. 4.00 p.m. is entered as 16:00 (although you don't actually enter the colon—the cursor skips over the colon when you have entered the second digit in the hours field). For exact timing, when you press E the seconds count will be set to 0.

DATE

Note that the format used for the date can be day/month/year or month/day/year or year/month/day—you can make the selection using the DATE FORMAT function. When entering data, the top line of the display shows the current format required.

DATE FORMAT

There is no data to enter, just select DD-MM-YY or MM-DD-YY or YY-MM-DD using the up/down arrows.

CLOCKS FORWARD

Enter the date (MMDD or DDMM as chosen in DATE FORMAT). The clock will go forward one hour on the specified date at 1.00 am (0100), i. e. it will change from 0100 to 0200. Any time control lines programmed for between these two times will occur simultaneously.

CLOCKS BACK

Enter the date (MMDD or DDMM as chosen in DATE FORMAT). The clock will go back one hour at 0200 (to 0100) on the specified date. Any time control lines programmed for between these two times will therefore be actioned twice.

HOLIDAYS

Holidays relate to time zones, relays and access modes. Once you have set the dates for your holidays, for each of these features you can select whether the feature is active every day, only on holidays or never on holidays.

How to add a new holiday date

If the display shows ADD NEW HOLIDAY then there are no holidays currently programmed (holidays are deleted from memory once they have passed).

If the display is showing a date, this is one of the existing dates programmed. Keep pressing the down arrow until the display shows ADD NEW HOLIDAY, then press E.

You may now enter a new date, in the form DD/MM/YY, MM/DD/YY or YY/MM/DD (this depends on the DATE FORMAT selection: see CLOCK & CALENDAR). Enter four digits—the cursor automatically steps over the separators. When the desired date is showing, press E.

The display still shows the date of the holiday you have just entered: use the down arrow to get to ADD NEW HOLIDAY if you want to enter another date, or use Q to quit.

How to delete a holiday date

Use the down arrow until the display shows the date you want to delete. Press E, then enter four 0's to replace the date shown. Press E again and the date is deleted. Press Q if you have finished or use the up/down arrows to select another date to delete.

Communications

Application

This part of the manual can be ignored if the controller is NOT connected to a printer or a computer. If the controller is connected to a PC running Ultragard software the you should be using the Ultragard manual instead of this manual.

Types of communication

There are only two types of communication with a System2 controller:

Immediate mode

This is the default mode if the unit number is set to 0 using the on- board switches.

The controller will transmit details of events as and when they occur. This is usually to a printer or VDU; you must program the ACU to match the communications parameters of the printer/VDU (baud rate, parity etc.). If the ACU is connected to a parallel printer then a serial/parallel converter must be used; the ACU must then be programmed to match the parameters of the converter.

Transmission will not occur if the handshake conditions prevent this; the ACU stores the events until it can transmit them. The number of events that the ACU memory can hold (before starting to overwrite the oldest events) is determined by the Memory Partition feature.

Polled mode

This is the default mode if the unit number is set to anything other than 0 using the on-board switches.

The controller will only transmit when requested to by a computer. This communication mode defaults to 9600 baud but will work at other rates providing the PC is set to the same rate. All other communications parameters default to suit the special communications protocol used by TDSi.

If the PC does not poll the ACU for a period, then the ACU stores the events until it can transmit them. The number of events that the ACU memory can hold (before starting to overwrite the oldest events) is determined by the Memory Partition feature.

Immediate mode default parameters

9600 baud
7-bit word
Even parity
1 stop bit
full duplex
XON/XOF handshake

Changing the parameters

The correct settings should have been made during installation, and it is unlikely that you will need to change them during normal use. Change them only if you are sure you need to. Note that any changes you make do not take effect until you quit from programming mode.

Route: Main menu
Communications
(select parameter - see below -, press E)
(select value for parameter, press E)

Unit number

Normally, the unit number is set during installation by using the switches on the main circuit board. The number range allowed by the switches is 0-63 on System2; 0-255 on System4. The Kd1 allows you a range of 0-1022.

Note that if you use switches to select a unit number of 0, then the ACU defaults to different communications parameters, more suitable for linking to a printer. However, if you use the Kd1 to set a unit number of 0, then this does not happen.

Note also that the ACU only takes any notice of the switch settings during a power-up or warm restart if the switch settings have changed since the last restart. During a system reset or reset parameters the ACU always takes notice of the switch settings regardless of whether the settings have changed.

Baud rate

The following rates are available: 300, 600, 1200, 2400, 4800, 9600, 19200.

Parity

The following values are available: even, odd, space, mark, none. If you select "none", then you get an 8-bit word; otherwise, you get a 7-bit word.

Stop bits

You can select 1 or 2 stop bits; if you select 2, then the parity is automatically set to "none".

Duplex

You can select full or half; if you want to use XON/XOF handshaking, then you must select full.

Handshake

You can select none, XON/XOF, CTS or XON/XOF plus CTS.

Communications diagnostics

Application

This feature causes the message 'TDSi' to be sent repeatedly to the printer. This is very useful for checking that installation and set-up of the communications link are correct.

To use this feature you must first select "Immediate Transmit" (using the Mode option in the Communications menu). While the diagnostics feature is enabled, any characters received by the ACU will appear on the Kd1 display.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select COMMS, press E)
(press Q when finished)

Configuration

Configuration refers to the number of doors and readers being controlled by the ACU.

In System2 this is governed by switch settings.

In System4, you are forced to enter configuration information the first time you try to program the ACU.

THE REST OF THIS SECTION REFERS ONLY TO SYSTEM4.

Initial configuration

When System4 is first powered up, it first checks to see if it is in a "reset" state. This will be the case if the power has been removed and the memory battery is missing or exhausted. This will also be the case if a "System Reset" or "Reset Parameters" has been performed. If the System4 is in a reset state, then when you try and program it, it will force you to answer certain questions before allowing you to program anything else.

These questions are as follows:

- How many doors?
- Which door does reader 1 open?
- Which door does reader 2 open?
- Which door does reader 3 open?
- Which door does reader 4 open?

Notes:

1. The text used on the Kd1 is not the same as is shown above, due to space limitations.
2. The Door, Reader and Keypad numbers are defined by the connections made during installation.
3. If you have fewer than 4 doors, then System4 automatically uses the lowest numbers first. For example, if you have only three doors, then System4 assumes these are Doors 1, 2 &3. Therefore this must have been taken into account during installation.
4. If there are fewer than four readers then you answer "0" when asked "which door does reader n open?".
5. Because of the flexibility of this method of configuration, it is quite acceptable to have (for example) Reader 1 controlling Door 2 and Reader 2 controlling Door 1. It is also possible to have three or four readers controlling one door.
6. It is possible to select contradictory options during configuration - for example, to select Reader 1 to control Door 4 even if there are only three doors. If you do make such a contradictory selection, then it will be ignored; i.e. in the above example Reader 1 will not open any door.

Changing the configuration

If you decide to change the configuration, it is not necessary to perform a Reset first. Instead, use the Configuration option in the ACU functions menu. This contains the following options:

- Add Door
- Remove Door
- Modify Reader

When you have made your change, you must select Quit from the main menu (or wait for the time-out of programming mode) before the change is actioned.

Diagnostics

The diagnostics menu contains a number of functions designed to test the controller and the equipment connected to it.

Refer to the appropriate section:

DISPLAY, KEYPAD, INPUTS, RELAYS, READERS, RAM, ROM,
COMMUNICATIONS

Display

The Kd1 display, when not being used for programming, shows event information on the bottom line. The top line shows the current time and date.

Because of the limited space available, event data does not include the time of the event. Also, some events are "coded" due to the limited space available.

Appendix 1 contains full details on interpreting the display.

Display diagnostics

Application

This causes the display to start displaying all the possible characters such that, in time, every possible character is displayed at every display segment.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select DISPLAY, press E)
(press any key when finished)

Door ajar alarm

Application

This is an ALARM function. Alarm functions result in a message to the printer (unless the message has been turned OFF). Alarms may also cause a relay to come on (you program this in the RELAYS section of the MAIN MENU).

There are two DOOR AJAR alarms: LOCAL and REMOTE. You can program the time that the door can be open before each alarm will occur. You can program each door differently.

Why are there two different door ajar alarms?

The only difference between the two is the fact that the LOCAL time is usually less than the REMOTE. It is normal to have the LOCAL alarm connected to a bell close to the appropriate door. The REMOTE alarm would be connected to a bell in the main office or similar, where there would always be someone available to respond. The REMOTE alarm would ring if the LOCAL one had been ignored for a given time.

Defaults

LOCAL: 15 seconds
REMOTE: 45 minutes

How to set the door ajar alarm times

Note: the LOCAL time is set in seconds (1–99) and the REMOTE time is set in minutes (also 1–99).

Route: MAIN MENU
DOOR FUNCTIONS
(select [S2] or enter [S4] door numbers if prompted)
(select AJAR TIME (L) or AJAR TIME (R), press E)
(use up/down arrows to increase or decrease time, press E)

Related topics

MESSAGES, RELAYS, ALARMS, DOOR SENSOR

Door sensor type

Application

This function allows you to choose which type of door sensor is fitted: normally open (door open = contacts open) or normally closed (door open = contacts closed). The correct selection should have been made by the installer during installation. Change it only if you are sure you need to.

What the door sensor does

For access control the door sensor provides an extra level of security, in the following way. If the lock release time is set to, say, 10 seconds, it is quite possible for someone to get through the door in only two or three seconds after using their card. This leaves seven or eight seconds of 'un-expired' time, during which (if no door sensor was fitted) the door could still be opened. However, if a door sensor is fitted, then as soon as the door opens the lock release is de-energised.

For access monitoring, having a door sensor fitted means that all occurrences of the door opening and closing can be monitored on the printer. Also, relays can be set to operate if a door opens when it shouldn't (door forced), or stays open for too long (door ajar). These occurrences will also be reported to the printer.

If you have a relay programmed to provide an Alarm Shunt, then the door sensor also determines when the Alarm Shunt relay is turned off. You can program whether the relay turns off as the door closes, or as the door ajar (local) alarm triggers, or as the door ajar (remote) alarm triggers. This is covered in the section headed "Alarm Shunt".

Restrictions

You must have the correct type selected—the lock strike relay will not be energised if the ACU thinks the door is open. If NO sensor is fitted then you MUST leave this set at the default i.e. NORMALLY CLOSED otherwise System2 will think the door is permanently open.

How to check the door sensor programming

Open the door, then see what comes up on the Kd1 display—if it says DOOR OPEN then the programming is correct. You can use INPUT DIAGNOSTICS to check the type of door sensor you have fitted.

Default

NORMALLY CLOSED (i.e. door open = contacts closed)

How to select the door sensor type

Route: MAIN MENU
DOOR FUNCTIONS
(select [S2] or enter [S4] door numbers if prompted)
DOOR SENSOR TYPE
(select N/O or N/C, press E)

Related topics

DOOR AJAR ALARM, INPUT DIAGNOSTICS

Edit

To change any of the information relating to a card (or a PIN-ONLY number) which is already valid, use the VALIDATE CARD option. When you enter the card number and press E the top line will show EDIT. You may then change or accept all the information relating to that card. Note that the selection made in WHICH PROMPTS has no effect here—you will be presented with ALL possible information relating to that card.

Egress

Each door is provided with an input which can be used for a 'Free Egress' function. If this input is momentarily closed-circuit then the lock will be released just as if a card had been used; i.e. for the length of the lock release time.

There are two possible uses for this:

- The 'door forced' alarm will be triggered if the door opens without the lock having been released. Rather than installing a reader on the outgoing side of a door, installing an egress button means that the door forced alarm doesn't occur without good reason.
- Installing a push-button in the reception area means that the receptionist can allow access to visitors without cards.

If the input is left closed-circuit then the lock will remain released. This can be useful if there are periods when no access control is required.

There is a message each time the input goes closed-circuit, and a message each time the input goes open-circuit. These messages can be suppressed; see **MESSAGES**.

You can always tell whether the egress input is open circuit or closed circuit by using **INPUT DIAGNOSTICS**

Related topics

LOCK TIME, MESSAGES, INPUT DIAGNOSTICS

Elevator control

Elevator Control is only available in System2. The method of operation requires that the floor buttons in the elevator cabin are wired through the relays. In this way, only those buttons whose relays are on will be active. To use System2 as an elevator control unit instead of an access control unit, you must set the following switches:

- SW1= OFF
- SW2 = ON

The following list shows which features are active, inactive or modified when the unit is an elevator controller:

Man trap - no
 Lock time - will be used to set time for all relays
 Ajar alarm (local) - no
 Ajar alarm (remote) - no
 Anti pass-back - yes (timed)
 Relay programming - only for unused relays
 Messages - yes (if appropriate)

You must select how many floors are in use - this will be used to prevent you validating cards for unused floors, and will make spare relays available for other purposes. You do this in the ACU functions menu; if you try to select the number of floors when the unit is not an elevator controller, you will get an error message.

The "Lock Strike Time" option in the Door Functions menu sets the on-time for every elevator-relay. You can change individual elevator-relay on-times by using the "Hold-On Time" option in the Relays menu.

One or two readers can be fitted; cards will be accepted at either reader. One or two keypads can be fitted. When validating cards, the display will show:

```
Rly 123456789012
Trg 000000000000
```

This represents the 12 relays; i.e. 12 floors. If there are fewer than 12 floors then the unused floors will not be displayed. By changing the "Trg" (trigger) line (using right/left arrow keys and the "1" key) you can select which relays operate when the card is used; for example:

```
Rly 123456789012
Trg 100001000101
```

The screen above shows that access will be allowed to floors 1, 6, 10 and 12.

When a card is used, the programmed relays will come on for the programmed time. The "Door 1 sense" input will turn off all relays. This could be used to detect when someone has pressed a floor button. Using another card will also turn off all relays not valid for the new card, and turn on all relays valid for the new card.

The "Door 1 Egress" input will turn on all relays. This could be used as an emergency function.

Door 2 Sense and Egress inputs will be treated as inputs 15 and 16. Inputs 1-12 will be monitored in the normal way.

Inputs

Inputs can be used either for monitoring switch contacts (for example, an emergency exit) or for turning things on and off (relays, time groups or access modes).

When an input changes state, a message is generated.

If the optional Supervised Input/Output board is fitted to a System2, then Inputs appears as a main menu option. This allows you to set input polarity, supervision type and on/off delays. The first two of these should be set at installation and shouldn't need to be changed - this is covered in the documentation shipped with the board. On and off delays allow you to decide how long an input should remain in a certain state before the state is recognised. For example, you may want to monitor a door that has no access control. You may be happy for the door to be open for a few seconds at a time, but not if the door is left open for several minutes. You can use the delay times to trigger a relay or a message only if the door is open for more than, say, 60 seconds.

You can tell whether an input is open circuit or closed circuit by using INPUT DIAGNOSTICS.

Related topics

RELAYS, MESSAGES, INPUT DIAGNOSTICS

Input diagnostics

Application

This causes a 16-character display of '1's and '0's, showing which inputs are open-circuit and which are closed-circuit. The display is constantly being updated so any change in input status is immediately visible.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select INPUTS, press E)
(press any key when finished)

Interpretation

The display looks something like this:

EDED123456789012
0001000000000010

The bottom line represents the 16 possible inputs; a "1" means that the input is currently connected to ground.

Reading left to right, The first four characters are the inputs for egress and door sense for door 1 and door 2 respectively. In System4, this would apply to the first eight characters for doors 1 through to 4; this is true no matter how many doors the ACU is controlling.

The next four characters are inputs 1–4 on the main board.

The last eight characters only appear if an IOB (input/output board) is fitted, and relate to inputs 5–12.

Keypad diagnostics

Application

This tests the programming keypad, Kd1. While this test is running, whatever key you press will be displayed on the display. Note that the Q key will QUIT after displaying "QUIT".

If you want to test the user keypad associated with a card reader, see READER DIAGNOSTICS.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select KEYPAD, press E)
(press keys on PROGRAMMING keypad to confirm all OK)
(press Q when finished—not before)

Keypad

If you have a keypad installed alongside a card reader (i.e., a user keypad rather than the programming keypad on the Kd1), then you can program three additional features using the ACCESS MODES menu:

Card+PIN access

This means that as well as entering a valid card, you must type in a four-digit number to be granted access. This number can be one that was programmed into memory when the card was first validated. Or it can be chosen by the cardholder the first time the card is used.

This provides a higher level of security than card-only access. Lost, stolen and 'borrowed' cards should be voided as soon as possible—but this is sometimes not soon enough.

There is a Duress Alarm feature. The alarm occurs if a card holder enters a PIN one higher than his own (e.g. 1235 instead of 1234). See ALARMS.

See Card+PIN and VALIDATE CARD for more information.

PIN-ONLY access

This means that no card is required to gain access; only a number keyed in at the keypad. This number can be 4, 5, 6, 7 or 8 digits. See PIN-ONLY ACCESS for more information.

There is a Duress Alarm feature. The alarm occurs if a PIN is entered that is one higher than one of the PIN-ONLY numbers in memory (e.g. 1235 instead of 1234). See ALARMS.

Language

Application

This option allows you to select which language is used for the on-screen prompts on the Kd1. The same language will also be used for messages to the printer.

Restrictions

You can select any one of the available languages at any time. This will have no effect on anything else in the system.

Route: MAIN MENU
ACU FUNCTIONS
LANGUAGE
(select required language and press E)

Lock time

Application

You can set the maximum time that a lock strike relay will be energised for a valid access event (Card entry, Card+PIN entry, PIN-only entry, Egress button pressed). If a door sensor is fitted, the lock strike relay is de-energised if the door opens before this time has expired. You can program the lock strike relay to automatically operate at certain times of day, in order to allow free access. This is covered in the Relays section.

Restrictions

The lock time can be set in the range 01–99 seconds. You can set each door controlled by the ACU to have the same time, or different times, as you wish. You cannot set a lock time of 0 seconds—if you want to bar all access through a door then use the CONTROL function in the RELAYS menu to latch the lock strike relay off (Relay 1 for door 1, Relay 2 for door 2 etc.). Note that the "Hold-on time" option in the Relays menu allows you to select lock strike relays - in this way you can set times greater than 99 seconds (although the Lock Strike Time display would then show 1 second as it cannot display times greater than 99 seconds).

Default

4 seconds.

How to change the lock time

Route: MAIN MENU
DOOR FUNCTIONS
(select [S2] or enter [S4] door numbers if prompted)
LOCK TIME
(use up/down arrows to change displayed setting, then press E)

Related topics

RELAYS, DOOR SENSOR, EGRESS

Mantrap

Route: MAIN MENU
ACU FUNCTIONS
MAN-TRAP
(select ON or OFF, press E)

Application

The MAN-TRAP function is normally used in those applications where a person enters an anteroom, or holding area, before proceeding into the main part of the building. In these applications it is normal to stipulate that the inner door cannot be opened unless the outer door is closed. This may be for security reasons, or it may be for environmental control.

Restrictions

MAN-TRAP is only applicable where one ACU controls two or more doors. You would normally set up the mantrap option during installation, and never need to change it. A System2 can only control one man-trap; a System4 may control one man-trap or two separate man traps.

If mantrap is on

In System2, access through Door 1 will only be allowed if Door 2 is shut. Similarly, access through Door 2 will only be allowed if Door 1 is shut.

In System4, you can have one or two man-trap "groups"; access through a door will only be granted if all other doors with the same direction in the same group are closed.

Of course, all other access criteria have to be satisfied as well. There is a set order in which the ACU checks a card to decide whether to allow access. This order is described in Appendix 4: Access criteria.

If access is denied solely due to the mantrap function, the message displayed on Kd1 and the message sent to the printer will identify this fact. See Appendix 2: Kd1 messages and Appendix 3: Printer messages. This message can be disabled: see MESSAGES.

If you program a relay to come on for BAD ID (i.e. access denied) then it will also come on if access is denied due to the mantrap function. See RELAY PROGRAMMING.

If mantrap is off (Default)

Then access through any door does not depend on any other door being shut.

Programming a man-trap in System2

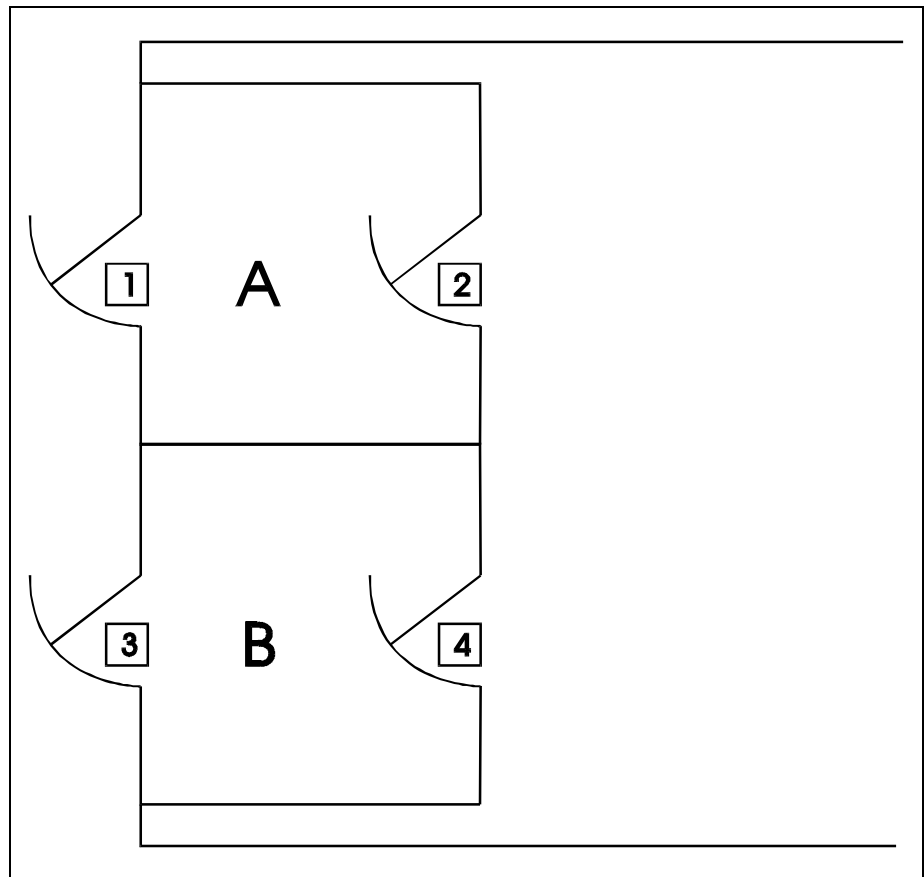
This is simply matter of turning the feature on (in ACU functions)

Programming man-traps in System4

As with anti pass-back, the options for man trap become more complex when up to four doors may be involved. However, programming is extremely simple.

- First, you must identify each door as belonging to a man-trap "group".
- Then you must identify it as an inner or an outer door in that group.

Consider the following example:

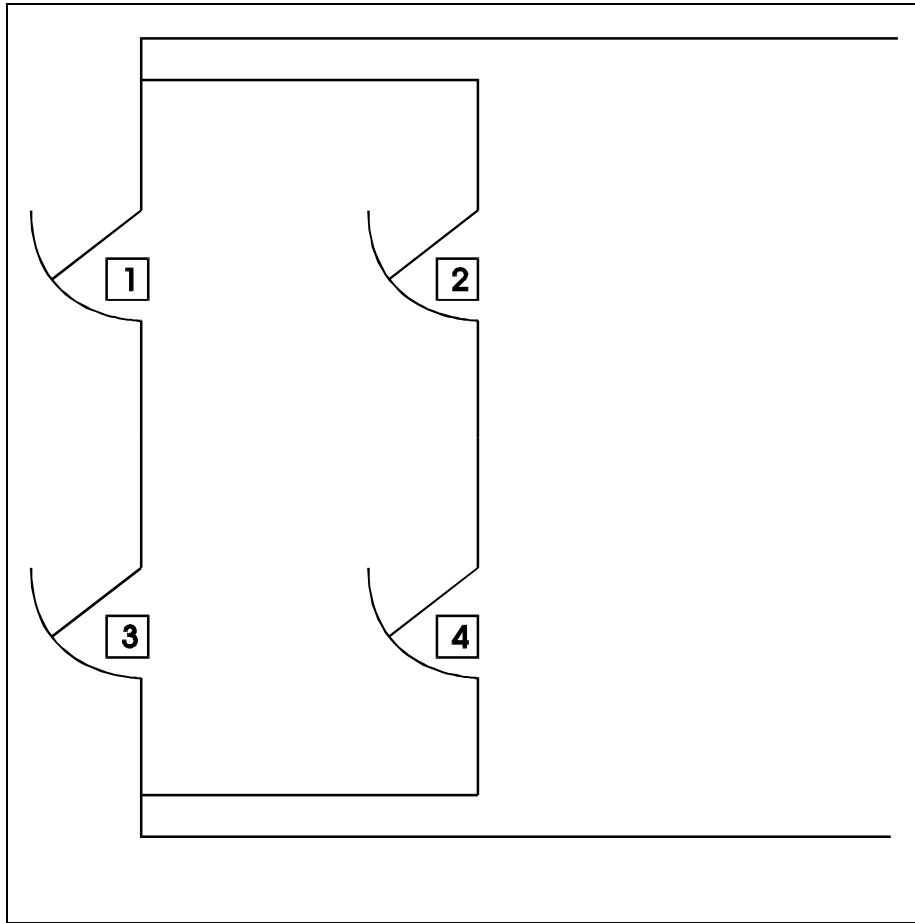


The above example shows one building with two entrances, each entrance requiring man-trap.

- Door 1 gets you into foyer "A", and Door 2 gets you inside the building.
- Door 3 gets you into foyer "B", and Door 4 gets you inside the building.

So Doors 1 and 2 are in one man-trap group, Doors 3 and 4 are in another. Doors 1 and 3 are outer doors, doors 2 and 4 are inner doors. In this example, it doesn't matter if you swap the inner and outer doors when programming - the terms "inner" and "outer" are simply used to identify that the doors have different functions.

Consider the following example:



In this example, Doors 1 & 3 allow you into a single foyer and Doors 2 & 4 allow you into the building. By identifying, during programming, that Doors 1 & 3 are "outer" and Doors 2 and 4 are "inner", and that all doors are in the same group, then access will not be allowed through either inner door if either outer door is open. Once again, you could swap the use of "inner" and "outer" during programming - so long as Doors 1 & 3 are the same as each other and Doors 2 & 4 are the same as each other AND different from Doors 1 & 3.

General notes regarding man-trap

- There is no man-trap enable/disable option. Man-trap is automatically enabled if two doors have the same group but different directions.
- If you want to use man-trap, you must make sure that the doors which are not involved are of a different group from any other door - even other doors which are not involved. For example, if Doors 1 and 2 are used for a man-trap then Door 3 and Door 4 must be in two different groups - e.g.:
 - Doors 1 and 2 in group 1
 - Door 3 in group 2
 - Door 4 in group 3

Memory partition

There are three memory partitions which you can choose the size of:

- Cards
- Events
- TCLs

In addition, you can choose if names with cards are required, and if so how many digits which will be allowed for each name. You can also choose whether to use "Expiry by date" - See Appendix 7.

The menu looks like this:

ACU functions	Memory partition	Names with cards	Without names	Length
			With names	
		Expiry type	Normal expiry	
			Expiry by date	
		No. of TCLs		
		No. of events		
		No. of cards		

Whenever you access one of the three partitions, you are shown the current value. You can either increase or decrease this number by typing in a new number or using the up/down arrows. To see the maximum possible, over-type the displayed number with zeros, then press the down arrow. When you change one memory partition, you automatically affect others:

TCLs

If you increase the number of TCLs, first the event partition automatically decreases. When there is only one event left, if you increase the number of TCLs then the cards partition automatically decreases.

If you decrease the number of TCLs, the event partition automatically increases.

In both cases, all TCLs, events and cards are erased from memory. Even if you do not change the displayed number, pressing "E" will cause the contents of all three memory partitions to be erased. Press "Q" if you only wanted to see the figure and did not want to change it.

Events

If you increase the number of events the cards partition automatically decreases. If you want more events than this allows, you must decrease the number of TCLs.

If you decrease the number of events, the cards partition automatically increases.

In both cases, all events and cards are erased from memory. Even if you do not change the displayed number, pressing "E" will cause the contents of both memory partitions to be erased. Press "Q" if you only wanted to see the figure and do not want to change it.

Cards

If you increase the number of cards the events partition automatically decreases. If you want more cards than this allows, you must decrease the number of TCLs.

If you decrease the number of cards the events partition automatically increases.

In both cases, all events and cards are erased from memory. Even if you do not change the displayed number, pressing "E" will cause both the contents of memory partitions to be erased. Press "Q" if you only wanted to see the figure and did not want to change it.

How to change the partition sizes

Note that there is no need to change any of the partition sizes unless you need more items in one or two of the partitions than the default state allows. The best way to use this feature is as follows:

First decide how many TCLs you require (this will involve careful planning of your requirements on paper!) and add a percentage to allow for changes later. Type in your required number - if this is more than the maximum permitted the display will change to show the maximum. If you require more TCLs than the maximum possible, you will have to fit more RAM.

Second, decide whether you want to use names with cards; this will usually only be required if you have System2 connected directly to a printer. If you want names, decide how many characters you require for each name. Note that if you choose, say, 12 characters then 12 characters will be reserved in memory for each card, no matter how many characters you actually use.

Next, decide how many cards you will require; this will usually be the current number of card-holders, plus a percentage to allow for growth. Type in the required number - if this is more than the maximum permitted then the display will change to show the maximum. If you require more cards than the maximum possible, you will have to reduce the number of digits in names, or turn off the names requirement, or fit more RAM.

Once you have entered the card and TCL requirements, go to the Event option and see how many events are available. It is difficult to recommend or calculate a "correct" number here - if you have a slow printer, or if you only connect Ultragard occasionally, you will need a larger number here than otherwise.

Card numbers - maxima and defaults

System2: Normal expiry

	Default	Maximum Standalone	Maximum UGS-8
TCL's	496	496	496
Events	1000	1	100
IDs	10666	11465	11386

System2: Expiry by date

	Default	Maximum Standalone	Maximum UGS-8
TCL's	496	496	496
Events	1000	1	100
IDs	7110	7643	7590

System4: Normal expiry

	Default	Maximum Standalone	Maximum UGS-8
TCL's	496	496	496
Events	1000	1	100
IDs	8204	8819	8758

System4: Expiry by date

	Default	Maximum Standalone	Maximum UGS-8
TCL's	496	496	496
Events	1000	1	100
IDs	6271	6741	6694

Messages

Application

Messages are reports of events, which may appear on the Kd1, at a printer or at a PC. At the Kd1, messages often have to be coded due to the limited space - refer to Appendix 2 for full details.

You may not be interested in seeing every event that occurs, so the Messages menu allows you to turn off unwanted messages. Every message has its own on and off control, and different selections can be made for each door or reader.

How to turn messages on and off

First, select the category:

- Access messages
- Alarm messages
- Input messages
- Relay messages
- Access mode messages
- System messages

Then select (or enter) which doors (if prompted):

Then select the message:

Access messages

- Access granted
- ID not known
- ID not in door
- ID expired
- Wrong time zone
- Wrong anti pass-back
- No PIN
- Wrong PIN
- 4th wrong PIN
- Mantrap enforced
- Lock latched off
- Control ID on
- Control ID off

Alarm messages

- All alarms
- Reader error
- Duress
- Door opened
- Door forced
- Door ajar (L)
- Door ajar (R)
- Egress on
- Egress off
- RB gone
- RB returned
- Reader gone
- Reader returned

Input messages

All inputs
Individual input

Relay messages

All relays
Individual relay

Access mode messages

PIN-only
Card+PIN

System messages

All messages
Clocks forward
Clocks back
IOB gone
IOB returned
ACU restarted

Then

For input and relay messages, you then select the relay number (if individual relay selected) then you select if you want the On message, the Off message or Both. Then you select enabled or disabled.

For access, alarm, facility and system messages, once you have selected the message you simply select enabled or disabled.

Note

For those message categories which have an "all messages" option (alarms, inputs, relays, system messages) you must have all messages enabled for the individual message selections to apply. If you select disabled then all messages will be disabled whatever the individual selection.

Glossary

Access granted

This refers to any valid access event where access was granted: Card only, Card+PIN or PIN-only. If you turn off this message then you will not see the number, nor the name if names are in use. You will not even see the FACT that a valid access event occurred. But you WILL see the door open/closed messages unless you turn them off.

ID not known

The Card or PIN-only is not in memory in the ACU.

ID not in door

The card or PIN-only is in memory, but is not valid in this door.

ID expired

The card or PIN-only has expired - this can be because either it was programmed to expire, or because too many wrong PINs were entered.

Wrong time zone

The time group for the card or PIN-only is currently "barred".

Wrong anti pass-back

The card or PIN-only is already "in" or "out" (true anti pass-back) has been used too recently (timed anti pass-back).

No PIN

The Card+PIN feature is currently on, but the card in question was entered without a PIN (or an incomplete PIN).

Wrong PIN

The Card+PIN feature is currently on, and the card in question was entered with an incorrect PIN (a duress PIN does not cause a Wrong PIN message).

4th Wrong PIN

The Card+PIN feature is currently on, and the card in question was entered four times with an incorrect PIN (a duress PIN does not cause a Wrong PIN message). The card is now expired and must be re- validated.

Mantrap enforced

Man-trap is currently on, and the card in question was used at one door while the other door was still open.

Lock latched off

The lock strike relay has been latched off (using the control option in the Relays menu).

Control ID on and off

A control card or control PIN-only has been used, which has turned something on or off.

Reader error

The card could not be read, probably due to it being entered incorrectly.

Duress

The duress event occurs when someone uses a PIN one digit greater than the correct PIN—whether as part of a Card+PIN entry, or a PIN-only entry.

Door opened

It is not usually vital to know that the door has opened and closed as part of a valid access event. This function disables both those messages.

Door forced

In some installations, people may exit by turning a handle to open the door. This creates a 'door forced' message. The proper way round this is to install a 'free egress' button. Alternatively, you can disable the door forced message (this automatically includes the 'closed-after-forced' message).

Door ajar (L) and (R)

Turn off either or both of these messages if you don't need to know that these events have occurred. This automatically includes the 'closed-after-ajar' message.

Egress on and Egress off

If an egress button is installed, then when the button is pressed a message is created. Another message is created when the button is released. This might seem unnecessary, having two messages, but sometimes the egress button is replaced by a switch to allow free access for longer periods of time. It is then very useful to know when the switch is turned off as well as on.

RB gone, RB returned

This refers to the circuit board in the ACU which has all the connectors on it. In normal use, these messages will not appear. If you get either of these messages (other than when the unit is first brought into service), an engineer should be called to check the installation.

Reader gone, Reader returned

The only reason for getting the first of these messages is due to a break in one of the wires connecting the reader to the ACU.

Input on and Input off

The specified input has been connected to 0V (i.e. on) or has gone open-circuit (i.e. off).

Relay on and Relay off

The specified relay has turned on or off as a result of a time control line (TCL). Any other reason for a relay turning on or off generates its own message, not a relay message.

PIN-only, Card+PIN

The specified access mode has turned on as a result of a time control line (TCL). Any other reason for an access mode turning on or off generates its own message, not a relay message.

Clocks forward and Clocks back

The time has either increased by one hour or decreased by one hour, as a result of the date programmed using the Clock menu.

IOB gone and IOB returned

These messages are most unlikely to occur in normal use. If an input/output board is fitted, then disconnecting and reconnecting will cause these messages.

ACU restarted

If the power to the ACU is disconnected, or fails, then this message is generated when the power is restored. This message is also generated after certain types of RESET, and when you quit from DIAGNOSTICS.

Reader fault and Reader fixed

These messages cannot be turned off, but the event is most unlikely to occur in practice. The most likely cause is disconnection and reconnection of an infra-red reader.

Password

This makes it possible to be able to restrict access to each programming feature.

You can choose whether you want a single password or multi-user passwords. Multi-user allows up to 10 users to be defined. Each user can choose their own password, but the supervisor decides which users can access which main menu items. The default is a single password which is "1234"

To the **supervisor**, the menu looks like this:

Password	Change password (i.e. supervisor's password)				
	Multi-user mode	On			
		Off			
	Modify user	Which user	Change password		
			Permissions	(menu item)	Yes
				No	

To a **user**, the menu contains only one item, "password", which allows the user to change his own password.

To enable multi-user mode

Route: Main menu
 Password
 Multi-user mode
 (select "on" or "off" as required)

(Note: once multi-user mode is enabled, access to the main menu is changed - see later in this section)

To define users:

(Note: user chooses own password on first access attempt)

Route: Main menu
 Password
 Modify user
 (select which user)
 (select "permissions")
 (select each main menu item using up/down arrows)
 (change permission to "Y" or "N" as required using left/right arrows)
 (press "E" when finished)

How the supervisor can change a user's password:

Route: Main menu
Password
Modify user
(select which user)
(select "change password")
(enter new password)
(enter password again to verify)

How a user can change his own password

Route: Main menu
Password
(enter new password; press "E")
(enter password again to verify; press "E")

To change the supervisor's password:

Route: Main menu
Password
(select "change password")
(enter new password)
(enter password again to verify)

When multi-user mode is enabled

To gain access to Kd1 programming functions start by pressing any key: the display now asks you for your user ID. Enter 0 if you are the supervisor. If you are not the supervisor, enter your number (1-10). Then enter your password; if this is your first time and the supervisor has not defined a password for you then enter any number (1-8 digits) and press E - this is your password from now on. Note that the supervisor must have defined a user number for that number to be accepted.

From this point, if you are not the supervisor you will only be allowed access to pre-determined main menu items.

If you enter the wrong password

Anyone wanting to program the controller must first key-in the correct password (see PROGRAMMING in the first part of this manual). If you enter the wrong password then you will get the message INCORRECT PIN. You get four chances to get it right after which the message KD1 DISABLED will appear. You are then 'locked out' for 10 minutes.

What to do if you forget the password

There is no secret "master" password. This is your guarantee of security. But if you forget the password then the **only** way to start using the controller is to disconnect all power and switch off the memory battery for at least 20 seconds. All data will be lost and all programmable functions will be returned to their default settings.

The password will now be 1234. You will have to re-program everything in the controller, including card numbers.

PIN-only access

Application

The PIN-only feature allows access without the use of a card, simply by keying in a number at the keypad. You can choose how many digits are required for every PIN-only; 4, 5, 6, 7 or 8. There are four different ways of turning this mode of access on and off:

- you can turn it on so that it stays on until you turn it off
- you can turn it on and off using an input
- you can have it turn on and off automatically at certain times
- you can turn it on by using a special card at the reader

Everything to do with PIN-only access is in the Access Modes menu, in which there are four options:

Control

This allows you to turn PIN-only access on and off. The "programmed/on" and "programmed/off" options provide a means of turning the access mode on or off temporarily, until the next TCL or control card.

Program

This allows you to program time control lines (TCLs) which will cause PIN-only access to turn on and off automatically according to time-of-day and day-of-week. You can also program an input which can then be used to turn it on and off.

Holidays

If you are using TCLs or an input to turn this mode off access on and off, then the Holidays feature allows you to program whether this mode of access will be active on holidays or not.

Control card

This allows you to validate a card (or PIN-only) which, when used at a reader, will cause this access mode to turn on and off. This works as if you had used the Control option; the first time you use the card it is like selecting "on"; the second time it is like selecting "programmed". For a Control PIN to work, PIN-only must be on; therefore you could never use a control PIN to turn PIN-only on, only off.

How to change the number of digits

To reduce the risk of people trying to guess PIN-only numbers, we recommend that you increase the number of digits according to the number of valid PIN-only numbers. The following table contains suggested combinations, which result in probability of less than one in 250 that a person will make a correct guess in four attempts (you can program a relay to come on after four wrong attempts):

10 people: 4 digits

100 people: 5 digits

1000 people: 6 digits

10,000 people: 7 digits

If you want to lessen the probability, then use more digits than the table suggests.

Route: Main menu
ACU functions
PIN-only digits
(select required number of digits)

If you change the number of digits in PIN-only numbers, then existing PIN-only numbers are not erased, but most of them will become unusable. We strongly recommend that you perform an "Erase ID store" reset to clear out the memory (this will erase cards as well, and is therefore something you would only want to do during installation, before cards have been validated).

How to gain access using a PIN-only number

Once you have turned on the PIN-ONLY function, then the user-keypad is active. If you press any number key, this is taken as the first digit of a PIN-only entry and the flashing rate of the indicator light on the reader next to the keypad changes . You have 10 seconds to complete the entry.

If the digits you enter don't exactly match any of the PIN-ONLY numbers in memory (or if you don't complete the entry in time) then you are given another three goes to get it right. If you still don't get it right, then this is treated as an ALARM. There is a message to the printer (unless you have turned the message off). You can also program a relay to energise for such an alarm.

If the PIN you enter is one higher in value than one of the numbers in memory (for example, you enter 1235, when 1234 is in memory) then this causes a DURESS alarm. The lock release relay will still be energised.

If you realise you have made a mistake part-way through a PIN-ONLY entry, then press the A or B key and start again (this is **not** counted as a wrong PIN).

Of course, all other access criteria have to be satisfied as well. There is a set order in which the ACU checks a PIN-ONLY to decide whether to allow access. This order is described in Appendix 4: Access criteria.

For obvious security reasons, the PIN-ONLY number never appears at the printer or on the Kd1 display as part of an event message.

How to disallow PIN-only access

Route: MAIN MENU
ACCESS MODES
(select [S2] or enter [S4] door numbers if prompted)
PIN-ONLY
(select OFF, press E)

This disallows access for all PIN-ONLY numbers in memory, but does not erase the numbers. When you next turn on the function, then those same PINs will now be allowed.

If you want to disallow access for only one PIN-ONLY number, then use the VOID option.

Related topics

ALARMS, MESSAGES, RELAYS, VALIDATE, VOID

Printer

To find out how to set up the controller to suit your printer, see COMMUNICATIONS.

To find out what the messages on the printer mean, see Appendix 3.

To find out how to stop certain messages being printed, see MESSAGES.

To find out how to add a printer to your system, see the Installer Manual.

To find out how to ask for a printout of the information held in the ACU, see PRINTOUTS.

Printouts

Application

If you have a printer connected, you can ask the controller to report on each of the programming functions with their current settings.

This is entirely separate from the normal event reporting which is going on all the time. But obviously, when you want to get a report of the programmed settings, event reporting is suspended during printing of the report.

How to request a printout

Check that the printer is on, and ready, before selecting which printout you require. The Mode option in the Communications Menu must be set to Immediate or you will get the message "Wrong Mode")

Route: MAIN MENU
PRINTOUTS
(select which option required, press E)

Options: ACU FUNCTIONS
DOOR FUNCTIONS
ID STORE
ACCESS MODES
RELAYS
TIME ZONES
MESSAGES
SYSTEM

Glossary

ACU FUNCTIONS

All settings made using switches, the ACU FUNCTIONS menu and the CLOCK menu. Also, whether an Input/Output Board (IOB) is fitted.

DOOR

All settings made using the DOOR FUNCTIONS menu

ID STORE

All card and PIN-only numbers in memory, with their time zones, expiry codes and names (if appropriate). PINs associated with cards are not included. You can see the PIN for a card by using the EDIT function.

ACCESS MODES

All settings made using the ACCESS MODES menu

RELAYS

All settings made using the RELAYS menu.

TIME ZONES

All time control lines (TCLs), time groups and holidays—i.e. everything set using the TIME ZONES menu.

MESSAGES

All settings made using the MESSAGES menu—which messages will and will not be sent.

SYSTEM

The information contained in this printout is only of use to a service engineer or similarly qualified person—but you can't do any harm by requesting it!

Quit

Application

When you have finished programming the controller, you should use the QUIT function. That way only someone who knows the password could come along and start reprogramming or tampering. If you forget to use the QUIT function, the controller will automatically quit after 10 minutes if no key has been pressed.

Route: MAIN MENU
(select QUIT, press E)

RAM diagnostics

Application

This performs a non-destructive RAM test (i.e. no information is lost or changed in any way) and reports OK, or NOT OK with the number of the faulty chip.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select RAM, press E)
(observe display)
(press Q to quit)

Reader diagnostics

Application

This function allows you to test some types of card reader that can be connected to the controller. Also, if any user keypads are installed then you can test those with this function.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
READER
(enter card or PIN—see below)
(press any key when finished)

Interpretation

After you have entered a card or PIN, the display will look something like this:

CAL = 128
2M 00123456

The top-line display (CAL = 128 in the example above) is only applicable to infra-red readers. The information is only of use to a service engineer.

The bottom line identifies the reader or door number (2 in the example), the reader type (M = infra-red) and the card number.

Reader type

Application

This allows you to select the reader type that is to be used with the controller. This option does not appear in System4 analogue, which can only use Infra-red readers.

Restrictions

This programming operation should have been carried during installation, after which there should never be any need to change it. If you have more than one reader connected then all readers will be of the same type—this programming function affect all readers.

Note that if you do change the reader type selection, the change does not take effect until you QUIT from the main menu.

Route: Main menu
ACU functions
Reader type
(select reader from list, press "E")

Options: Infra Red
Proximity
TDSi Wiegand
26-bit Wiegand
Mag stripe swipe
Mag stripe insert

Proximity

This allows either Indala Proximity readers or Cotag hands-free readers to be used. Note that the readers and cards must be supplied by TDSi

Mag-stripe

The mag-stripe swipe option automatically permits bi-directional reading. If this is selected, but an insert reader is used, the card will be read twice - once going in and again coming out! System2 reads the last 8 digits preceding the first non-numeric character on the card (Track 2 format). In the case of bank cards this is usually the last 8 digits of the account number. But you may need to use the card and see what number appears on the Kd1.

26-bit Wiegand

This feature is provided so that sites already fitted with a Wiegand access control system can swap out the controlling electronics, but retain cards, readers, lock strikes, door sensors, egress buttons etc. The new feature will only work with 26-bit Wiegand cards - otherwise you must use the 40-bit Wiegand cards supplied by TDSi.

There is no consensus on interpretation of the bit-pattern of a Wiegand card: different manufacturers of access control equipment do it different ways.

System2 will work with any 26-bit card, but will interpret the bit-pattern in a way which will almost certainly result in a card number which differs from the one (if any) printed on the card. It will be necessary to create your own "look-up" table by using cards at the readers and noting both the number on the card, and the number which appears on the Kd1, PC or printer.

TDSi Wiegand

Wiegand cards supplied by TDSi contain a 40-bit code. The first 8 bits are unique - world-wide - to TDSi. TDSi guarantees never to duplicate one of its Wiegand card numbers.

Default

INFRA-RED

Relays

Application

There are four relays fitted as standard to an ACU:

- RELAY 1 is the lock release relay for Door 1
- RELAY 2 is the lock release relay for Door 2 (or is spare in a one door installation)
- RELAY 3 is the lock release relay for Door 3 (or is spare in a one or two door installation)
- RELAY 4 is the lock release relay for Door 4 (or is spare in a one, two or three door installation)

You can see from the above that you may have one, two or three spare relays. You can add another 8 spare relays by fitting an input/output board (this also adds 8 inputs).

Each relay provides a single change-over contact. This means that when a relay is ON (energised), contacts may be open or closed—this depends on the connections made during installation.

There are two options in the RELAYS menu: PROGRAM and CONTROL.

You can program a relay to turn on for **one** of three reasons:

- input following (not lock strike relays)
- alarm indication (not lock-strike relays)
- time-of-day

Also, you can over-ride the programming in one of two ways:

- using the "control" feature from the Kd1
- using a "control card" at a reader

Everything to do with Relays is in the Relays menu, in which there are five options:

Control

There are five options in this menu:

On

The relay will stay on until you cancel this instruction

Off

The relay will stay off until you cancel this instruction

Programmed

The relay will turn on and off according to what you have programmed it to do. It may turn on or off immediately you execute this instruction, if its programming calls for it.

Programmed/On

This will turn the relay on immediately, and it will turn off the next time it is supposed to (i.e. an OFF TCL, the end of an alarm, or the opening of an input). This is most useful when the relay is programmed to turn on and off at certain times of day - it allows you to turn it on early while allowing it to turn off at its normal time.

Programmed/Off

This will turn the relay off immediately, and it will turn on the next time it is supposed to (i.e. an ON TCL, the start of an alarm, or the closing of an input). This is most useful when the relay is programmed to turn on and off at certain times of day - it allows you to turn it off early while allowing it to turn on at its normal time.

Program

This allows you to choose one of three reasons for the relay to turn on. You can program time control lines (TCLs) which will cause a relay to turn on and off automatically according to time-of-day and day-of-week. Or you can choose an input which can then be used to turn it on and off. Or you can choose one alarm event. If the chosen relay is a lock strike relay, then only the 'timed' method of operation is available. See 'How to program a relay' below.

Holidays

The Holidays feature allows you to program whether the chosen relay will be "ON" on holidays or not.

Hold-on time

This allows you to program an additional time period for the relay to be on after the event which triggered it has ended.

Control card

This allows you to validate a card (or PIN-only) which, when used at a reader, will cause the chosen relay turn on and off (this over-rides holidays). This works as if you had used the Control option; the first time you use the card it is like selecting "on"; the second time it is like selecting "programmed". For a Control PIN to work, PIN-only must be on.

How to program a relay

Route: MAIN MENU
 RELAYS
 PROGRAM
 (select relay number)
 (select one item from the following list, press E)
 (select [S2] or enter [S4] door numbers if prompted)
 (if you select TIMED, refer to TIMED RELAY OPERATION below)

NOT USED	see GLOSSARY
ALARM SHUNT	below
DOOR AJAR (L)	see ALARMS for explanation
DOOR AJAR (R)	
DOOR FORCED	
DOOR DURESS	
DOOR BAD ID	
DOOR BAD PIN	
READER GONE	
INPUT 1	Inputs 8–12 included when input/output board (IOB) option is fitted
INPUT 2	
INPUT 3	
INPUT 4	
TIMED	see GLOSSARY below

Glossary

NOT USED

This means that the relay will not be energised for any reason (unless you use the CONTROL function to turn it ON).

ALARM SHUNT

This function is provided so that a person who is allowed through a door can get through the door without setting off the intruder alarm system. The relay must be connected across the alarm contacts so that as far as the intruder alarm is concerned the door appears to stay shut.

The relay will turn on at the same time as the lock strike. If the door does not open, the relay will turn off when the lock strike time ends. If the door does open, then it will turn off when the door closes, no matter how much later that occurs, unless you have re-programmed the Alarm Shunt Off event - refer to the section headed Alarm Shunt.

TIMED

You can set a time, day-of-week codes, and whether the relay is to come ON or go OFF. This is explained in more detail in TIMED RELAY OPERATION further on in this section.

Defaults

In System4, there is no default function for any spare relay.

In System2, after a SYSTEM RESET, spare relays have certain default programming, as follows:

Relay No	1 door controller	2 door controller
1	LOCK STRIKE	LOCK STRIKE DOOR 1
2	DOOR AJAR (L)	LOCK STRIKE DOOR 2
3	DOOR AJAR (R)	DOOR 1 AJAR (L)
4	ALARM SHUNT	DOOR 2 AJAR (L)
5-12	UNUSED	UNUSED

How to cancel a relay's programming

Note that if a relay is programmed to be TIMED, and you change it to UNUSED, the all Time Control Lines (TCLs) for that relay are erased. If you only want to temporarily suspend operation of a timed relay, use the CONTROL function. This is described later in this section.

Route: MAIN MENU
RELAYS
(select relay number)
PROGRAM
(select UNUSED, press E)

How to tell what a relay is programmed for

If you have a printer connected to the ACU, the easiest way to tell what a relay is programmed for is to request a printout. Alternatively, follow the steps below:

Route: MAIN MENU
RELAYS
(select relay number)
PROGRAM
(current programming appears on display—
if display shows 'TIMED' then press 'E' and use
up/down arrows to scroll through the TCLs)

Timed relays

This function is used to instruct a relay to turn ON or OFF at certain times of day.

A single programming instruction is called a TIME CONTROL LINE (TCL). It comprises three things:

- Time-of-day
- Day(s)-of-week
- Action (i. e. ON or OFF)

There is no limit to the number of TCLs you can program for each relay, subject to the total number of TCLs permitted in the ACU as programmed using the Memory Option feature.

IMPORTANT

A single TCL will only instruct the relay to turn on OR turn off. You will usually program TCLs in PAIRS—one to turn the relay on, and one to turn it off. Alternatively, if you want the relay to be on for less than 1 hour 49 minutes then you can use the "hold-on time" feature, in which case you only need an "ON" TCL.

CLOCKS FORWARD/BACK

You need to be aware of what happens to timed relay operations when the clocks go forward and back for daylight saving. Refer to the CLOCK section in this manual.

1. Starting programming

Route: MAIN MENU
RELAYS
(select relay number)
PROGRAM
(select TIMED, press E)

2. Adding a new Time Control Line (TCL)

If the display now shows a time-of-day, then this is one of the existing TCLs for this relay. Use the down arrow until the display shows ADD NEW TIME, then press E. The display changes to:

ADD NEW TIME TIME > 00:00:00
--

Enter the time that you want the relay to come on or go off (24-hour format), then press E.

Enter the days of the week that the above time applies (e. g. enter 1234 for Monday, Tuesday, Wednesday and Thursday), then press E.

Now select whether the relay is to come ON or go OFF, then press E. The new TCL is now recorded. The display shows ADD NEW TIME again: press E to enter another TCL, or Q to quit.

Note that it is not always necessary to program TCLs in pairs. For example, you might want to switch something on at 9.00 am every day, and to turn it off at 5.00 p.m. every day except weekends when it must turn off at 12 noon. This can be programmed with three TCLs:

Time	Days	Status
0900	1234567	ON
1700	12345	OFF
1200	67	OFF

3. Changing or deleting a TCL

1. Starting programming

Route: MAIN MENU
RELAYS
PROGRAM
(select which relay, press E)

2. Select the TCL

The display now shows a time-of-day; this is the first Time Control Line (TCL) for this relay. You can now use the up/down/left/right arrow keys to move around the table of TCLs until the display is showing any part of the particular TCL you wish to change. Press E to signal that you have found the TCL and are ready to change it.

The display changes; for example:

EDIT TIME TIME > 10:00:00

This tells you that you may now change the time part of the TCL.

3. Change the data

Press E if you don't want to change the time. If you want to change the time, use the left and right arrows to move the cursor, then use the number keys to change the required digits. Press E when the required time is showing.

The display is now showing the day(s) of week for the TCL. If you want to cancel one of the days, position the cursor under that day and type 0: that day will be cancelled. For example, a TCL for every day of the week will show '1234567'; if you want to cancel the TCL for Wednesday only, change the display to show '1204567'. If you want to delete the TCL entirely, replace **every** day with a 0. If you want to add a day, add it at the end of the currently displayed days (the order is not important). Press E when the display finally shows the required days-of-week.

The display now shows the action. You can select a different action (use the up/down arrows), or press E to accept (if you cancelled every day, then it doesn't matter what the action is—just press E).

4. Ending programming

The display now shows either the time of another TCL, or ADD NEW TIME. If you want to add, change or delete more TCLs then use the up/down arrows to select the required TCL then proceed as described above.

If you have finished adding/changing/deleting, then press Q. You have now completed the programming operation.

Relay control

Application

This allows you to over-ride a relay's programming; i.e. to turn it on or off. There are two ways you can do this:

- from the Kd1 keypad
- by using a special control card (or PIN-only) at a reader

How to control a relay from the keypad

Route: MAIN MENU
RELAYS
CONTROL
(select relay number)
(select required state - see below)

Options: Programmed
On
Off
Programmed/On
Programmed/Off

Glossary

Programmed

This means that the relay will do what it is programmed to do: (see RELAY PROGRAMMING).

On

This means that the relay will come on (if it wasn't already on). It will then stay on until you turn it to OFF or PROGRAMMED.

When you return it to PROGRAMMED:

- if the relay is programmed to be TIMED it will stay on, and will go off when the next OFF TCL occurs
- if the relay is programmed to follow an input, or to indicate an alarm event, the relay will be on or off according to the current state of the alarm or input.

Off

This means that the relay will go off (if it wasn't already off). It will then stay off until you turn it to ON or PROGRAMMED.

When you return it to PROGRAMMED:

- if the relay is programmed to be TIMED it will stay off, and will come on when the next ON TCL occurs
- if the relay is programmed to follow an input, or to indicate an alarm event, the relay will be on or off according to the current state of the alarm or input.

Programmed/On

This will turn the chosen relay on immediately, and it will turn off the next time it is supposed to (i.e. an off TCL or the opening of an input or the end of the chosen alarm condition).

Programmed/Off

This will turn the chosen relay off immediately, and it will turn on the next time it is supposed to (i.e. an on TCL or the closing of an input or the start of the chosen alarm condition).

How to control a relay with a control card

First, you must validate a card for this purpose:

Route: MAIN MENU
RELAYS
CONTROL CARD
(select relay number)
(select which reader/door)
(select VALIDATE CARD or VALIDATE PIN)
(enter ID number)

Then, when you use the card (or PIN) the first time, it will turn the relay on, just as if you had gone into the CONTROL menu and selected ON. The next time you use it, it is as if you had gone into the CONTROL menu and selected PROGRAMMED - the relay may stay on, or it may turn off, according to its current programming (see "ON" in the glossary above). Each alternate use of the card or PIN performs the above sequence. For a Control PIN to work, PIN-only must be on.

Relay diagnostics

Application

The relay diagnostics function allows you to turn relays ON and OFF at will for testing purposes. When you enter this function, all relays will be turned off regardless of RELAY PROGRAMMING or RELAY CONTROL settings. When you exit diagnostics the relays will be returned to their correct state.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select RELAYS, press E)
(use left/right arrows to position cursor)
(use 1/0 keys to turn relay on/off)
(press Q when finished)

Interpretation of display

This causes a 12 character display of '0's, one for each relay. If you move the cursor to the relay you want to test and press '1' then that relay will come on, until you press '0'.

1	2	3	4	5	6	7	8	9	0	1	2
0	0	0	0	0	0	0	0	0	0	0	0

Reading left to right, the top line shows relay numbering. Relays 5–12 only appear on the screen if an Input/Output board (IOB) is fitted.

The four relays fitted to the main board are numbered 1–4; one or more of these will be in use as a lock release relay.

Resets

Application

These resets allow you to clear out all or part of the information held in System 2. In normal use you should not find it necessary to use any of these resets.

Route: MAIN MENU
RESETS
(select reset type required, press E)

Reset types

ERASE ID STORE
ERASE TRAIL
RESET PARAMETERS
WARM RESTART
SYSTEM RESET

ERASE ID STORE

This refers to all cards (and PIN-ONLY numbers) and all associated parameters such as PINs, names etc.

ERASE TRAIL

This refers to the trail record memory. This is the information on events which have occurred; this information is erased anyway once it has been sent so this reset clears un-transmitted information. For example, if the printer ran out of paper then the event messages would be held in memory until the situation was rectified. Then all the events would be sent to the printer - this could be quite a lot of information and you might decide that you don't want it. You would use this function to clear out the trail record.

RESET PARAMETERS

This refers to all the programmable functions of the ACU. For example, lock strike time, whether Card+PIN is in use, which messages have been turned off etc. etc. If you execute this reset then ALL parameters will be returned to their Default settings. Apart from the cards, PINs and trail record, the only area NOT affected by this reset is the clock/calendar.

WARM RESTART

This is something our programmers left in because they found it useful during testing—but you should never need it. You can't do any harm by executing this function, although access control functions will be suspended for a few seconds while the reset is executed.

SYSTEM RESET

This reset is the same as executing all four of the above resets, plus it also resets the clock and calendar.

ROM diagnostics

Application

This performs a checksum of the contents of the ROM and compares it with the factory-calculated checksum which is programmed into a special location in the ROM. The display then shows PASS or FAIL.

WARNING: all access control functions suspended during this operation

Route: MAIN MENU
DIAGNOSTICS
(select ROM, press E)
(observe display)
(press Q to quit)

Time zones

Application

Time Zones are used to restrict access through certain doors to certain people during certain periods. Different rules can apply on different days, and you can decide which people are allowed in on holidays. Some simple examples will make clear the usefulness of this function.

Example 1

In your firm, the everybody in the factory and the office generally starts work at 8 am (0800) and finishes at 5pm (1700), Monday to Friday. But you are happy to allow office workers access during weekends and holidays, while top management must be allowed access at all times. In this case employees fall into three groups:

Group 0—top management—by leaving their cards in Time Group 0 (the default) they will automatically be allowed access 24 hours a day, 7 days a week, every day of the year.

Group 1—office staff—you use time zone programming to program time group 1 to allow access from, say, 0730 to 1730 for seven days a week including holidays. In addition, you use holiday programming to set up the dates of this years holidays. You then allocate all the cards for the office staff to group 1.

Group 2—factory staff—you use time zone programming to program time group 2 to allow access from 0730 to 1730 for Monday to Friday, excluding holidays. You then allocate all the cards for the factory staff to group 2.

Example 2

You are programming a single ACU which controls two doors—the main entrance to your building (door 1), and the door into the canteen (door 2). Since the canteen is unsupervised except at meal times, you want to exclude non-canteen staff at all other times.

Group 1—all working hours—program this group for, say, 0730 to 1730. You then allocate cards for canteen staff in group 1 for door 1, and group 1 for door 2 (canteen staff can go through both doors at all times).

Group 2—meal times—program this group for, say, 1200 to 1400. You then allocate cards for non-canteen staff in group 1 for door 1, and group 2 for door 2 (non-canteen staff can go through the main entrance at all times, but into the canteen only at meal times).

Note that you can override the normal time zone programs. This is useful if, say, a group of people who would not normally work weekends are asked to come in to complete an urgent task. Rather than re-program every card in the group, you simply select that group to have FREE access. This is explained below in TIME ZONE CONTROL.

Zones and groups explained

It is necessary at this point to define the difference between time ZONES and time GROUPS:

TIME ZONE

This is a period during which access is allowed. You can create several time zones by programming two Time Control Lines (TCLs) . The first TCL is the start time (access is FREE from this time) and the second TCL is the end time (access is BARRED from this time). You include the days of week that the time zone applies (using the code Monday=1, Tuesday=2 and so on). For example, consider the following two TCLs:

```
0730 12345 FREE
1700 12345 BARRED
```

This means that on Monday, Tuesday, Wednesday, Thursday and Friday, access will be allowed (to people whose cards have been allocated to this time group) between 7.30 am and 5.00 p.m. So with two TCLs you have created five time zones.

You can program many TCLs. The only limitation is a combined maximum total of 500 time zone TCLs AND relay TCLs (the TCLs for time zones and relays share the same area of memory).

TIME GROUP

A time group is a group of zones covering an entire week. You can program up to 15 groups.

During card validation, you will allocate each person to a time group. People can be allocated to different time group in each reader.

How to use time zones

There are several points to be considered before time zones will work:

1. The time and date must be set correctly: see CLOCK
2. You must program the required zones: this is explained below in PROGRAMMING TIME ZONES
3. You must allocate cards to the required time groups: see VALIDATE (note that you must turn ON the time zones prompt in the WHICH PROMPTS menu).
4. The required time groups must be set to ACTIVE: this is explained below in CONTROLLING TIME ZONES

Programming options

Everything to do with Time Zones and Time Groups is in the Time Zones menu, in which there are five options:

Control

This is fully explained in the section headed "Time Zone control" later in this section. There are five options in this menu:

Free

All cards in the chosen Time Group will be allowed access until you cancel this instruction

Barred

All cards in the chosen Time Group will be denied access until you cancel this instruction

Active

The chosen Time Group will become Free or Barred according to what you have programmed it to do. It may turn Free or Barred immediately you execute this instruction, if its programming calls for it.

Active/free

This will turn the Time Group to Free immediately, and it will turn to Barred the next time it is supposed to (i.e. a Barred TCL or the opening of an input). This can be useful when you want a group of workers to start work earlier than normal.

Active/barred

This will turn the Time Group to Barred immediately, and it will turn to Free the next time it is supposed to (i.e. a FREE TCL or the closing of an input).

Program

This allows you to program time control lines (TCLs) which will cause Time Groups to become Free and Barred automatically according to time- of-day and day-of-week.

Holidays

The Holidays feature allows you to program whether the chosen Time Group will be "FREE" on holidays or not.

Control card

This allows you to validate a card (or PIN-only) which, when used at a reader, will cause the chosen Time Group to become Free. This works as if you had used the Control option; the first time you use the card it is like selecting "Free"; the second time it is like selecting "Active". This is fully explained in the section headed "Time Zone control" later in this section. For a Control PIN to work, PIN-only must be on.

Adding a new time zone

1. Starting programming

Route: MAIN MENU
 TIME ZONES
 PROGRAM
 (select which Time Group, press 'E')
 TIMED

If the display now shows a time-of-day, then this is one of the existing Time Control Lines (TCLs). Use the down arrow until the display shows ADD NEW TIME, then press E. The display changes to:

ADD NEW TIME
TIME > 00:00:00

2. Entering the start time

Enter the time that you want the zone to start (i.e. access will be allowed from this time), then press E. Note that you must use the 24-hour clock format.

Enter the days of the week that the above time applies (e. g. enter 1234 for Monday, Tuesday, Wednesday and Thursday), then press E.

Now select STATE > FREE, then press E. The new TCL is now recorded. The display shows NEW again: press E to enter the next TCL.

3. Entering the end time

Enter the time that you want the zone to end (i.e. access will be denied from this time), then press E.

Enter the days of the week that the above time applies then press E.

Now select STATE > BARRED, then press E. The new TCL is now recorded. The display shows NEW again: press E if you want to enter more TCLs. If you don't want to enter more TCLs then press Q—you will then be asked whether HOLIDAYS are to be included in this time GROUP.

HINT

Note that it is not always necessary to program TCLs in pairs. For example, you might want access to be allowed from 9.00 am every day, until 5.00 p.m. every day except weekends when the zone ends at 12 noon. This can be programmed with three TCLs:

```
0900 1234567FREE
1700 12345 BARRED
1200 67 BARRED
```

Changing or deleting a TCL

1. Starting programming

Route: MAIN MENU
 TIME ZONES
 PROGRAM
 (select which time group, press E)

2. Select the TCL

The display now shows a time-of-day; this is the first Time Control Line (TCL) for this time group. You can now use the up/down/left/right arrow keys to move around the table of TCLs until the display is showing any part of the particular TCL you wish to change. Press E to signal that you have found the TCL and are ready to change it.

The display changes; for example:

```
EDIT TIME
TIME > 10:00:00
```

This tells you that you may now change the time part of the TCL.

3. Change the data

Press E if you don't want to change the time. If you want to change the time, use the left and right arrows to move the cursor, then use the number keys to change the required digits. Press E when the required time is showing.

The display is now showing the day(s) of week for the TCL. If you want to cancel one of the days, position the cursor under that day and type 0: that day will be cancelled. For example, a TCL for every day of the week will show '1234567'; if you want to cancel the TCL for Wednesday only, change the display to show '1204567'. If you want to delete the TCL entirely, replace every day with a 0. If you want to add a day, add it at the end of the currently displayed days (the order is not important). Press E when the display finally shows the required days-of-week.

The display now shows the action. You can select a different action (use the up/down arrows), or press E to accept (if you cancelled every day, then it doesn't matter what the action is—just press E).

4. Ending programming

The display now shows either the time of another TCL, or ADD NEW TIME. If you want to add, change or delete more TCLs then use the up/down arrows to select the required TCL then proceed as described above.

When you have finished adding/changing/deleting press Q; you will then get the question about HOLIDAYS. If you don't want to change the current setting just press E, or use the up/down arrows to change it then press E. You have now completed the programming operation.

Time zone control

This allows you to over-ride a Time Group's programming; i.e. to turn it Free or Barred; permanently or temporarily. There are two ways you can do this:

- from the Kd1 keypad
- by using a special control card (or PIN-only) at a reader

How to control a Time Group from the keypad

Route: MAIN MENU
TIME ZONES
CONTROL
(select time group number)
(select required state - see below)

Options: Active
Free
Barred
Programmed/Free
Programmed/Barred

Glossary

Free

All cards in the chosen Time Group will be allowed access until you cancel this instruction

Barred

All cards in the chosen Time Group will be denied access until you cancel this instruction

Active

The chosen Time Group will become Free or Barred according to what you have programmed it to do. It may turn Free or Barred immediately you execute this instruction, if its programming calls for it.

Active/free

This will turn the Time Group to Free immediately, and it will turn to Barred the next time it is supposed to (i.e. a Barred TCL or the opening of an input). This can be useful when you want a group of workers to start work earlier than normal.

Active/barred

This will turn the Time Group to Barred immediately, and it will turn to Free the next time it is supposed to (i.e. a FREE TCL or the closing of an input).

How to control a time group with a control card

First, you must validate a card for this purpose:

Route: MAIN MENU
TIME ZONES
CONTROL CARD
(select time group number)
(select which reader/door)
(select VALIDATE CARD or VALIDATE PIN)
(enter ID number)

Then, when you use the card (or PIN) the first time, it will turn the Time Group to Free, just as if you had gone into the CONTROL menu and selected Free. The next time you use it, it is as if you had gone into the CONTROL menu and selected Active - the Time Group may stay Free, or it may become Barred, according to its current programming. Each alternate use of the card (or PIN) performs the above sequence. For a Control PIN to work, PIN-only must be on.

Time zone holidays

The Holidays feature allows you to specify whether the chosen Time Group allows Free access on all days, only holidays or not on holidays. Holidays are dates which you program in the Holidays option of the Clock menu.

How to specify holiday requirements

Route: MAIN MENU
TIME ZONES
HOLIDAYS
(Select time group number)
(Select All Days or Only Holidays or Not Holidays, press "E")

Validating cards and PIN-only numbers

Note: this section also relates to validating PIN-ONLY number, and to EDITING cards and PIN-ONLY numbers. EDITING means changing some of the information relating to a card number or PIN-ONLY number already in memory.

Throughout this section, any reference to “card” can be taken to include PIN-only numbers, unless otherwise stated.

Application

You must make a card valid in order for it to be allowed access. Note that there are two ways of validating a card:

- Validate card (single card)
- Block Validation (several cards)
(does not apply to PIN-only)

Both of these methods are explained in this section.

The maximum number of cards allowed in memory is determined by the Memory Option programming feature in the ACU functions menu.

How to validate a single card

Route: MAIN MENU
VALIDATE
(select [S2] or enter [S4] door numbers if prompted)
VALIDATE CARD
(enter card number, press E)
(the word NEW or EDIT appears on the top line as appropriate)
(enter data as prompted, press E)

Which items you are prompted for depends on two things:

VALIDATING: depends upon the WHICH PROMPTS? selection made in the ACU FUNCTIONS menu.

EDITING: WHICH PROMPTS? and WHICH DOOR? have no effect. All data is displayed for you to edit as you choose.

Card data explained

NUMBER

Card numbers are eight digits (see appendix 6 if you cards do not have an eight digit number printed on them). To save you time, the display shows the first five digits of the last card validated, followed by '***'. Use the left/right arrows to position the cursor, then use the number keys to change the display so that it shows the number you want. Then press E. After you have entered the number, the display will show NEW if it is a new number or EDIT if the card was already in memory.

PIN

If you leave this field blank then the cardholder can choose his own PIN the first time it is used (if Card+PIN is ON in DOOR FUNCTIONS menu). Alternatively you can program the PIN at this stage. Remember that a duress PIN is one value higher than a valid PIN. If 4567 is a valid PIN for a card, then 4568 will cause the duress alarm to be activated.

TIME GROUP

This is the Group of Time Zones which apply to this card. Each card can be in a different group for each reader (the time group doesn't apply to the door, it applies to the reader; in this way you control the direction through the door). Note that when you allocate someone to a time group, they will be barred unless a "free" TCL has been actioned.

EXPIRY

This number is the number of days the card is valid for. Use the up/down arrows to scroll through the options:

15	means it never expires
1-14	is the number of days for which this card is valid
0	means the card is expired

Each card can have a different expiry in each reader. (As the days tick away, if you access this function then you will see how many days remain).

NAME

When the Kd1 is expecting a name then the number keys on the keypad become letter keys: letters above the keys apply. Press a key once to display the number, press again to show the first letter above the key; press twice for the second and so on. When the desired letter appears on the display, press the right-arrow to move on to the next letter in the name.

For example, if you want to enter the name FRED:

- Above the '2' key you see the letters 'DEF'. Press the key once, the number 2 appears. Press it again and the letter D appears. Press it again, and the D is replaced by an E. Press it a third time and the E is replaced by the F that you want. Now press the right-arrow key. The cursor moves one step to the right, ready for the next letter.
- Above the '6' key are the letters 'PQR'. Press the key four times to get the 'R', then press the right-arrow key.
- Press '2' three times to get the 'E', then press the right-arrow key.
- Press '2' twice to get 'D', then press the right-arrow key.
- The name is now complete. Press 'E' to end.

How to validate a block of cards

This function allows you to validate a range of cards, all with the same time group(s) and expiry setting(s).

With the following exceptions, validating a block of cards is like validating a single card:

- You will be asked for two card numbers—the first and the last in the range to be validated.
- You will not be asked for a PIN. For security reasons it would be unwise give every card the same PIN
- For obvious reasons, you will not be asked for a name

IMPORTANT

This operation can take a short while to be processed. In normal use this will only be a few seconds—but if you are not careful it could take hours! The following guidelines will help you to avoid this:

- If you have two blocks to validate, then validate the LOWER of the two first.
- Do not exceed the available capacity of the ACU.

Route: MAIN MENU
VALIDATE
(select [S2] or enter [S4] door numbers if prompted)
BLOCK VALIDATE
(enter first card number, press E)
(enter last card number, press E)
(enter data as prompted)

Visitors cards

A visitors card is a card that is only valid for a short time (1–14 days).

How to create a visitors card

1. Make sure 'EXPIRY' is ON in the WHICH PROMPTS menu (see WHICH PROMPTS)
2. When validating the card, enter the number of days the card is valid for when the EXPIRY prompt appears on the display (see VALIDATE CARD).

The number of days can be in the range 1-14; if you enter 0 then the card is treated as already expired; if you enter 15 then the card never expires.

How to re-issue a visitors card

Use VALIDATE CARD to edit the EXPIRY field—change the expiry value from 0 to whatever you want.

Voiding cards and PIN-only numbers

Application

There are two ways of voiding cards: singly or in a block.

How to void a single card (or PIN-only)

Route: MAIN MENU
VOID
VOID CARD (or VOID PIN)
(select [S2] or enter [S4] door numbers if prompted)
(enter card number, press E)

If the card is valid in more than one reader then you will be asked WHICH READER? If you get the message ID NOT KNOWN then the card is not valid in any reader.

If you are not sure of the card number, use the EDIT function (part of the VALIDATE function) to check the name etc. before using the void function.

How to void a single card temporarily

If you want to make a card void for only a short while, there is a way to do this without having to re-enter all the data when you want to make the card valid again. Use the VALIDATE CARD function to edit the EXPIRY to 0.

How to void a block of cards

Route: MAIN MENU
VOID
BLOCK-VOID CARDS
(enter first number, press E)
(enter last number, press E)

This function allows you to void a range of cards, from a start number to an end number. Note that this function always voids cards in all readers.

How to void all cards

Use ERASE ID STORE in the RESETS menu (see RESETS).

Which prompts?

Route: MAIN MENU
ACU FUNCTIONS
WHICH PROMPTS
(select the prompt you want to turn on or off, press E)
(select ON or OFF, press E)

Default

All prompts OFF.

Application

When you are validating a card you will be asked to enter the door number (if appropriate) and the card number. You may also be asked to enter up to four other pieces of data: the WHICH PROMPTS? function allows you to decide (for three of these) in advance which data you will be prompted for. For example, if you decide at the outset that you are not going to use time zones, then you don't want to be asked for the time group each time you validate a card. The fourth piece of data, the name, will only be prompted for if Cards With Names has been enabled in the Memory Options menu.

This function is designed to save you time, by cutting out some of the programming steps when you are validating cards. You will normally make this selection only once, and then leave it unchanged.

Note that whether you are prompted for the data or not, this has nothing to do with the operation of the relevant function. For example, if you turn off the PIN WITH CARD prompt you will not be asked for a PIN when you are validating a card—but the cardholder will still be asked for a PIN after entering his card (providing Card+PIN has been selected from the DOOR FUNCTIONS menu).

PIN WITH CARD

If you are not using PINs with cards (i.e. card-only access) then leave this prompt turned OFF—that way you will never be asked for a PIN when validating a card.

If you want to use PINs with cards (i.e. Card+PIN access) then there are two ways to define what PIN must be used with each card: you can define the PIN each time you validate a card, in which case the prompt must be ON. Or you may prefer the cardholder to choose his own PIN, the first time the card is used, in which case the prompt should be OFF.

TIME GROUP

If you are not using Time Zones and Groups then leave this prompt turned OFF. Even if you are using Time Zones and Groups then there may be times when you want to validate several cards or PIN-ONLY numbers with no time restrictions. If you then turn this prompt off then you will not be asked for a Group number. The card or PIN-ONLY will default to group 0, which is the 24-hour, 7-days a week access group.

EXPIRY

The Expiry function allows you to create visitors cards. During card and PIN-ONLY validation, you can specify that the card or PIN is only valid for a limited period: 1-14 days. Most cards in your system will not use this function; leave the prompt turned OFF. The card or PIN-ONLY will default to unlimited use (EXPIRY=15). On the occasions when you do want to validate a card or PIN-ONLY for limited use, turn this prompt ON before going to the VALIDATE menu.

Related topics

PINS WITH CARDS, TIME ZONES, VISITORS CARDS

Appendices

Appendix 1: Troubleshooting

As with most things, troubleshooting System2 and System4 is simply a question of methodically eliminating the possible causes one by one, until the problem is solved.

This appendix assumes that the installation did work OK at one time—in other words, that no mistakes have been made during installation. The purpose of this appendix is to help you to find your own programming errors, or to identify equipment that has failed.

AS A FIRST STEP check that the Kd1 display is not blank. If the display is blank then the power has failed.

Card won't release lock

Power supply to lock has failed (listen for click from relay inside ACU)

Card not known

Card not valid in door

Out of time zone

Anti pass-back in force

PIN time-out

Wrong PIN

Door already open *

Lock relay latched OFF *

Faulty card-reader *

* use DIAGNOSTICS to check these items

Relay doesn't come on when expected

Programming incorrect

Relay latched OFF

Appendix 2: Kd1 messages

Mostly, event messages appearing on the bottom line of the KD1 display are in plain text. For example:

00-1 DOOR FORCED

means that this is ACU 00, and Door 1 has been forced. (The unit number should always be 00 for the ACU unless it is connected to a PC, in which case you would not be using a Kd1 for programming).

Card entries are different due to the limited amount of information that can fit on one line. For this reason, a letter-code is used to identify whether the card was allowed access, and if not, why.

An example of a card entry event is shown overleaf.

Example

FRI, 26 MAY 10:56 00-1 M00123234 A

The top line is showing the current time and date (not the time of the last event).

The bottom line shows the last event (note that message types that you have turned off will not appear). This can be interpreted as follows:

Location

00-1 ACU number 0, reader number 1

Event

M00123234 A

M = Microcard (i.e. infra-red card)

W = Wiegand

P = Proximity

K = PIN-only

A = Mag-Stripe

00123234 = ID (card or PIN-only) number

(8 digits for Infra-red cards)

(4 digits for PIN-only)

(6 digits for Wiegand and Proximity)

(1-8 digits for Mag-stripe)

A = access granted

B = ID not in memory

C = ID not valid for door

D = ID expired

E = out of Time Zone

F = anti pass-back enforced

G = PIN time-out

H = wrong PIN

I = 4th (or more) bad PIN

J = mantrap enforced

K = lock latched off

Appendix 3: Printer messages

Most printer messages are self explanatory. The general format for a message is as follows:

09:45 20/02/89 00-1 M-00000149 Valid

This contains:

- time (24-hour clock)
- date (in the chosen format)
- ACU number, together with reader number
- card number (PIN-only numbers appear as '****' for security reasons), preceded by the card type. The 'M' identifies the card as an infra-red card; W is used for Wiegand cards, P for Proximity and K for PIN-only entries. If names are in use, then a name will be printed instead of the card number.
- information on whether access was granted, and if not, why not.

Messages which do not include card numbers (e.g. alarms, input-switching etc.) look like this:

09:45 20/02/89 00-1 Door Closed

or this:

09:45 20/02/89 00 Input 1 on

Appendix 4: Access criteria

There is a set order in which the ACU checks a card's validity. If there is more than one reason for a card to be denied access, then only the first reason will be seen on any printout, and on the Kd1 display.

1. Card not known
2. Wrong PIN
3. Not valid in door
4. Out of time zone
5. Anti pass-back enforced
6. Card expired
7. Mantrap enforced
8. Lock disabled (lock release relay latched off)

Appendix 5: Glossary

ACU	This stands for Access Control Unit—the box containing all the electronics. A System2 ACU can control one or two doors. A System4 ACU can control up to four doors.
Time zone	A time zone is a period when access is allowed—for example, 9 am to 5 p.m. on Monday. You can create up to 16 Time Groups (q.v.) each of which can which contain several such zones.
Time group	You can create up to 16 Time Groups each of which can which contain several time zones (q.v.). A time zone is a period when access is allowed—for example, 9 am to 5pm on Monday. So a time group is effectively a complete weekly schedule of permissible access periods.
TCL	This refers to a Time Control Line. TCLs are used in relay programming (if you want a relay to come on at a certain time of day). TCLs are also used in Time Zone programming; some TCLs signal the start of a period of allowed access, while others signal barred access.
PIN-only	Normally, having an access control system means that you issue people with cards which they use to gain access to various parts of your premises. Sometimes you might want to allow someone to gain access without the use of a card, while everyone else must still use cards. If you have a keypad installed next to a card reader, the 'PIN-only' option allows you to program in a 4-8-digit code which, typed in at the keypad, will allow access. The ACU (q.v.) treats PIN-only numbers in an identical way to cards.

Appendix 6: Card Numbers

When validating and voiding cards, and interpreting card numbers on either the Kd1 or a printer, System2 and System4 always use eight digits. However, some TDSi cards show only six digits and therefore two extra digits must be added. The two digits you add can be determined from the following table. Other cards (e.g. bank cards) may have numbers which have neither six nor eight digits, in which case the easiest way to work out the eight-digit number is to use the card at the reader and see what appears on the display.

TDSi 40-bit Wiegand	03
26-bit Wiegand	use the card at the reader and see what appears on the display
Bank cards	Last eight digits of card number (usually)
TDSi cards with an N	00
TDSi cards with an A	01
TDSi cards with an F	02
TDSi cards with an W	03
TDSi cards with an G	04
TDSi cards with an L	05
TDSi cards with an K	06
TDSi cards with an H	07

Appendix 7: Expiry by date

Prior to version 3, the S-Series ACUs allowed only a 14-day expiry option for visitors' cards. Version 3 firmware allows start and end dates and times to be specified for each acrd. The start can be at any time in the next 30 years; the end must be within one year of the start.

To use Expiry by date

- Select Expiry Options in the Memory Options sub-menu of the ACU Functions menu and the select Expiry by Date (Warning - this reduces card capacity by about 35% AND deletes all cards currently in memory)
- Turn on the Expiry option in the Which Prompts sub-menu of the ACU Functions menu
- Validate a card. You will be asked for a start date and time followed by an end date and time.

Effectivity Notice

- The issue level of this document
- The revision level of every page in this document
- The modification history of this document

However, the only way to be sure that you have a current copy of this document is to contact TDSi and ask to be told the current issue level of this document.

Document title:	System2 and System4 User manual
Document part number:	6656-0195
Issue Date:	August 1996
Issue/Revision:	3.1
No. of pages in this notice	2
Modification History	<p>Issue 1.1 (M1441): First issue</p> <p>Issue 1.2 (M1676): p21, p. 49: 'No. of floors' is in ACU, not Door menu. p 106: '0' = expired, not 'E'. p122 added to explain how to use 6 digit cards, bank cards etc.</p> <p>Issue 2.1 (M2073): Manual completely revised and re-issued to incorporate changes required for System4.</p> <p>Issue 2.2 (M3039): Changes required for version 3 firmware and supervised I/O.</p> <p>Issue 3.1 (M3548): Complete re-issue in new style.</p>

Page Rev

1	3.1
2	3.1
3	3.1
4	3.1
5	3.1
6	3.1
7	3.1
8	3.1
9	3.1
10	3.1
11	3.1
12	3.1

Page Rev

13	3.1
14	3.1
15	3.1
16	3.1
17	3.1
18	3.1
19	3.1
20	3.1
21	3.1
22	3.1
23	3.1
24	3.1

Page Rev

25	3.1
26	3.1
27	3.1
28	3.1
29	3.1
30	3.1
31	3.1
32	3.1
33	3.1
34	3.1
35	3.1
36	3.1

Page Rev

37	3.1
38	3.1
39	3.1
40	3.1
41	3.1
42	3.1
43	3.1
44	3.1
45	3.1
46	3.1
47	3.1
48	3.1

49	3.1
50	3.1
51	3.1
52	3.1
53	3.1
54	3.1
55	3.1
56	3.1
57	3.1
58	3.1
59	3.1
60	3.1
61	3.1
62	3.1
63	3.1
64	3.1
65	3.1
66	3.1
67	3.1
68	3.1
69	3.1
70	3.1
71	3.1
72	3.1
73	3.1
74	3.1
75	3.1
76	3.1
77	3.1
78	3.1
79	3.1
80	3.1
81	3.1
82	3.1
83	3.1
84	3.1
85	3.1
86	3.1

87	3.1
88	3.1
89	3.1
90	3.1
91	3.1
92	3.1
93	3.1
94	3.1
95	3.1
96	3.1
97	3.1
98	3.1
99	3.1
100	3.1
101	3.1
102	3.1
103	3.1
104	3.1
105	3.1
106	3.1
107	3.1
108	3.1
109	3.1
110	3.1
111	3.1
112	3.1
113	3.1
114	3.1
115	3.1
116	3.1
117	3.1
118	3.1
119	3.1
120	3.1
121	3.1
122	3.1

Index

2

26-bit Wiegand · 82

4

4th wrong PIN · 65, 67

A

Access Control Unit · 6
 Access criteria · 114
 ACCESS DENIED · 26
 Access granted · 65
 Access messages · 65
 Access mode messages · 65
 ACU · 6
 ACU restarted · 66, 68
 Alarm messages · 65
 Alarm Shunt · 28
 Alarms · 26
 Anti pass-back · 6
 Anti pass-back (System2) · 29
 Anti pass-back (System4) · 31
 Anti pass-back enforced · 114

B

BAD PIN · 26
 Baud rate · 40
 Block validation · 105
 Block-validate cards · 7
 Block-void cards · 7

C

Card expired · 114
 Card not known · 114
 Card+PIN · 7, 66, 68
 Card+PIN access · 35, 55
 Cards · 62
 Clock and calendar · 7, 37
 CLOCKS BACK · 37, 66, 68
 CLOCKS FORWARD · 37, 66
 Clocks forward · 68
 CLOCKS FORWARD/BACK · 87
 Communications · 7, 39
 Communications diagnostics · 41
 Configuration · 7, 42
 Control · 36, 72, 83, 97
 Control Card · 7, 36, 72, 84, 97, 101
 Control ID off · 65
 Control ID on · 65
 Control ID on and off · 67
 Cotag · 81

D

DATE · 37, 38
 DATE FORMAT · 37
 Defaults · 25
 Diagnostics · 7, 44
 Display · 45
 Display diagnostics · 45
 Door ajar (L) · 28, 65
 Door ajar (L) and (R) · 67
 DOOR AJAR (LOCAL) · 26
 Door ajar (R) · 28, 65
 DOOR AJAR (REMOTE) · 26
 Door ajar alarm · 46
 Door ajar local time · 8
 Door ajar remote time · 8
 Door closed · 28
 DOOR FORCED · 26, 65, 67
 Door opened · 65, 67
 Door sensor · 47
 Door sensor type · 8
 Duplex · 40
 DURESS · 26, 65, 67, 73, 85

E

Edit · 49
 EDITING · 103
 Egress · 50
 Egress off · 65, 68
 Egress on · 65
 Egress on · 68
 Elevator Control · 8, 51
 ERASE ID STORE · 93
 ERASE TRAIL · 93
 Events · 62
 Exit button · 50
 Expiry · 10, 104, 109

G

Glossary · 115

H

hands-free readers · 81
 Handshake · 40
 help! · 9
 Hold-on time · 57, 84
 Holidays · 8, 36, 37, 72, 84, 97, 102

I

ID expired · 65, 66
 ID not in door · 65, 66
 ID not known · 65, 66

Index

Immediate mode · 39
Indala · 81
Input diagnostics · 53
Input messages · 65
Input off · 68
Input on · 68
Inputs · 52
Introduction to Microlock System2 and System4 ·
6
IOB gone · 66
IOB gone · 68
IOB returned · 66, 68

K

Kd1 · 6
Kd1 keys · 10
Kd1 messages · 111
Keypad · 55
Keypad diagnostics · 54

L

Language · 8, 56
Lift control · 51
Lock disabled · 114
Lock latched off · 65, 67
Lock time · 8, 57

M

Mag-stripe · 81
ManDtrap · 58
Mantrap · 8
Mantrap enforced · 65, 67
Man-trap enforced · 114
Memory option · 8
Memory partition · 62
Menu Map · 15, 20
Messages · 8, 65
Mode · 30
multi-user passwords · 69

N

Name · 10, 104
names · 11
No PIN · 65, 67
Not valid in door · 114

O

Out of time zone · 114

P

Parity · 40
Password · 9, 12, 69
PIN · 10, 35, 104
PIN WITH CARD · 108
PIN-only · 9, 66, 68

PIN-ONLY access · 55, 72
Polled mode · 39
Printer · 75
Printer messages · 113
Printouts · 9, 76
Program · 36, 72, 84, 97
Programming · 11
PROMPTS · 108
Proximity · 81

Q

Quit · 78

R

RAM diagnostics · 79
RB gone · 65, 68
RB returned · 65, 68
Reader diagnostics · 80
Reader error · 65, 67
Reader fault · 68
Reader fixed · 68
READER GONE · 26, 65, 68
Reader returned · 65, 68
Reader type · 9, 81
Reference · 25
Relay control · 90
Relay diagnostics · 92
Relay messages · 65
Relay off · 68
Relay on · 68
Relays · 9, 83
RESET PARAMETERS · 93
Resets · 9, 93
ROM diagnostics · 94
Routes · 13

S

Scroll and select · 10
Starting programming · 11
Stop bits · 40
System messages · 65
SYSTEM RESET · 93

T

TCL · 87, 98
TCLs · 62
Time · 30, 37
Time Control Line · 87
Time Group · 10, 95, 104, 108
Time zone control · 100
Time zones · 9, 95
Timed relays · 87
trail record · 93
Trouble-shooting · 110

U

Ultragard · 6
Unit number · 40
user keypad · 55

V

Validate card · 10
Validate PIN-only · 10
Validating cards · 103
validating PINONLY · 103
Visitors cards · 106, 109
Void card · 10
Void PIN-only · 10

Voiding cards and PINOnly numbers · 107

W

WARM RESTART · 93
Which prompts · 108
Which prompts? · 10
Wiegand · 82
Wrong anti pass-back · 65, 67
Wrong Mode · 76
Wrong PIN · 65, 67, 114
Wrong time zone · 65, 67