

R A D I O N I C S

READYKEY® K2100/K1100 Door Controller

User Guide

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This equipment generates and uses radio frequency energy. If not installed and used in accordance with the manufacturer's instructions, it may cause interference to radio and television reception. It has been tested and found to comply with the specifications Subpart F of Part 15 of FCC rules for Field Disturbance Sensors. If this equipment causes interference to radio or television reception - which can be determined by turning the equipment on and off - the installer is encouraged to correct the interference by one or more of the following measures: 1) Reorient the antenna of the radio/television, 2) Connect the AC power cord to a different outlet so the control panel and radio/television are on different branch circuits, 3) Relocate the control panel with respect to the radio/television.

If necessary, the installer should consult an experienced radio/television technician for additional suggestions, or send for the "Interference Handbook" prepared by the Federal Communications Commission. This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, stock no. 004-000-00450-7.

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Listing

- UL 294 Access Control System Units
- UL 1076 Proprietary Burglar Alarm Systems

Table of Contents

About this Manual	1
Who should read this Guide?	1
System Administrators	1
Installers	2
System Overview	3
How the System Works	3
Readers	3
Door Controllers	4
Connecting Door Controllers	4
K2015 Alarm Modules	4
Displays, Alarms and Printing	5
Normal Operation	5
Alarms	5
Communication Errors	7
Other System Messages	7
Using the Printer	8
Using the Editor	9
Entering the Editor	9
The Command Prompt - CMD	10
Leaving the Editor	10
Panel Keyboard	10
Key Administration	14
The Personnel Database	14
Adding Keys - The A command	15
Deleting (Voiding) Keys - The V Command	16
Editing Keys - The E Command	17
PIN Codes - The N Command	18
Controlling Access	20
Access Code Overview	20
Organizing Access Codes	21
How to Create Access Codes	21
Access Levels - The AL Command	21
Time Profiles	22
Access Codes - The AC Command	23
Holidays - The HP Command and HR Command	24
Time Profiles	27
How Time Profiles Work	27
Setting a Time Period - The PR Command	29
Creating a Time Profile - The T Command	30
System Administration	31
Changing the Date and Time - The C Command	31
Manual Lock/Unlock - The L Command	32
Printer Reports	33
Reports - P1...P9	33
Header - The HE Command	41
Kill Transactions - The K Command	41
Editor Key Administration	43
Editor Keys	43
Alarm Acceptance	43
Master Key	43
Editor Keys	43

Assigning Editor Keys - The I Command	45
Troubleshooting	47
Keys and Access	47
Alarms	48
Installer Commands	49
The DC Command	49
The D Command	51
Data Protection	56
K2015 Alarm Modules and Relay Outputs	58
Overview	58
Alarm Module Programming	60
Relay Programming - The RE command	62
Appendix A: System Specification	65
Appendix B: Transactions	66

About this Manual

This User Guide describes the use of the Front Panel Editor of the K2100 and K1100. This editor uses the keypad, display and reader on the Front Panel of the door controller to administer keys, respond to alarms and configure the system. Up to 16 doors and 4000 keyholders can be administered using this system. An optional, highly recommended, printer output may be used for both continuous printing of events and production of various reports. Another option allows the monitoring of up to 128 extra alarm inputs.

Both the K2100 and K1100 door controllers operate in exactly the same way, the only difference being that the K2100 controls 4 doors, the K1100 controls 2 doors.

Who should read this Guide?

This document provides both instructions for the **End User** to perform everyday administration of the system, as well as details of system programming for the **Installer**. The chapters are organized so that the reader need only refer to the sections concerning their own requirements.

System Overview

All users of the system should read this simple introduction to the K2100 system. It gives a brief description of how the system works, the various components, the front panel screen and keyboard.

System Administrators

People administering the access control system should read and understand the following chapters. Installers or those commissioning the access control system will also need to understand the subjects described.

Displays, Alarms and Printing

This chapter describes events which may occur in the day-to-day running of the system. Screen displays, alarms and use of the printer are all covered. Use this section to find out what a particular screen display or printer report means.

Key Administration

Describes adding, deleting (voiding) and editing of keys. PIN codes for use with K2001-P PIN readers are also described.

Controlling Access

Use this chapter to understand how to control access by keyholders. It describes how organize and create Access Codes that determine who has access where, and when.

Time Profiles

Time Profiles are used in several parts of the system to control events, including when certain keyholders have access - they form part of the Access Code. They are also used to automatically open and close doors, control the use of a K2001-P PIN reader, automatically engage and isolate additional alarm points and operate relay outputs. This chapter also describes how to setup system holidays, to prevent access and other automatic events occurring on special days.

System Administration

How to change the date and time, particularly for daylight saving clock changes.
How to manually lock and unlock doors.

Printer Reports

This chapter describes all the printer functions, how to obtain different reports such as personnel list, previous events, system status etc.

Editor Key Administration

Describes how to use editor keys to control access to the Editor.

Troubleshooting

Some common problems the administrator may encounter, and how to solve them.

Installers

Those installing, commissioning or maintaining the system will need to fully understand these chapters. Most of the information required for installing the door controllers is contained in the *K2100 Installation Manual*. However, this User Guide contains details of the commands needed to configure the system.

Your attention is drawn particularly to the **QuickStart** chapter in the *Installation Manual* which takes you step-by-step through the system configuration process.

Installer Commands

This includes procedures for setting up lock sharing, anti-passback and door information such as lock release time, lock type, automatic opening etc.

K2015 Alarm Modules and Relay Outputs

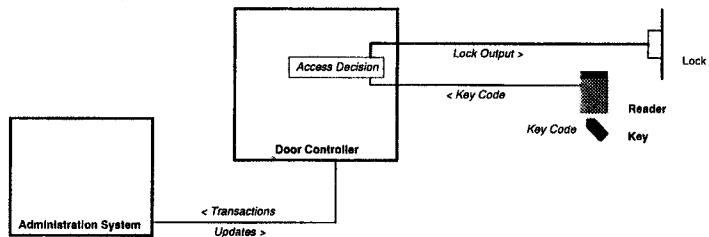
Covers Alarm Module programming plus programming Door Controller and Alarm Module Relays.

System Overview

How the System Works

Any Readykey access control system, very simply, consists of three components; Readers, Door Controllers and an Administration System.

The Readers will detect the unique code in a key and pass it directly to the Door Controller. The Door Controller compares the code to the information stored in its memory and, if the key is valid, will operate the lock and send a report to the Administration System. The Administration system is the means by which the user programs the system, who is allowed where and when etc., and also where events are reported.



Components of a Readykey Access Control System

In the case of the K2100 and K1100, the administration system is built in to the door controller and uses the keypad, display and reader on the front panel. As an option a printer can be connected to the system that reports events as they happen, and can also produce listings of personnel, system setup, past events etc.

Readers

A reader is a device, usually installed close to the door, that detects the unique code in a key and passes it to the door controller where the access decision is made. There are several types of reader suitable for different purposes and environments. Below are some of the special types of reading devices.

K2001 Low Profile Reader

A reader suitable for interior or exterior use.

K2002 Vandal Resistant Reader

A stainless steel reader particularly suitable for exterior use, where resistance to abuse is important.

K2001-P PIN Reader

This device requires a PIN number to be entered, as well as a key to be presented, as an extra level of security. The need to use a PIN as well as a key can be controlled using a time profile.

Request to Exit Switch

Sometimes a reader is used on both sides of a door, controlling both entry and exit from an area. Normally, however, a **Request to Exit** switch or button is used to open a door from the secure side. This switch, mounted close to the door, when pressed sends a signal to the door controller to release the lock. Of course, anyone can press the switch to open the door when leaving, and therefore no identity of the person can be recorded.

Door Controllers

The Door Controller is the heart of the access control system, these are its main functions:

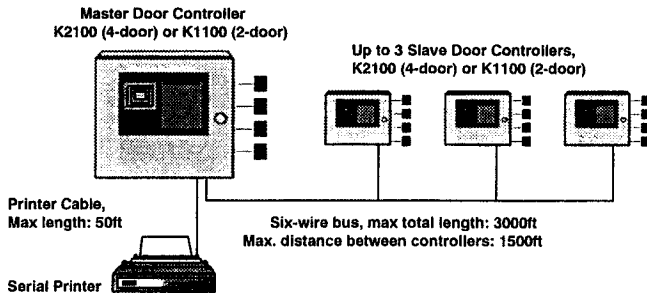
- Decides whether a person has access at a particular door and at a particular time.
- Provides power to operate the lock.
- Monitors doors for unauthorized access or left open.
- Automatically opens and closes doors at certain times.
- Detects tamper conditions at the reader or its own enclosure.
- Monitors any K2015 Alarm Modules for extra alarm inputs.
- Operates relays, either those connected to the Door Controller itself, or on a K2015 Alarm Module.

The K2100 may have 4 readers connected, the K1100 may have 2 readers connected. In all other respects both door controllers are identical.

Connecting Door Controllers

What makes these door controllers so flexible is the ability to link controllers together to allow more than 4 doors to be administered. When programmed from the front panel, as described in this document, up to 16 doors can be controlled and up to 4000 personnel administered.

In all cases one door controller (K2100 or K1100) is the **Master** controller, up to 3 further door controllers are **Slaves**. All administration and reporting occurs at the Master controller. Apart from some initial setup functions, **no** administration activity occurs at the slave controllers.



K2015 Alarm Modules

K2015 Alarm Modules are optional devices that allow extra points (or zones) to be monitored and report alarms if activated. Each Alarm Module has 8 points that can be enabled and disabled manually or automatically at certain times.

The K2015 Alarm Modules also have 4 relay outputs that can be activated by alarm inputs, system events such as door left open, or at certain times.

Displays, Alarms and Printing

The screen of each door controller displays information concerning the status of doors and communications. The Master door controller, where all programming of the system takes place, will show additional information such as alarm reports and communications errors between the master and any slave controllers.

Normal Operation

The following displays show what to expect when the system is operating normally, with no errors or alarms.



Master Controller

The display will be blank when no doors are open and everything is operating normally.



Slave Controller

A number, the address of the door controller (2,3 or 4), will flash at the right of the display. This indicates that the slave controller is being 'polled' by the master.

Examples:



Master and Slave

This display indicates one or more doors being unlocked on the door controller. This may be due to:

- a valid key being presented to a reader
- a request to exit button being pressed
- the door being automatically open due to a Time Profile
- the door being opened by a Manual Unlock command

Alarms

The K2100 system is capable of reporting several types of alarm condition. These are described below along with the screen display and printer transaction

All alarm conditions, wherever they occur, are reported at the master controller. If, for any reason, communications are broken between a slave controller and the master, then the slave itself will report the alarm. When communications are restored then the alarm will be transferred to the master - **even if the alarm was accepted at the slave.**

When a printer is installed, you will have a record of the alarm along with its time, date and location. When the alarm condition clears, another report will be generated with the date and time of the event.

Accepting Alarms

All alarm conditions must be accepted at the Master Controller. This is done by presenting an editor key to the front panel reader. All editor keys, including the Master, will accept alarms. The printer, if connected, will show the date, time and identity of the editor that accepted the alarm.

Alarm Activations

Below are shown examples of alarm activations. In each case the display shown will appear indicating the type of alarm and its location. At the same time a pulsing bleep will be generated. The display and bleep will continue until the alarm is accepted by an editor key.

If more than one alarm occurs then, the next alarm will appear on the display only once the first is cleared. All alarms, however will be printed as they occur.

DOOR 01 ALARM

Unauthorized Access, a door has opened without a key being presented or a Request to Exit button pressed.
Anti-Tamper Alarm, a reader cable has been cut, or a reader has been removed.

Printer: Shown below is the Alarm, the Alarm Cleared and Acceptance report for Unauthorized Access and Anti-tamper.

11/11/93	16:27	FRONT DOOR		Unauthorized Access
11/11/93	16:27	FRONT DOOR		Alarm Cleared
11/11/93	16:28	FRONT DOOR	MASTER KEY	Local Alarm Accepted
11/11/93	16:34	FRONT DOOR		Anti-tamper Alarm
11/11/93	16:35	FRONT DOOR		Alarm Cleared
11/11/93	16:36	FRONT DOOR	MASTER KEY	Local Alarm Accepted

D/C 1 OVERRIDE

Door Controller Override, a Door Controller Override input has been activated. This causes all the doors on the Door Controller to open.

Printer: Shown below is the Alarm, Alarm Cleared and Acceptance report.

11/11/93	14:18	DOOR CIRCUIT 1		Override Alarm
11/11/93	14:18	DOOR CIRCUIT 1		Override Alarm Reset
11/11/93	14:18	DOOR CIRCUIT 1	MASTER KEY	Local Override Accept

IP 001 ACTIVE

Zone Alarm, an Alarm Module input has been activated.

Printer: Shown below is the Alarm, Alarm Cleared and Acceptance report.

11/11/93	17:24	ZONE	1	Alarm Zone Active
11/11/93	17:24	ZONE	1	Zone Restored, Returned
11/11/93	17:24	ZONE	1	MASTER KEY Local Alarm Accepted

DURESS 02 ALARM

Duress Alarm, a PIN Reader Duress alarm. A key holder has gained entry using a PIN reader, but has entered their duress code (normal PIN +1).

Printer: Shown below is the Alarm and Acceptance report.

11/11/93	16:17	SALES OFFICE SMITH AB		PIN Reader Duress Alarm
11/11/93	16:17	SALES OFFICE MASTER KEY		Local Duress Accepted

DC 1 TAMPER

Enclosure Tamper, a Door Controller cabinet has been opened.

Printer: Shown below is the Alarm, Alarm Cleared and Acceptance report.

11/11/93	17:49	DOOR CIRCUIT 1		Anti-tamper Alarm
11/11/93	17:50	DOOR CIRCUIT 1		Alarm Cleared
11/11/93	17:50	DOOR CIRCUIT 1	MASTER KEY	Local Alarm Accepted

MODULE 01 ALARM

Alarm Module Tamper, a K2015 Alarm Module enclosure has been opened.

Printer: Shown below is the Alarm, Alarm Cleared and Acceptance report.

11/11/93	14:16	Alarm Module 01		Anti-tamper Alarm
11/11/93	14:16	Alarm Module 01		Alarm Cleared
11/11/93	14:16	Alarm Module	MASTER KEY	Local Alarm Accepted

Uncleared Alarms

Once one or more alarms have been accepted, the Door Controller will display the status of any uncleared alarms. Also shown will be the states of any Alarm Module inputs.

CHn- d iiii

Master and Slave

This display appears if there are any **accepted** alarm conditions present on the door controller. If more than one channel has an alarm condition then the display will show each channel for about 2 seconds.

The display only shows the status of the channels

CHn The reader channel number, n=1-4

d Door state where d =A, alarm condition
=O, door left open
=C, closed

i Alarm Inputs where i =-, not used
=I, isolated (manual or auto)
=A, active
=N, normal

Communication Errors

When a K2100 (or K1100) Master controller has one or more Slave controllers attached, there is always the possibility of a break in communications. If this occurs then the Master Door Controller will report this on its display.

If there is more than one error, that is more than one slave door controller is not communicating, each message will be displayed in turn for about 5 seconds.

D/C 2 ERROR-1

Comms Error 1

A Comms Error 1 indicates that the Master Door Controller is trying to communicate with a Slave, but is getting no response. This may be because:

- The Slave is not powered
- The Address of the Slave is not set correctly
- The cable between the Master and Slave is broken or disconnected.

D/C 2 ERROR-2

Comms Error 2

Comms Error 3

These errors indicate corrupt replies from a Slave Door Controller are corrupt. This may indicate poor wiring, or strong interference.

Other System Messages

Other displays that you may see on the front panel display are:

D/C 2 UPDATE-01

Update Progress

If changes are made that affect a Slave Door Controller, then these will automatically be sent. However if a large number of changes are made, or the Slave is not connected, then the changes will be stored. This display indicates how many updates are currently stored for each Door Controller. Once the Door Controller communications are restored you should see the number decrease to zero.

Download Progress

You will see this message on the screen when you leave the Editor after initiating a download to all the Slave Door Controllers. It indicates the progress of the download, in this example 26.9%. The download will be complete when it reaches 100%.

Using the Printer

Far more information about the system can be obtained if you have a printer attached to your Master Door Controller. Full details for connecting a printer are included in the *K2100/K1100 Installation Manual*.

Setting up the Printer

You will almost certainly have connected a dot-matrix printer using continuous (fan-fold with sprocket holes) printer paper. You should consult the documentation supplied with your printer for full details on its correct operation. If you have problems printing properly make sure of the following:

- Make sure that the printer is plugged in, switched on and 'on-line'.
- For neatness, make sure the printer's *top of form* is set. Do this by manually setting the paper so that the next line will print just below the perforation, then either press a top of form button, or switch off the printer for 10 seconds.
- Ensure that the paper feeds into and out of the printer with no obstructions. Be particularly careful that power and signal cables do not obstruct the paper.
- Switch off the printer when it is left unattended for a long time, for instance overnight or weekends. All unprinted events will be printed when the printer is switched on again.

On-line Transaction Printing

If the printer is connected to the Master Door Controller, is powered and 'on-line' then each event should be printed as it happens. This will result in a permanent record of all events that occur on the system. The Master Door Controller will store about 2500 events in its non-volatile memory. These events can be recalled over a chosen date range using the P5 command (see *Printer Reports*).

If the printer is not connected, or switched off, for a period of time, then all the unprinted events will be stored. When the printer is connected again these events will be printed.

No events will be printed while you are using the Editor. They will all be printed when you leave the Editor, but see the item below on *High Priority Events*.

High Priority Events

Some events, alarms, alarm acceptance etc. are considered high priority events by each Door Controller. These will always be reported before any other, low priority events. This will not be noticed if the printer is permanently connected and reporting events as they happen. If, however, the printer is reconnected after a period of time, all the high priority events will be printed first. This will result in the events appearing on the printer, apparently in the wrong order.

This effect will also be observed if any high priority events occur while you are using the Editor.

Printing Reports

Nine different reports can be produced from within the Editor. These include a list of keyholders, past events, system status etc. Full details of these reports can be found in *Printing Reports*.

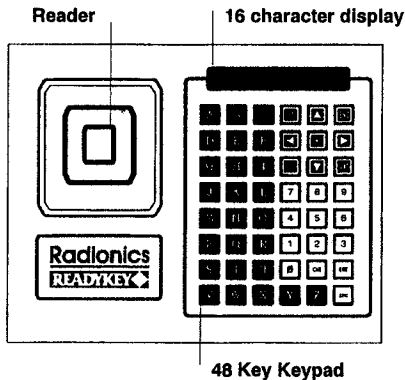
Using the Editor

New Users

Please read this chapter if you are unfamiliar with programming a K2100 or K1100 door controller. It contains important information that will help you understand how the Editor works, what the different keys do and how to make changes to different items. By reading this chapter you will find it easier to follow the more detailed descriptions of commands in later chapters.

All programming of the access control system are made using the Editor. The Editor consists of a set of commands issued by the user. Each command then allows the user to enter or modify various items, depending on the command. To gain access to the Editor and issue commands, you present an Editor key to the reader on the front panel.

A full description of Editor Keys, Editor Levels, passwords and Editor Administration is given in *Editor Key Administration*.



Entering the Editor

Present the Editor Key to the front panel reader. If the key is a valid Editor, or the Master then:

- either you will be prompted to enter a password,

PASSWD

In which case use the keypad to enter the password (maximum 8 characters) and press ENT. If the password is valid then you will see the *CMD* prompt - see below.

If the password you enter is not valid, then you will get:

INVALID PASSWORD

and be returned to a blank screen. Present the key and try again. If it still does not work then ask the person responsible for the system to check your password.

- or, if no password has been assigned to the key, then you will immediately have the *CMD* prompt - see below.

Note: If the key you present is **not** an Editor Key then you will see:

T

This indicates that a key has been presented, but is not recognized as an Editor.

Note: No alarm conditions will be reported while you are using the Editor, nor will any transactions be printed. When you leave the Editor, any alarms that occurred will be reported and all the transactions will be printed. Door controller or K2015 Alarm Module relays **will** operate, however.

The Command Prompt - CMD

The starting point for any operation within the Editor is the *CMD* prompt:

CMD

Here you are being prompted to enter one of the commands that either alters the information stored in the Door Controller, such as adding or deleting personnel, or initiating an action, such as a manual unlock.

Editor Levels

The commands you can enter are determined by your editor level. This is set by the person responsible for issuing editor keys. If you try and enter a command that is not available to you then you will see:

INVALID ED LEVEL

and be returned to the *CMD* prompt.

Editor Time-out

Once in the Editor, if you do not press any keys for more than 3 minutes, the Editor will time-out. You will then have to present your editor key again to return to the Editor. This means you cannot inadvertently walk away from the system leaving it in the Editor.

Leaving the Editor

Once you are in the Editor you can press the ESC key at the *CMD* prompt to leave and return the door controller to its normal operation. Any alarm conditions that occurred while you were in the Editor will now be reported. Also, if you have printer connected, then any transactions that have occurred while the Editor was being used will now be printed.

Panel Keyboard

The keys on the front panel keypad can be grouped into several categories depending on their function.

The ? Key

Outside the Editor

This is the only key that operates either outside the Editor, or on Slave Door Controllers. When pressed it will produce a display similar to:

2100 M0 V1-50

2100 or **1100** refers to the door controller type, either K2100 or K1100.

M0 is the system type. This will be **M0** for the Master Door Controller or **M3** for a Slave.

V1-50 is the software version number. You may need to know this if requesting help about the system.

Inside the Editor

In the Editor the ? key provides extra help. For instance, at the *CMD* prompt, if you press ? you will see:

ENTER COMMAND

This display lasts about 3 seconds before returning to the *CMD* prompt, or the prompt at which you pressed the key. You should press ? at any time if you are not sure what is required.

The ESC Key

The ESC key is used to leave the current operation and go back to the previous step. For instance, pressing ESC while editing data will take you back to the *CMD* prompt.

Navigation Keys

Moving within a database

Most commands allow you to edit a database, or table. Each database has several rows, or **records**, consisting of several columns, or **fields**. When you first issue a command you will be placed in the first field of the first record, or, if you prefer, the top left-hand corner of the table. You use the navigation keys on the keyboard to move this 'window' around the table.

- ↑ ↓ Use the up and down keys to move from one record to another. Usually there will be an indication of which record you are in, however, some fields may not have room to display a record number as well as their value.

When you are on record 1, the up arrow will have no action, on the last record, the number will vary from one database to another, the down arrow will have no action.

- **NXT** Use the Previous (-) and Next (**NXT**) keys to move from field to field across a record. When you are on the leftmost field the minus key has no action, on the rightmost field the plus key has no action. If you move up or down, using the arrow keys, you remain in the same field, but move to the record above or below.
- **FastFind** The dot on the center of the arrow keys is the FastFind button. In most commands, if you press this you will receive the prompt:

FIND _____

Here you can enter a record number and press ENT, to move directly to that record. If you enter a number larger than the number of records then you will go to the last record in the database.

The Void Personnel (**V**) and Edit Personnel (**E**) commands give the prompt:

ID _____

In this case you have three choices for searching:

1. Enter the record number and press ENT, this works as described above.
2. Type the exact 12 character ID (if used) and press ENT

If the ID is not known you will get the message:

UNKNOWN NAME

and be returned to the *ID* prompt.

3. Present a key to the front panel reader.

If the key is not known you will get the message:

NOT IN DATABASE

and be returned to the *ID* prompt.

FastFind in printer commands. In the printer commands (**P1-P9**), the FastFind button is used to initiate printing. See *Printer Functions*.

Editor Example

The example below shows the Personnel database as seen when the Edit command (E) is used. The highlighted box shows the first item that will appear in the screen. Use the keys shown to move the 'window' around the data base. Use the FastFind button (*) to go directly to a particular record.

	- Left			Right NXT		
Up ↑	ID 1	AC 1	WHO	ID 1	HOLS 0	
	ID 2	AC 0	WHO	ID 2	HOLS 0	
	ID 3	AC 0	WHO	ID 3	HOLS 0	
Down ↓	ID 3999	AC 0	WHO	ID 3999	HOLS 0	
	ID 4000	AC 0	WHO	ID 4000	HOLS 0	

The Alphanumeric Keys

These are the keys A-Z, 0-9 and SPC, which take up most of the keyboard. You use these for entering names or values when prompted. Normally you will not be allowed to enter characters (A-Z or SPC) when a numeric value, such as an Access Code or Lock Release Time is required.

Important: When you enter any name or value, you should always press ENT before moving on to the next prompt. If you do not press ENT, the name or value you entered will be lost, and the contents of the field will revert to their previous value.

Making Changes

When a field is visible on the screen the flashing underline cursor will appear on the first character. The cursor is always positioned on the next character to be changed. You can use the following keys to move and alter the display:

⇐ ⇒ The left and right arrow keys move the cursor to the left and right within the field. The cursor always starts on the leftmost character of the field, and returns to that position when you press ENT.

CLR The CLR (clear) key will blank out the existing value. This is convenient especially when changing long names. If you press CLR followed by ENT, then numeric values will be set to 0, and alphabetic values set to all spaces.

The next example shows how to make changes to items. Most data items fall into 3 different categories.

1. Alphabetic

These are names given to personnel, editors, doors etc. You may use any of the alphanumeric characters (A-Z, 0-9) including SPC (space).

Example

ID DOOR 1

Once you have selected a field to change, then use the alphanumeric keys to enter a new value. The **cursor**, a flashing underline, marks the character that will be overwritten by the next key press.

ID FOOR 1

When a valid key is pressed then the new character will appear on the screen and the cursor will move to the next position.

ID FRONT DOOR

Continue entering characters until you have completed the entry.

Use the ← and → keys to move the cursor within the field.

Press ENT.

Important: You must press ENT to save your new entry. If you do not then when you move to the next field, or press ESC, your entry will be lost.

2. Numeric

These are values or codes such as Lock Release Time, Access Code etc. In this case you can only enter numbers (0-9). Each type of entry will have a maximum and minimum value. If you enter a value outside the range allowed, then the value you entered will be adjusted to the nearest allowed. E.g. the maximum value for a Lock Release Time is 255 seconds, if you enter 300 then the value will change to 255 when you press ENT.

Example:

DR1	LRT	5
-----	-----	---

Once you have selected a field to change, then use the numeric keys to enter a new value.

The **cursor**, a flashing underline, marks the character that will be overwritten by the next key press.

DR1	LRT	1
-----	-----	---

When a valid key is pressed then the new character will appear on the screen and the cursor will move to the next position.

DR1	LRT	10
-----	-----	----

Continue entering characters until you have completed the entry.

Use the ← and → keys to move the cursor within the field.

Press ENT.

Important: You must press ENT to save your new entry. If you do not then when you move to the next field, or press ESC, your entry will be lost.

3. Options

These are special fields that allow various options to be set, such as days of the week to which time periods apply, lock mode options etc. See the example below.

Example:

P1	DAY	-----
----	-----	-------

No cursor appears in this type of field. In order to make changes, you should press the number corresponding to the option you wish to change. In this example Time Period days (PR command) are shown.

P1	DAY	MTWTF---
----	-----	----------

In this example, to select a day you press the corresponding number to the day of the week, Mon=1, Tues=2 etc. To deselect an option press the number again.

When you have made your selections, press ENT.

Important: You must press ENT to save your new entry. If you do not then when you move to the next field, or press ESC, your entry will be lost.

There are other types of entry, such as date, time, locking/unlocking doors, but these will be described in detail in the relevant sections.

Key Administration

The heart of the Access Control system is the administration of keys. Each key that is issued will allow the keyholder access through certain doors at certain times. This chapter describes how to add, delete (or void), and edit keys.

The Personnel Database

Identifying Personnel

There are two ways in which individual keyholders can be identified within the system. The first is to use an automatically generated ID number, between 1 and 4000. The second method allows the operator to give a name, of up to 12 characters, to each keyholder.

Note: You should decide before you start issuing keys which method you will use. The system has to be set up to use one method or the other. Although this can be changed later without losing information, it is not recommended.

4 Digit Number

The main advantage of this method is speed of entry, you will not have to enter a different name for every key that is issued. The disadvantage is that all references within the system, including printed reports, are to the 4 digit number. This can make identification of keyholders difficult as you will have to keep looking up your own records. You are not able to select the number that is issued, the system will always issue the first free number. For instance if you issue 120 keys, they will be automatically identified as 0001 to 0120 when added. If you were to delete, say, numbers 25 and 42, then the next keys issued would be identified as 0025, 0042 followed by 0121, 0122 and so on.

If you use this method then it is vital that you keep an accurate record of the 4 digit ID issued to each key, and to whom the key is issued. If a keyholder loses a key then, unless you have an accurate record, you will not be able to delete the lost key from the system as you will not know the ID number.

12 Character Name

A better method, and easier to administer once all the keys are issued, is to use the 12 character name. In this case whenever a key is issued you will have to enter a unique name. The name may consist of up to 12 characters using A-Z, 0-9 and space (SPC on the keypad). Names should not start with a space or a number. You will probably use the keyholder's name and initials, e.g. SMITH AB or JONES SL. You could, of course, use any naming system you feel is appropriate, such as payroll or employee numbers. Remember names **must** be unique - you will be warned if a duplicate name is entered.

The Token Code

This is the unique code stored in each key. It is written permanently into the key during manufacture and never changes. In routine use you will not have to use this code. However there are some occasions on which it can be used. One of these is the adding of keys without physically being in possession of the key. This may come about if one or more keys are accidentally removed from the system, and it may not be possible or convenient to recall the lost keys from the keyholders. If a record has been kept of the token codes of all keys then these can be entered instead of presenting the key itself. The personnel printout (Command P1) contains the token code of each key and is an ideal record for such purposes.

Access Codes

The K2100/K1100 has space for storing 4000 keys. The access that a key is allowed is determined by assigning it an **Access Code**. Access codes are fully described in the next chapter. When routinely adding keys you should know the access code that will need to be assigned to each key.

Please read the section *Controlling Access* to understand how Access Codes work.

Holiday Profiles

Each keyholder can be assigned a Holiday Profile. This is a range of date on which the person will **not** be allowed access. There are 24 different Holiday Profiles, each of which may contain up to 20 Holiday Periods. A Holiday Period is a start date and number of days. You will realize that there will not be enough Holiday Profiles in order to give every keyholder their own dates. For this reason you are not advised to attempt to control individual access using these Profiles. However, they may be used to cover periods, such as a temporary factory closure.

Holiday Profiles can only be applied to a key using the Edit (E) command.

Note: Recent Readykey administration systems no longer support individual Holiday Profiles.

Adding Keys - The A command

This procedure describes how to add a key to a database. Before you start you should have or know the following:

- An editor key with an editor level that allows adding of keys
- One or more keys to add
- The names of each keyholder (not required if using 4-digit identification)
- The access code to be assigned to each keyholder

To Add a Key ...

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD A

Type A and press ENT.

ID 27 AC 0

The next available unused ID number will now appear along with a prompt to enter the Access Code.

Type the Access Code (0 to 128) and press ENT.

Press **NXT** to go on to the next prompt.

WHO

Note: This prompt will only appear when you are using 12 character IDs.

Enter an identification for this key, for instance it may be a name, a payroll number or a flat/residence name.

You may use any of the characters on the keyboard (A-Z, 0-9, SPC). Do not start a name with a SPC or a number.

DUPLICATE NAME

If you enter an ID that is already being used then a message (left) will appear for about 2 seconds before returning to the *WHO* prompt.

Press **NXT** to go on to the next prompt.

KEY 00000000

At this prompt you can either:

- Present the key to be added to the front panel reader. If the key is valid then the addition of this key is complete and you will move directly to a prompt for the next key. **There is no need to press ENT or NXT.**
- Type the 8 character key code. If for some reason you are not in possession of the key, provided you know its 8 character code, you can enter it here. Use only the characters A-F and 0-9. When complete press ENT. If the key is valid then the addition of this key is complete and you will move directly to a prompt for the next key. **There is no need to press NXT.**

REPEATED KEY

If, using either of these two methods, you enter a key that is already stored you will get a message (left) for about 2 seconds before returning to the **KEY** prompt.

ID 28 AC 0

If you have no more keys to add then press ESC to return to the **CMD** prompt.

If not, then you can now continue adding keys. Note that the access code remains the same as the previous key you entered. If adding a large number of keys, then by grouping them by access code you will speed up entry, as well as reduce the risk of error.

Once a key has been added it will be recognized by all the readers in the system. However, this will not be the case if:

- Slave Door Controllers are disconnected or not communicating with the Master.
- A download is in progress to a Slave Door Controller, in which case the new information will not reach the Slave until completion of the download.

Deleting (Voiding) Keys - The V Command

Removing keys from the system is a very simple process. Several options are available for selecting the key to be removed. They are:

1. When prompted, present the key to the front panel reader.
2. Enter the 4 digit ID number.
3. Enter the 12 character ID, if used.
4. Use the up and down arrow keys to search for the key in the database.

Tip: Instead of voiding a key from the system, consider changing its Access Code to 0 (zero). By doing this you will prevent use of the key (any attempt will result in a *No Access: Locked Out* transaction being generated), but you will also have a record of a 'lost' key being used, unsuccessfully.

To Void a Key...

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the **CMD** prompt.

CMD V

Type V and press ENT.

ID

At the *ID* prompt you can select the key to be deleted using one of these methods:

1. If you are in possession of the key itself then present the key to the front panel reader.

NOT IN DATABASE

If the key is not in the database then you will get a message (left) for about 2 seconds before returning to the *ID* prompt.

2. Type the 4-digit ID of the key and press ENT. Any number between 1 and 4000 will be accepted.

UNKNOWN NAME

3. If you are using 12 character IDs then you can type the ID and press ENT. You must type the name exactly as it was originally entered. If no match is found you will get a message (left) for about 2 seconds before returning to the *ID* prompt.

ID 27 AC 7

Whatever method you use to find a key you will be presented with the ID number and Access Code.

WHO SMITH AB

Note: If you use 12 character IDs, then press **NXT** to view the name assigned to the key (left).

At this point you can use the up and down arrow keys to move through the database to find the key you want to delete. You can also press the FastFind button (*) to return to the *ID* prompt.

CONFIRM VOID

Once you have selected the key you want to delete, press ENT.

At the **CONFIRM VOID** prompt, press Y to confirm and you will be returned to the *CMD* prompt. Any other key will return you to the *CMD* prompt without voiding the key.

When a key has been voided it will be rejected by all the readers on the system, a **No Access: Unknown ID** transaction will be produced. This will not be the case if:

- Slave Door Controllers are disconnected or not communicating with the Master.
- A download is in progress to a Slave Door Controller, in which case the new information will not reach the Slave until completion of the download.

Editing Keys - The E Command

You can change the Access Code of a key as well as the 12 character name (if used) at any time. You can also assign a Holiday Profile to a keyholder.

To Edit a Key...

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD E

Type E and press ENT.

ID 1 AC 1

At the *ID* prompt you can either use the up and down arrow keys to select a key, or press the FastFind button (*). Using FastFind you can find a key in three ways:

NOT IN DATABASE

1. If you are in possession of the key itself then present the key to the front panel reader.
If the key is not in the database then you will get a message (left) for about 2 seconds before returning to the *ID* prompt.

UNKNOWN NAME

2. Type the 4-digit ID of the key and press ENT. Any number between 1 and 4000 will be accepted.
3. If you are using 12 character IDs then you can type the ID and press ENT. You must type the name exactly as it was originally entered. If no match is found you will get a message (left) for about 2 seconds before returning to the *ID* prompt.

ID 27 AC 0

Whatever method you use to find a key you will be presented with the ID number and Access Code.

WHO SMITH AB

Note: If you use 12 character IDs then press **NXT** to view the name assigned to the key (left).

At this point you can use the up and down arrow keys to move through the database to find the key you want to edit. You can also press the FastFind button (*) to return to the *ID* prompt.

ID 27 AC 7

Once you have found the key you want edit:

You can change the Access Code by typing the new value and pressing ENT.
Press **NXT** to go to the next field.

WHO SMITH AB

(12 character ID only)
You can enter a new name. Either type over the existing name, or press CLR to clear the field before typing a new name. Press ENT when you have finished.

Press **NXT** to go to the next field.

ID 27 HOLDS 0

You can enter a Holiday Profile. Enter a value between 0 and 24 and press ENT.

Either press ESC to return to the *CMD* prompt, or use the up and down arrow keys, or FastFind (*), to search for another key to edit.

When a key has been edited, the changes to access code and/or holiday profiles will be observed by all the readers in the system. This will not be the case if:

- Slave Door Controllers are disconnected or not communicating with the Master.
- A download is in progress to a Slave Door Controller, in which case the new information will not reach the Slave until completion of the download.

PIN Codes - The N Command

You may have a special type of Readykey reader on your system that requires a PIN (Personal Identification Number) to be entered in addition to a key being presented. K2001-P PIN readers work by calculating a 4-digit (0000-9999) number from the unique token code embedded in the key. The keyholder must then enter this PIN code correctly before the key will be allowed access by the door controller.

An additional feature of the K2100/K1100 door controllers allows a Time Profile (see *Time Profiles*) to control when a reader requires a PIN with the key or just the key:

- When the Time Profile is active then the PIN reader operates like a conventional key reader, requiring no PIN.
- When the Time Profile is inactive then a key plus the PIN is required to gain access.

This feature must be set using the *D* (Doors) command, although the Time Profile is set using the *T* (Time Profile) and *PR* (Time Periods) commands.

PIN Reader Duress

Another feature of the PIN Reader is the ability to generate a Duress alarm. If a keyholder is being forced to open a door, then by adding one to their PIN the door will open as normal. However a Duress Alarm will be reported at the Master Controller.

Example: If a keyholder has a PIN of 1234, then if they enter 1235 (PIN plus 1), the door will open as normal but a Duress Alarm will be generated. Note that you should add one to the code numerically, i.e. a PIN of 1239 gives 1240 as the duress code.

How to Find a Key's PIN

The N Command

To find out the PIN of any key (it does not have to be in the database):

Present an editor key to the front panel reader.

Enter the password and press ENT, if required.

Note: The Editor Key must have an editor level that allows the viewing of PIN codes.

You will now see the *CMD* prompt.

`CMD N`

Type N and press ENT.

`* PRESENT KEY *`

Present a key to the front panel reader.

`PIN NO IS 1234`

The 4 digit PIN will be displayed for about 2 seconds.

Either present other keys to determine their PIN codes, or press ESC to return to the *CMD* prompt.

The P1 Personnel Report

If a printer is attached to the Master door controller then you can use the **P1** command to print a list of personnel. This list will include the PIN code for each key in the database. See the section on *Printer Reports* for full details.

Note: You will only get the PIN codes on the printout if your Editor Level also includes the right to view PIN codes, as well as to generate reports.

Controlling Access

This chapter describes how you control the access of individual keyholders. This is achieved by assigning each keyholder an **Access Code**. This code is created by combining **Access Levels** (where a person has access) and **Time Profiles** (when a person has access).

An additional feature allows you to apply a **Holiday Profile** to a keyholder. This is a range of dates during which they will be denied access at times their Access Code would normally allow.

IMPORTANT: In order to administer the system efficiently it is essential that you maintain careful records of Access Codes, Access Levels, Time Profiles and Time Periods. If you do then you will find that maintaining the system is much easier and you will be less likely to make mistakes.

Time Profiles, which can be used to control other functions in the system as well as keyholder access, are described in detail in the following chapter.

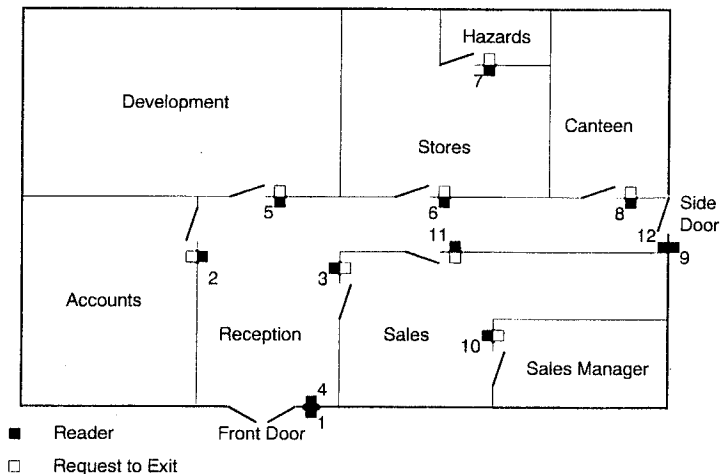
Access Code Overview

An Access Code determines through which doors and at what times a key is allowed access.

Each Access Code has two sets of doors (Access Levels) both of which may have a Time Profile attached.

Example: An Access Code may be set up that allows keyholders through certain doors 24 hours a day, but into other areas only during normal working hours, say 9:00am to 5:00pm, Monday to Friday.

In this case you will create an Access Level consisting of all the doors with no time restriction, and another Access Level containing the doors where access is restricted to working hours. A Time Profile will then be needed covering the time restriction, in this example 9:00 to 5:00, Monday to Friday.



The diagram shown above will be used as a model in several examples.

Organizing Access Codes

The best approach to organizing Access Codes is to consider all the different groups of people who may require access within the system. A group of people for access purposes should consist of those people who will all have the same access requirements. For instance:

- The Sales department may consist of Sales Office staff who have access to the Sales Office, but not the Sales Manager's Office. Other Sales Office staff will have access to the Manager's Office. This arrangement therefore requires at least two groups of staff who would be given different Access Codes.
- Custodians who require access everywhere (except restricted areas) between 5:00pm and 7:30pm, Monday to Friday.
- Senior Managers may require access to all areas at all times.
- Development staff may need access to their area only at all times, but to the rest of the building only during normal working hours.

Residential Systems

Although the examples given concentrate on a commercial type of system, the principles apply equally to Residential systems.

Generally speaking, Residential systems have less complex access requirements. Residents will usually be given an Access Code that allows them access to their dwelling only, with no time restriction. Separate Access Codes will therefore be created for each block or landing, depending on where the readers are located.

Other non-residents will probably need access, for instance, deliveries, custodians, maintenance etc. either 24 hours a day, or at restricted times.

How to Create Access Codes

To create Access Codes for a group of people you should follow these steps:

1. Decide which doors the group will be allowed through.
2. Decide at what times they will have access through these doors. If necessary you can have two lists of doors (**Access Levels**) in one Access Code, one allowing access on one **Time Profile**, the second allowing access at a different **Time Profile**.
3. Check to see if you already have appropriate Access Levels and Time Profiles already set up. If not, then create new ones. (The AL command and the PR and T commands).

Access Levels - The AL Command

Very simply, an Access Level is a list of doors. There is a maximum of 16 doors that may be controlled by the K2100 system. You use an Access Level to define which of those 16 doors different people, or groups of people, will be allowed to use.

There are 128 possible Access Levels that you can set up.

Note: In a new system, you should find that Access Level 1 has been automatically set to all doors. That is, an Access Code which contains Access Level 1 will allow the keyholder through all the doors in the system.

Before you attempt to use this command you should be aware of the numbers assigned to each door. In the example above for instance, Door 1 is the Front Door, Door 3 is the Sales Office (from Reception), Door 11 is the Sales Office (from the corridor. Door 4 and Door 12 are exit doors.

The table below shows which doors are associated with which Door Controller.

Door Controller	Door Numbers			
Master	1	2	3*	4*
Slave 2	5	6	7*	8*
Slave 3	9	10	11*	12*
Slave 4	13	14	15*	16*

* Not available on K1100

In order to show all the settings for 16 doors in each Access Level, the display has to be split into two halves. You should use the **NXT** and - keys to move between the two displays.

To create or alter an Access Level:

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD AL

Type AL and press ENT.

L 1 1 12345678

What you see displayed are the first 8 doors of Access Level 1. The 1 in the center of the display indicates this is the first half of the display (doors 1-8).

L 1 2 12345678

Press **NXT** to see the second set of 8 doors.

The 2 indicates this is the second set of 8 doors (9-16).

In this example Access Level 1 allows access through all the possible doors in the system.

Use the up and down arrow keys or FastFind (*) to select the Access Level you want to change.

L 17 1 12----78

Once you have selected the Access Level you want to change, you select or deselect doors by typing the numbers 1-8. If a door is selected, its number will appear on the list, if it is deselected a dash (-) will replace the number.

L 17 2 ----56--

Press ENT to save any changes you have made. Press **NXT** to see the second set of 8 doors (9-16). Press ENT again to save any changes you have made to the second set.

The example shows an Access Level (number 17) that allows keyholders through doors 1,2,7,8,13, and 14.

Select another Access Level to change, or press ESC to return to the *CMD* prompt.

Time Profiles

Note: Time Profiles are used to control several features of the system, as well as controlling keyholder access. They are fully described in the next chapter.

There are up to 128 Time Profiles available within the system. It is recommended that you set up individual Time Profiles specifically for controlling keyholder access. For instance you may have a Time Profile that automatically unlocks the front door between 9:00am and 5:00 pm, Monday to Friday, for public access. You may be tempted to use the same Time Profile when limiting access of keyholders to an area for the same time period. However, if in the future you decide to alter the keyholder access times, you would also, whether you realized it or not, alter the door opening times.

Note: If you have no intention of placing time restrictions on keyholder access, then there is no need to use Time Profiles at all. If no Time Profiles are used then keyholders will be allowed 24 hour, 7 day access through doors that their Access Code allows.

Access Codes - The AC Command

Access Codes are used to combine **where** a person has access (Access Levels) and **when** (Time Profiles).

Each code has a Primary Access Level and Time Profile plus a Secondary Access Level and Time profile. This allows access to be given to one set of doors at one time, and another set of doors at another time. If no Time Profiles are assigned then the keyholders will have access at all times.

Examples:

The simplest example allows keyholders with this code access everywhere at all times. In a system that has just been initialized this is the case for Access Code 1.

```
Primary Access Level: 1   Access Level 1: 12345678 12345678
Primary Time Profile: 0
Secondary Access Level: 0
Secondary Time Profile: 0
```

The next example allows keyholders through the Front and Side doors at all times, but only into the Sales Office, Accounts and the Canteen between 8:30am and 6:00pm Mon-Fri, 8:30am and 1:00pm Sat.

```
Primary Access Level: 7   Access Level 7: 1--4---- 1--4----
Primary Time Profile: 0
Secondary Access Level: 8   Access Level 8: --23----8 --3-----
Secondary Time Profile: 3   Time Profile 3: 08:30-18:00 MTWTF--H
                                08:30-13:00 -----S-H
```

This example may be used to allow custodians access early in the morning.

```
Primary Access Level: 9   Access Level 9: 123456-8 1234-----
Primary Time Profile: 5   Time Profile 5: 07:00-09:30 MTWTF--H
Secondary Access Level: 0
Secondary Time Profile: 0
```

The Stores Manager needs access to the building and Stores, but is only allowed into other areas during office hours.

```
Primary Access Level: 11  Access Level 11: 1--4-678 1--4-----
Primary Time Profile: 0
Secondary Access Level: 12 Access Level 12: 12345678 1-34-----
Secondary Time Profile: 3   Time Profile 3: 08:30-18:00 MTWTF--H
                                08:30-13:00 -----S-H
```

Note: Quite often Access Levels or Time Profiles will overlap. For instance the Primary Access Level may not allow access, but the Secondary Access Level will. In these cases if **either** Access Level allows the keyholder access then the door will open.

Printing Access Levels

You can use the P3 command to print a report of the current Access Codes, detailing Access Levels and Time Profiles. See *Printing Reports*.

Using the AC Command

To set Access Codes use the AC Command. At this point you should know what Access Levels are set and what Time Profiles, if any, you are going to use.

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD AC

Type AC and press ENT.

AC 1 PAL 1

What you see displayed is the Primary Access Level for Access Code 1.

Use the up and down arrow keys or FastFind (*) to select the Access Code you want to change.

AC 3 PAL 0

Primary Access Level

Once you have selected the Access Code you want to use, type the Primary Access Level (0-128) and press ENT.

Press **NXT** to go to the next field.

AC 3 PTP 0

Primary Time Profile

Enter the Time Profile you want to apply to the Primary Access Level. If you want no time restriction then enter zero. Press ENT.

Press **NXT** to go to the next field.

AC 3 SAL 0

Secondary Access Level

Type the Secondary Access Level (0-128) and press ENT.

Press **NXT** to go to the next field.

AC 3 STP 0

Secondary Time Profile

Enter the Time Profile you want to apply to the Secondary Access Level. If you want no time restriction then enter zero. Press ENT.

Press **ESC** to return to the *CMD* prompt.

Holidays - The HP Command and HR Command

The K2100/K1100 allows the setting up of 24 different Holiday Profiles. Each Holiday Profile consists of up to 20 Holiday Periods, a Holiday Period being a start date and duration. Up to 254 Holiday Periods can be defined.

Once a Holiday Period been defined it can be applied to any keyholder using the E command. When a Holiday Profile is active then any keyholder assigned the Profile will not gain access and a No Access: Holiday event will be recorded.

System Holidays

Holiday Profile 1 is a special case. It contains all the Holiday Periods that can be used to override Time Profiles (see *Time Profiles* below for full details). This means that, for instance a door that automatically opens during office hours, Monday to Friday, will **not** open on holidays that may fall during the week, such as public holidays, Christmas Day. Likewise, a person allowed into a building during the week can be prevented from gaining access on such days.

For this reason you should refrain from using Holiday Profile 1 for keyholder use, and reserve it for System Holiday use only.

One technique for maintaining system holidays would be to assign Holiday Periods 1 to 20 to Holiday Profile 1 (see below). Then assign known dates and durations to those Holiday Periods. Once a year you should enter all the known holidays for the following year or so. Using this method you only need to replace Holiday Periods that have passed with holidays in the future.

Holiday Periods - The HR Command

There are 254 possible Holiday Periods. Each consists of a **Start Date** and **Duration**. The duration includes the start date itself. For instance, if you want a Holiday Period to cover Christmas Day and Boxing Day, you would enter a Start Date of 25/12/93 and a duration of 2 days. If you want just a single day, then enter the start date, 4/7/93, duration 1 day for example.

Assigning a Holiday Period

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD HR

Type HR and press ENT.

ST 1 00-00-00

Use the up and down arrow keys or FastFind (*) to select the Holiday Period you want to change.

ST 5 00-00-00

Holiday Period Start Date

Once you have selected the Holiday Period you want to use, type the start date. The cursor will 'jump' over the separator characters as you enter the date. Press ENT.

Press **NXT** to go to the next field.

DURATION 1 0

Holiday Period Duration

Enter the numbers of days the Holiday Period will last and press ENT.

Press **ESC** to return to the *CMD* prompt.

Holiday Profiles - The HP Command

Up to 20 Holiday Periods can be assigned to a Holiday Profile. A total of 24 Holiday Profiles are available. Holiday Profile1 has a special purpose, see *System Holidays* above.

Using the HP Command

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD HP

Type HP and press ENT.

HOL 1 ON/OFF N

Use the up and down arrow keys or FastFind (•) to select the Holiday Profile you want to change.

HOL 1 ON/OFF N

Holiday Profile Active

Type Y to make the profile active, N to deactivate it. If you deactivate an active profile, then any restrictions that were in force will be removed. Press ENT.

Press **NXT** to go to the next field.

HOL 1 PR 1 0

Holiday Period

Enter the Holiday Period and press ENT.

There are 20 fields that you can enter here, press **NXT** to go to the next period.

Press ESC to return to the *CMD* prompt.

Printing Holiday Periods

Use the P9 command to print details of the Holiday Profiles. See *Printing Reports*.

Time Profiles

Time profiles are a powerful tool that have several functions within the access control system:

- Restricting the access of personnel as part of their Access Code
- Automatically open and close doors
- Automatically enabling an additional Alarm point (K2015 Alarm Module)
- Automatically switching a relay on the Door Controller or a K2015 Alarm Module
- Switching a K2001-P PIN reader between Key plus PIN and Key only

Typical examples are:

1. A public access door through which anybody can pass between 9:00am and 5:00pm, Monday to Friday, but outside these hours a key is required.
2. Some staff are only allowed access between 8:30am and 5:30pm, Monday to Friday; 8:30am to 12:00pm Saturday.
3. Custodians are allowed access only between 7:00am and 9:00am Monday to Saturday.
4. Shift workers can gain access between 8:00pm and 6:00am Monday to Friday.

Note: If you are never going to use time controls of any type then there is no need to set up any time profiles at all, just use a time profile of zero where required.

How Time Profiles Work

There are 128 different Time Profiles. Each Time Profile consists of up to three Time Periods. A Time Period consists of a start time, an end time and the days of the week to which it applies. For instance example 1 above requires just one Time Period, 9:00am (start time) to 5:00pm (end time), Monday to Friday (days of the week). Example 2 requires two Time Periods, 8:30am to 5:30pm Monday to Friday plus 8:30am to 12:00pm Saturday only.

You can define up to 32 different Time Periods, and either one, two or three of these Time Periods can be used to create one of 128 Time Profiles. A Time Period may appear in more than one Time Profile.

IMPORTANT: The Time Profile is **Active** from the **beginning** of the first minute of each Time Period until the **end** of the final minute of each Time Period, on the days of the week to which it applies. In addition, if the Holiday option is **set** for a Time Period, then the Time Profile will **not** be active on any days contained in Holiday Profile 1.

The table below describes the effect that a Time Profile has when applied to the functions it may control.

Function	Command	Active	Inactive
Access Code	AC	Access Allowed	No Access
Doors	D	Door Unlocked, free access.	Door Locked, key required.
Alarm Module Inputs	MR	Disabled, no event when activated.	Enabled, alarm event when activated.
Relay Outputs	RE	Relay is set	Relay is not set
PIN Reader	D	Key only required.	Key plus PIN required.

Tip: Use different Time Profiles for different functions even if they are identical. This means that if a change is required to one function at a later date then these can be achieved without affecting the other functions.

Tip: When using time profiles it is important to check the time and date at regular intervals, say once a month, to ensure that the system operates accurately. See *Setting the Clock*.

- A Time Period always starts at the **beginning** of the first minute of the Time Period. That is, in example 1 for instance, when the time changes from 8:59 to 9:00.
- A Time Period always finishes at the **end** of the final minute. That is when the time changes from 5:00pm to 5:01pm.
- A Time Period cannot cross midnight. When, as in example 4 above, it is necessary to cover such a time then two Time Periods are required, one from the start time up to midnight (use 23:59), with another Time Period from midnight (use 00:00) to the end time. See the example below.

Time Profile Status Switch

In addition to the 3 Time Periods, each Time Profile has a status setting, either ON or OFF. Normally if a Time Profile is being used then its status will be ON. However when the status is switched OFF, the effect depends on the application:

Access Codes. A Time Profile that is switched OFF will lock out **all** personnel with that profile as part of their Access Code, until the Time Profile status is switched back ON.

Doors. A Time Profile that is switched OFF will stop the door automatically opening. It will also lock a door that is currently open according to that Time Profile.

Alarm Inputs. A Time Profile that is switched OFF will prevent the input being automatically isolated. It will also enable all inputs that are currently isolated according to that Time Profile.

Relays. A Time Profile that is switched OFF will prevent any relays, either on Door Controllers or K2015 Alarm Modules, assigned that Time Profile from operating. It will also reset any relays that are currently set according to the Time Profile.

PIN Reader. A Time Profile that is switched OFF will require keyholders to present their keys **and** enter their PIN at a PIN reader assigned that Time Profile.

Examples

Note: Time Periods are defined using the 24-hour clock, where, for example, Midnight is 00:00, Noon is 12:00 and six o'clock in the evening is 18:00.

The examples given here are typical of the types of application for which a Time Profile is used. All the example Time Profiles are setup by using the following Time Periods:

	Start Time	End Time	Days
1	08:45	17:30	MTWTF--H
2	08:45	13:30	-----S-H
3	18:00	23:59	MTWTF--H
4	00:00	06:00	-TWTFs--
5	00:00	00:00	-----
6	00:00	00:00	-----
7	09:00	17:00	MTWTF--H
8	00:00	23:59	-----SS-

1. A group of people require access to an area during working hours only. In this case working hours are 9:00am to 5:00pm Monday to Friday and 9:00am to 1:00pm Saturday. They will not be allowed access on public holidays, if these fall on week days. Notice that some extra time is allowed at the start and end of the period to allow people to arrive early and leave late.

Period				
1:	1	08:45	17:30	MTWTF--H
2:	2	08:45	13:30	-----S-H
3:	0			

2. A public entrance door needs to be unlocked during office hours, but not on public holidays. Note that, unlike the example above, there is no 'spare' time at the start and end of the period.

Period				
1:	7	09:00	17:00	MTWTF--H
2:	0			
3:	0			

3. Shift workers need access to an area between 6:00pm and 6:00am Monday to Friday.

Period				
1:	3	18:00	23:59	MTWTF---
2:	4	00:00	06:00	--TWTFSS--
3:	0			

Note: in this case, because they work over midnight then they need access on the following day, that is they arrive for work on Friday evening, but leave on Saturday morning. You may need to be careful whether you allow access on public holidays in these cases as a 'normal' working day may start or finish on a holiday.

Setting a Time Period - The PR Command

The first step in creating Time Profiles is to make sure the Time Periods that you require are defined.

The PR Command

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD PR

Type PR and press ENT.

P1 START 00-00

Use the up and down arrow keys or FastFind (*) to select the Time Period you want to change.

P1 START 00-00

Period Start

Using the 24-hour clock, enter the start time of the period and press ENT.

Press **NXT** to go to the next field.

P1 END 00-00

Period End

Using the 24-hour clock, enter the end time of the period and press ENT.

Press **NXT** to go to the next field.

P1 DAY -----

Days of the Week

This is an option field. To make the Time Period active on a particular day of the week, type a number as follows:

1 Mon, 2 Tue, 3 Wed, 4 Thu, 5 Fri, 6 Sat, 7 Sun, 8 Hol

When you press a number, the initial letter of the day will appear. To deselect a day press its number again, a dash will appear at that day.

The Holiday option, 8, indicates that this Time Period will **not** be active on a System Holiday.

Press ESC to return to the CMD prompt.

Creating a Time Profile - The T Command

Before creating a Time Profile, ensure that the Time Periods you require have already been set, see above.

The T Command

Present an editor key to the front panel reader.

Enter the password and press ENT, if required.

You will now see the CMD prompt.

CMD T

Type T and press ENT.

TP 1 ON Y

Use the up and down arrow keys or FastFind (*) to select the Time Profile you want to change.

TP 1 ON N

Time Profile Status

See the description above in *How Time Profiles Work*, to understand the significance of this setting.

Type Y to switch the Time Profile ON, Type N to switch the Time Profile OFF. Press ENT.

Press **NXT** to go to the next field.

TP 1 PER 1 0

First Time Period

Enter the first Time Period number (0-32). Enter zero if you do not need this Time Period. Press ENT.

Press **NXT** to go to the next field.

TP 1 PER 2 0

Second Time Period

Enter the second Time Period number (0-32). Enter zero if you do not need this Time Period. Press ENT.

Press **NXT** to go to the next field.

TP 1 PER 3 0

Third Time Period

Enter the third Time Period number (0-32). Enter zero if you do not need this Time Period. Press ENT.

Press ESC to return to the CMD prompt.

Printing Time Profiles

Use the P8 command to print details of Time Profiles. See *Printing Reports*.

System Administration

Changing the Date and Time - The C Command

Once set at installation the K2100 door controller will maintain its time using a battery backed Real Time Clock. You should check the clock regularly to ensure accuracy. This is particularly important if you use Time Profiles for controlling system functions and access.

Summertime (or Daylight Saving Time)

You will need to adjust the clock twice a year when the clocks go back (Autumn) and forward (Spring).

Date Format

The date format is set using the INST command. Three formats are possible, using 23rd January 1994 as an example:

0	23-01-94 (day-month-year)	The default, European style.
1	01-23-94 (month-day-year)	US style
2	94-01-23 (year-month-day)	Japanese/Scandinavian style.

How to Check and Set the Time

To check the date and time use the C Command:

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD *C*

Type *c* and press ENT.

DATE 10-11-93

Enter the date:

Type the new date over the existing date, or use the left and right arrow keys to move the cursor to the figures you want to change. Note that the cursor moves over the separator characters (-) to the next digit.

Note: If you press CLR then you should re-enter the date with spaces between the day, month and year.

Press ENT when complete.

If the date you enter is invalid, then it will be adjusted to the nearest valid date.

Press **NXT** to go to the next field.

ENTER DAY TUE

Enter the day of the week.

Type MON, TUE, WED, THU, FRI, SAT or SUN and press ENT.

If you do not type one of the above 3 character names, then the display will default to *MON*.

Press **NXT** to go to the next field.

ENTER TIME 16-01

Enter the current time.

Type the new time over the existing time, or use the left and right arrow keys to move the cursor to the figures you want to change. Note that the cursor moves over the separator character (-) to the next digit.

Note: If you press CLR then you should re-enter the time with a space between the hours and minutes.

Press ENT when complete.

If the time you enter is invalid, then it will be adjusted to the nearest valid time.

Press ESC to return to the C prompt.

Manual Lock/Unlock - The L Command

It is possible to manually lock and unlock a door from the Master controller. It may be necessary to do this, for instance when a door needs to be kept open while contractors are working in an area, or equipment is being moved around. Also a door normally open on a Time Profile may need to be locked while a receptionist or guard is not available.

Doors controlled by a Time Profile

- Manual lock will lock the door, keys will then be required to gain access. If no further action is taken the door will still unlock at its next automatic opening time.
- If the door is manually unlocked then it will lock again, if no further action is taken, at its next automatic closing time.

Doors not controlled by a Time Profile

- Manual unlock will unlock the door, it will stay unlocked until manually locked again.

Use the following procedure to lock/unlock a door:

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD L

Type L and press ENT.

DOOR 1 STATE N

You now see displayed the state of Door 1. N (Normal) means that no manual override is in operation - the door may be locked or open on a Time Profile.

To select the door you want lock or unlock, you can either use the up and down arrow keys to select an Access Level, or press the FastFind button (*).

FIND

If you use FastFind (left) then type the Door number you require and press ENT.

DOOR 10 STATE N

Once you have selected the door you require:

Type L and press ENT to lock the door.

Type U and press ENT to unlock the door.

Press ESC to return to the *CMD* prompt.

Printer Reports

If you have a printer attached you will generate Manual Lock or Manual Unlock transactions, along with the door name and the editor key that was used.

The P4 command will print the current status of all the doors.

Printer Reports

There are several reports that can be printed. These include a list of keyholders, most of the data stored in the system, past transactions and system status. These reports are produced by entering one of the Printer commands, P1 to P9. The P6 report, which gives installation details, is only available to the holder of the Master key.

Two other commands that are associated with printer output are:

HE Command

The Header command allows the user to create a custom header to appear at the top of the report.

K Command

This erases all transactions in the system memory.

Reports - P1...P9

Most of these reports allow you to select a range to print, such as personnel numbers, date range for transactions etc. Each report that requires a range prompts for a **From** and **To** value. In all cases the default values are the top and bottom of the list, e.g. 1 and 4000 for personnel, 1 and 128 for Time Profiles. Where a range is required you start the printout with the FastFind button (*).

Present an editor key (Master key for the P6 Report) to the front panel reader.

Enter the password and press ENT, if required.

You will now see the **CMD** prompt.

CMD P1

Type:

- P1 Personnel
- P2 Door Data
- P3 Access Codes
- P4 System Status
- P5 Transactions
- P6 System Setup
- P7 Alarm Data
- P8 Time Profiles
- P9 Holiday Profiles

... and press ENT.

The P2, P4 and P6 commands will start printing immediately, for other commands, see below.

PRINT FROM 1

P1, P3, P7, P8, P9

These commands ask for a **FROM** and **TO** parameter.

PRINT TO 4000

(P1 - Personnel)

The default values are **FROM 1**, and **TO the highest value** (P1: 4000, P3:128, P7: 128, P8: 32, P9: 24). Press ENT.

Press **NXT** to go to the **TO** field.

Press FastFind (*) at any point to accept the entered values and start the report.

STRT DT 00-00-00**P5 - Transactions****STRT TIME 00-00**

This command asks for a start date and time plus an end date and time. The defaults are the earliest possible date and time, and the current date and time.

END DT 11-11-93

Use **NXT** to any other date and time as the report range. Press **ENT** after making any changes.

END TIME 17-13

Press FastFind (*) at any point to accept the entered values and start the report.

Example***PRINTING PERSON****Printing**

If the printer is connected then a scrolling display will appear indicating that the report is being printed.

Press **ESC** at any time to abort the printout.

Note: The personnel (P1) may appear to spend a long time showing this display but not printing. This is because it examines all 4000 possible keyholders for valid entries, unless the upper limit is reduced.

PRINTER FAULT**Failure to Print**

If the printer is not connected or out of paper then you may get this message, plus a short beep.

Reconnect the printer or fill it with paper and try the command again.

P1 - Personnel

This report produces a list of all keyholders in the system. The PIN code will only be printed if your Editor Level allows.

```

RADIONICS REMKEY K2100      PERSONNEL REPORT
DATE: 11-11-93  TIME: 16:53  REQUESTED BY MASTER KEY      PAGE 1

PERS. ID      NAME      TOKEN CODE      ACCESS CODE      PIN NO
0001      MASTER KEY      D3062425      1      1609
0002      JONES A      8824A474      1      5613
0003      SMITH J      3A33642A      1      3446
0004      BROWN IM      C824B4BC      3      8249
0005      BAYLER CT      5503B480      3      4854
0006      TAYLOR TS      9C25D403      3      1524
0007      ROYLE TS      6903F4F4      3      9099
0008      LEE SA      230314F3      3      9030
0009      LIDDY BP      C824942B      3      2941
0010      BORRELL LA      4B02CA91      3      5435
0011      WALKER SIM      74665451      3      6736

```

Sample P1 - Personnel Printout

P2 - Door Data

All 16 possible doors are printed.

RADIONICS REMOTEKEY K2100		DOOR DATA REPORT			
DATE: 11-11-93	TIME: 17:32	REQUESTED BY MASTER KEY		PAGE 1	
DOOR NO	DOOR NAME	RELEASE TIME	OPEN TIME	TIME PROFILE	LOCK MODE PIN TP
01	FRONT DR IN	7	15	1	1—5— 0
02	ACCOUNTS	5	15	0	1—7— 1
03	SALES RESEP	5	15	0	1— 0
04	FRONT DR OUT	0	0	0	— 0
05	DEVELOPMENT	5	15	0	1— 0
06	STORES	5	15	0	1— 0
07	HAZARDS	5	15	0	1— 0
08	CRUISEN	5	15	0	1— 0
09	SIDE DR IN	5	15	0	1— 0
10	SALES MGR	5	15	0	1— 0
11	SALES CORR	5	15	0	1— 0
12	SIDE DR OUT	0	0	0	— 0
13	DOOR 13	5	0	0	— 0
14	DOOR 14	5	0	0	— 0
15	DOOR 15	5	0	0	— 0
16	DOOR 16	5	0	0	— 0

Sample P2 - Door Data Printout

P3 - Access Data

This report lists all the Access Codes, broken down into the Primary Access Level and Time Profile, and Secondary Access Level and Time Profile.

RADIONICS REMOTEKEY K2100 ACCESS DATA REPORT
 DATE: 11-11-93 TIME: 10:21 REQUESTED BY MASTER KEY PAGE 1

ACC CODE	DOORS ACCESSED	TIME PROFILE	TIME PERIODS
001	1-12	Primary : 000	Period - not assigned Period - not assigned Period - not assigned
		Secondary : 000	Period - not assigned Period - not assigned Period - not assigned
002	1,4,8,9,12	Primary : 001	Period 01 08-45 - 17-30 on MEWDF-H Period 02 08-45 - 13-00 on -----SSH Period - not assigned
		Secondary : 000	Period - not assigned Period - not assigned Period - not assigned
003	1-12	Primary : 001	Period 01 08-45 - 17-30 on MEWDF-H Period 02 08-45 - 13-00 on -----SSH Period - not assigned
	3,11	Secondary : 001	Period 01 08-45 - 17-30 on MEWDF-H Period 02 08-45 - 13-00 on -----SSH Period - not assigned

Sample P3 - Access Data Printout

P4 - System Status

This report shows the state of doors and alarm zones within the system. The doors and alarm zones are shown for each door controller in turn.

Doors**Door States**

UNLOCKED Door is manually or automatically unlocked, see Override
 LOCKED The door requires a valid key
 OPEN The door is physically open

Door Alarm States

NO ALARM No alarm conditions present
 TAMPER/FORCED A Tamper or Unauthorized Access
 LEFT OPEN Door left open

Emergency Override?

YES If doors all doors opened,
 NO Normal condition.

Manual Override?

NORMAL No override active
 UNLOCK Door manually unlocked (L Command)
 LOCKED Door manually locked (L Command)

Timed Override?

YES Door opened on a Time Profile
 NO No active Time Profile

Alarm Zone States

Only K2015 Alarm Module Inputs that have been assigned responses are shown.

Isolated?

YES Isolated, either manually or by a Time Profile
 NO Zone is active

State

CLEAR Input is in its normal condition
 ALARM Input is in alarm state

RADIONICS REMANKEY K2100 DOOR AND ALARM STATUS REPORT
 DATE: 11-11-93 TIME: 10:24 REQUESTED BY MASTER KEY PAGE 1

DOOR CONTROLLER : 01

DOOR	DOOR NAME	STATE	ALARM STATE	EMERGENCY OVERRIDE?	MANUAL OVERRIDE?	TIMED OVERRIDE?
01	FRONT DR IN	UNLOCKED	NO ALARM	NO	NORMAL	YES
02	ACCOUNTS	OPEN	FORCED/TAMPER	NO	NORMAL	NO
03	SALES RECP	LOCKED	NO ALARM	NO	NORMAL	NO
04	FRONT DR OUT	UNLOCKED	NO ALARM	NO	NORMAL	NO

ALARM ZONE STATUS

ZONE NO	ISOLATED?	STATE
1	YES	INPUT CLEAR
2	YES	INPUT CLEAR

Sample P4 - System Status Printout

P5 - Transaction Printout

The P5 Command prompts you for a date and time range, see above.

Note: the printout will give all the High Priority transactions that have occurred in the date range first, followed by the rest of the transactions. This may result in a pause between the two parts of the report.

```

RADIONICS READ/KEY K2100      TRANSACTION REPRINT
DATE: 11-11-93   TIME: 13:09   REQUESTED BY MASTER KEY   PAGE 1

  DATE    TIME    DOOR    USER    TRANSACTION
  -----
11/11/93  09:14  SALES RECEP             Anti-tamper Alarm
11/11/93  09:14  SALES RECEP MASTER KEY   Local Alarm Accepted
11/11/93  09:14  SALES RECEP             Alarm Cleared
11/11/93  09:15  SALES RECEP             Door Left Open
11/11/93  09:15  SALES RECEP             Door Closed
11/11/93  09:15  SALES RECEP MASTER KEY   Manual Unlock
11/11/93  09:16  SALES RECEP MASTER KEY   Manual Lock
11/11/93  09:27  ZONE 1                  Alarm Zone Active
11/11/93  09:27  ZONE 1 MASTER KEY        Local Alarm Accepted
11/11/93  09:28  ZONE 1                  Zone Restored, ReArmed

11/11/93  09:00  FRONT DR IN             Automatic Unlock
11/11/93  09:00  ZONE 1                  Auto Zone Disable
11/11/93  09:00  ZONE 2                  Auto Zone Disable
11/11/93  09:11             MASTER KEY             Editor On (Panel)
11/11/93  09:12  SALES RECEP BAXTER OT    Access Authorized
11/11/93  09:13  SALES RECEP             Request to Exit
11/11/93  09:14  SALES RECEP      ????    No Access: Unknown ID
11/11/93  09:14  FRONT DR IN BORRELL LA   Access Authorized
11/11/93  09:15  SALES RECEP TAYLOR TB     Access Authorized
11/11/93  09:15  SALES RECEP             Request to Exit
11/11/93  09:15  ACCOUNTS TAYLOR TB       Access Authorized
11/11/93  09:15  SALES RECEP ROMLE TS     Access Authorized
11/11/93  09:15  SALES RECEP             Request to Exit

```

Sample P5 - Transaction Printout

P6 - System Setup

This command is only available to the Master key.

This report shows information created by using the Installation setup (INST Command), Data Protection (DP), Door Controller setup (DC) and Editors (I).

Warning: This report contains sensitive information, such as passwords etc. Take care not to leave it in view or where it can found by unauthorized persons.

RADIONICS READKEY K2100 SYSTEM SETUP REPORT
DATE: 11-11-93 TIME: 15:42 REQUESTED BY MASTER KEY PAGE 1

BAUD RATE : 4800
HEADER : RADIONICS READKEY K2100 (enabled)
PRINTER TYPE : EPPON compatible
ROLL TAPE : ---
DATE TYPE : D-M-Y format
ID type : Alphanumeric
ADDRESS : 1

DATA PROTECTION SETUP

TRANS ENABLED : Y
POSITIVE ENABLED : Y
TIME PROFILE : 0
EXCLUDED DOORS :

ADDRESS	TYPE	DOORS	PASSBACK CODE	PASSBACK TIME	RENDER/LOCK
MASTER	K2100	01 02 03 04	---	00	1-
02	K2000-N	05 06 07 08	---	00	---
03	K2000-N	09 10 11 12	---	00	---
04	K2000-N	13 14 15 16	---	00	---

EDITOR NO.	EDITOR NAME	EDITOR LEVEL	TOKEN CODE	EDITOR PASSWORD
MASTER	MASTER KEY		03062425	
1	JOE SMITH	4095	8824M474	JOES
2	FRED BROWN	1271	3A33642A	FREDDY

Sample P6 - System Setup Printout

P7 - Alarm Data

This report gives details of alarm inputs and responses, as defined by the MR and MS commands.

RADIONICS READKEY K2100 ALARM SETUP REPORT
DATE: 11-11-93 TIME: 13:44 REQUESTED BY MASTER KEY PAGE 1

ZONE	RESPONSE	ACTIVE	PROFILE	RELAYS
1	1	YES	0	4
2	1	YES	0	0

Sample P7 - Alarm Data Printout

P8 - Time Profiles

Each Time Profile is printed along with the its Status and the Time Periods assigned.

```

RADIONICS READKEY K2100    TIME PROFILE REPORT
DATE: 11-11-93    TIME: 16:01    REQUESTED BY MASTER KEY    PAGE 1

PROFILE  ACTIVE  PROFILE DETAILS
1        YES     Period 01  08:45 - 17:30 on MINIF-H
              Period 02  08:45 - 13:00 on -----SSH
              Period - not assigned

2        NO      Period 03  18:00 : 23:59 on MINIF---
              Period 04  00:00 - 06:00 on --TWIF--
              Period - not assigned

```

Sample P8 - Time Profile Printout

P9 - Holiday Profiles

Holiday Profiles are printed with all the assigned Holiday Periods. Holiday Profile 1 contains the System Holidays.

```

RADIONICS READKEY K2100    HOLIDAY REPORT
DATE: 30-11-93    TIME: 16:05    REQUESTED BY MASTER KEY    PAGE 1

PROFILE  ACTIVE  START  DURATION  START  DURATION  START  DURATION  START  DURATION
1        YES     25/12/93  2  01/01/94  1  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
2        NO      00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0
              00/00/00  0  00/00/00  0  00/00/00  0  00/00/00  0

```

Sample P9 - Holiday Profile Printout

Header - The HE Command

Two features are provided, the Header text that appears at the top of each page, and whether or not a new page is started and a header printed at the end of each page of on-line transactions.

Header Text

The text that appears at the top of every report can be changed to reflect the site name or any other suitable text. Up to 30 characters can be entered, which are split into 3 'strings' of 10 characters each.

Header used in On-line Transactions

When on-line transactions are printed they will normally print continuously without interruption. You can, however, set the transactions to leave a gap at the end of each page and print the header at the top of the next page.

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD HE

Type HE and press ENT.

STR1 RADIONICS

Header Text 1

Type the first 10 characters of the header text. Press ENT.

Press **NXT** to go to the second 10 characters.

STR2 READYKEY K

Header Text 2

Type the second 10 characters of the header text. Press ENT.

Press **NXT** to go to the final 10 characters.

STR3 2100-AM

Header Text 3

Type the final 10 characters of the header text. Press ENT.

Press **NXT** to go to the next field.

HEADER ENABLE N

Enable Header in On-line Transactions

Press **Y** for on-line transactions to start a new page and print the Header. Press ENT.

Press **N** for continuous transaction printing, without break.
Press ENT.

Press **ESC** to go back to *CMD* prompt.

Kill Transactions - The K Command

The K2100/K1100 door controller can store up to 2500 transactions. How long a time this represents depends, of course, on the amount of activity in the system. For instance if there are 100 transactions a day (that is ALL events that are printed) then the memory represents about 25 days activity.

On occasion it might be necessary to clear this memory. Such an occasion will be where a printer is connected for the first time, after the system has been in use for some time. Unless the memory was cleared, all 2500 transactions will be automatically printed, requiring about 50 pages of printer paper.

To Clear all Transactions

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD K

Type K and press ENT.

CONFIRM KILL

Type Y to clear all transactions from memory

Editor Key Administration

Editor Keys

In order to use the Editor to make changes to the system, you need an Editor Key. This is a normal key that is recognized by the K2100 as allowing the holder to modify data held in the controller. Up to 32 editor keys may be recognized, each may have a different Editor Level. The Editor Level determines what commands that particular key can operate. In addition each Editor Key may be given its own password. The Master Key is a special Editor Key that can be used to issue all commands, and is the only key able to create or modify other Editor Keys.

Note: all Editor Keys, including the Master, are normal keys that can be used for gaining access. However, in order to be used for access control they still have to be added to the personnel list and given an access code. Likewise, removing an Editor Key will not have any effect on its use as normal access key. The exception to this is when a system is initialized for the first time using the **SYSTEM START** command. In this case the Master Key is added as key number 1 in the personnel file, with an access code of 1. (See the *QuickStart* section at the end of this manual.)

Alarm Acceptance

All Editor Keys, including the Master, are able to accept alarms either at the Master or Slave controllers (if used), whatever their Editor Level. For instance, a key with an Editor Level of 0 will **only** be able to accept alarms and be unable to issue any commands in the Editor.

Master Key

The Master Key is created when the system is installed and configured. It can be changed by using the **INST** command - a command for which the Master Key is required.

If the Master Key is lost, then a replacement can be programmed, but only by performing a Reset. This procedure is described in the *K2100/K1100 Installation Manual*. No data will be lost by this process, but it can only be carried out by someone with access to the inside of the Master door controller housing.

Editor Keys

Up to 32 Editor Keys can be assigned, each one with its own individual password and Editor Level. Only the Master Key can add, delete and modify the use of the Editor Keys.

Passwords

Both the Master Key and the Editor Keys can have a password assigned. This prevents anyone has possession of an Editor Key gaining access unless they also know its password. Passwords can only be issued to Editor Keys, or altered, by the holder of the Master key (using the **I** command).

Editor Levels

The ability of any Editor Key to issue commands is determined by the Editor Level it is assigned. The Editor Level is a numeric value, between 0 and 4095, calculated from the following table. Each action is given a value, by adding the values for each action to be assigned an Editor Level is obtained. Some typical examples are given.

Value	Commands	Actions
0	none	Accept Alarms Only
1	P1-P9(exc P6) HE, K	Printer functions

2	L	Manual Lock and Unlock
4	AC, AL, E	Access Codes and Access Levels Edit Personnel
8	D	Set Door Data
16	T, PR	Time Profile functions
32	C	Change date and time
64	V	Void (delete) a personnel key
128	A, N	Add a personnel key View a PIN
256	MR, MS, RE	Alarm module programming
512	DC	Passback and door interlock
1024	HR, HP	Holiday functions
2048	DP	Data protection

Editor Level Examples

This table gives some examples of how to calculate Editor Levels. The names used refer to typical types of operator or user. Note, for instance, that the Installer cannot add or delete personnel, or the Administrator modify door programming.

Value	Commands	Supervisor	Administrator	Installer
0	none	Yes	Yes	Yes
1	P1-P9, HE, K	Yes	Yes	
2	L	Yes	Yes	Yes
4	AC, AL, E	Yes	Yes	
8	D	Yes		Yes
16	T, PR	Yes	Yes	Yes
32	C	Yes	Yes	Yes
64	V	Yes	Yes	
128	A, N	Yes	Yes	
256	MR, MS, RE	Yes		Yes
512	DC	Yes		Yes
1024	HR, HP	Yes	Yes	Yes
2048	DP	Yes		
	Total	4095	1271	1850

Master Key Commands

The following commands can only be issued when the Master Key is used:

Command	Actions
I	Administer Editor keys
INST	Installer functions
P6	Print setup details
INIT, INITn	Initialize a door controller
DL	Download to door controllers
UL	Upload to K-6000-AM Office Admin system
SYSTEM START	Initialize a K2100/K1100

The **INST** and **SYSTEM START** commands are fully described in the *K2100/K1100 Installation Manual*, the **P6** command is described in the section *Printer Functions*, the **INIT**, **DL**, and **UL** commands are described in *Installer Functions*.

Assigning Editor Keys - The I Command

Up to 32 editor keys can be assigned. Editor keys are maintained by modifying a database using the **I** command. Before adding each key you should first of all determine the Editor Level that key will be assigned, see above.

To Add, Modify or Delete an Editor key

Note: Only the Master Key is able to issue the **I** command.

Present the Master key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the **CMD** prompt.

CMD I

Type **I** and press ENT.

E3 KEY 00000000

The display will now show the first unassigned editor. An unassigned editor key is one with a key code of 00000000.

To add a new editor key.

Present a key to the front panel reader.

REPEATED KEY

If the key is already assigned then a **REPEATED KEY** message is displayed for about 2 seconds.

E3 KEY 8824A474

If the key is valid then its 8 character code will appear.

Press **NXT** to go to the Editor Level field (see below).

To modify an existing editor key

E3 KEY 00000000

At the key prompt you can either use the up and down arrow keys to select a key, or press the FastFind button (*). Using FastFind you can find a key in two ways:

1. If you are in possession of the key itself then present the key to the front panel reader.
If the key is not in the database then you will get a message (left) for about 2 seconds before returning to the **ID** prompt.
2. Type the Editor key number (1-32) and press ENT.

NOT IN DATABASE

You can now change the key, if required, by presenting a new key to the front panel reader.

Press **NXT** to go to the Editor Level field (see below).

To delete an editor key

Select the key to delete as described above.

E9 KEY 28851408

When the key code is displayed, press **CLR** - the key code will be replaced with zeroes. Press ENT.

E9 KEY 00000000

Press **ESC** to return to the **CMD** prompt.

Editor Level

E3 LEVEL 0

Enter the Editor Level to be assigned to the key, (see above for Editor Level values). The value must be between 0 and 4095. Zero means the key can only accept alarms, 4095 gives access to all but the Master Key only commands. Press ENT.

Press **NXT** to go to the next field.

Editor ID

ID

The name you enter here will appear on printed reports of Editor use and alarm acceptance when this editor key is used. Type a name of up to 12 characters (A-Z, 0-9 and SPC). Press ENT.

Press **NXT** to go to the next field.

Password

PASSWD

Enter an 8 character password (A-Z, 0-9 and SPC). The password will be required each time the key is used to enter the Editor. If no password is entered, then no password will be asked for. Press ENT.

Press ESC to return to the *CMD* prompt.

ID 27 AC 0

Whatever method you use to find a key you will be presented with the ID number and Access Code.

WHO SMITH AB

Note: If you use 12 character IDs then press **NXT** to view the name assigned to the key (left).

At this point you can use the up and down arrow keys to move through the database to find the key you want to edit. You can also press the FastFind button (*) to return to the *ID* prompt.

Printer Reports

The P6 command gives a list of Editor keys, see *Printer Reports*.

Troubleshooting

This chapter is intended to help system administrators solve problems they may encounter when issuing keys, and organizing access. Most problems will either be due to equipment failure, or errors made when issuing keys or setting up Access Codes etc.

It is far easier to establish what is going wrong if a printer is connected to the system. This will then show you any events that are reported (or not) when a key is used.

Keys and Access

"The key you gave me doesn't work (but everybody else's does)"

What is reported when the keyholder uses their key?

- **No Access: Locked Out** means that the keyholder has been given an Access Code of zero. Check what their Access Code should be and use the E command to assign it to their key.
- **No Access: Level** means their Access Code is incorrect for the door they are trying to use. Either change their Access Code, or explain why they can't use that door.
- **No Access: Time** means that they do not have access at this time. Either change the Access Code to one that does allow access at the appropriate time, check the system time - the clock may be ahead or behind, or explain why they cannot use their key at that time.
- **No Access: Unknown ID** means the door controller has no record of that key. If the door being used is on the Master Door Controller (Doors 1-4) then the key has not been added. If the door is on a Slave Door Controller (Doors 5-16), then there may be a communications break between the Master and Slaves. If a download is in progress then any keys added afterwards may not have reached the Slaves yet.
Check the key is in the system - use the E command to search for it. If it is not found then add the key the system (you should establish whether a key really was issued before, and if so, where it is).
- **No Access: Passback** means they need to leave the passback area, or wait for the time-out, before using their key again.
- If there is no report at all when the key is used, but other keys do report from the same door, then you may have a faulty key. Replace the key with another, by deleting it first (D command), then add it as a new key (A command).

"Nobody can get through door *abc* (but all other doors are OK)"

What is being reported when people attempt to use the door?

- If no report at all is coming from the door, but other doors are reporting normally, then there may well be a faulty reader, a broken cable or a faulty reader channel on the door controller.
- If Access Authorized (or Entry/Exit Authorized) reports are coming through, implying normal operation, then the lock mechanism itself may have failed. The green LED on the reader should also operate as normal in this case.
- If **No Access: reason** reports come through then some changes may have been made to Access Levels, Time Profiles or Access Codes that have inadvertently affected a large number of people. Check these settings carefully.

"Nobody can get through doors *abc, def, ghi* (but all other doors are OK)"

What is being reported when people attempt to use these doors?

As above plus:

- If all the doors that have stopped working are on the same door controller, this would imply that the door controller itself had failed.

"All the doors have stopped working"

What is being reported when people attempt to use the doors?

- If **No Access: Time** reports are being generated then the clock may be wrong, also check that the system does not consider this to be a holiday (see *Time Profiles, System Holidays*).
Check that the any Time Profiles, assigned to doors **or** to Access Codes, have not been disabled.

Alarms

"We keep getting DOOR *nn* Alarms"

The most likely reason for excessive **Unauthorized Access** alarms is poorly installed or adjusted door monitoring switches, or inefficient door closers. The door controller can only assume that if the switch opens without a key or Request to Exit switch being used, then the door has been forced.

If, for instance a door does not close properly, but enough for the door contact to register the door closed, then if the door is pushed, or even blown, open an alarm will result.

Installer Commands

Important: This section describes the commands used for configuring the K2100/K1100 door controllers. Care needs to be taken when using these commands as they can change the way the whole system operates. Only Users and Installers who are fully aware of the implications of making changes to the system should be allowed access to these functions. See the section on *Editor Keys* to see how to restrict the use of editor keys.

The DC Command

This command controls two important features of the door controller, Anti-Passback and Lock Sharing. Both these features are described below, followed by details of the DC command.

The D Command

This is the command that allows you to set the features of each door. These include the lock release time, door monitoring, automatic opening etc.

Data Protection - the DP Command

This chapter also includes details of the Data Protection facilities. These are used when local legislation requires that certain individual transactions are not reported or stored.

The DC Command

Anti-Passback

Anti-Passback is a feature that prevents a key being used to enter an area until it has also been used to leave the area. This should stop keyholders passing their keys to others to gain entry.

Anti-Passback can only operate between the doors on one controller. On a K2100 doors 1 and 2 may be used as entry doors, doors 3 and 4 as exit doors. On a K1100, door 1 is the entry door, door 2 the exit door.

When Anti-Passback is set then a keyholder may enter an area through an entry door. If the same key is used again at an entry door, then a **No Entry: Passback** transaction is produced, and the lock will not operate. Access will continue to be denied until the key has been used at an exit reader.

Note: If door monitoring is used, then anti-passback will only be set if a key is presented **and** the door is opened. Simply presenting a key will not set anti-passback. If door monitoring is not used, then anti-passback will be set when a valid key is presented.

Timed Anti-Passback

The period for which a key is denied access can be limited by entering a time period. After the expiration of this time a key will be allowed access again, even if it has not been used to leave the area. The time may be set to between 10 and 30 minutes.

Using the time-out period means you could use Anti-Passback without an exit reader. A car park, for instance, may have an entry barrier with a reader. When a key is used to raise the barrier, that key will not be able to gain access again until the time period expires. Provided that genuine use of the key is unlikely to be needed within the time period, then no exit reader is required.

Anti-Passback on Exit

Anti-Passback can also be set on exit. This will prevent a key leaving an area unless it has entered the area. Timed anti-passback will also operate on exit.

Lock Sharing

This feature allows a single lock output to be controlled by two separate reader channels. Normally this is the case when two readers are being used, one each side of the door, controlling both entry and exit.

K1100

This feature operates slightly differently on a K1100. As the K1100 is a two door controller, only one door pair is available, Doors 1 and 2.

K2100: When Sharing is set for:-

	Reader Channel ..	Operates ..	Direction	Transaction
Channels 1&4	Channel 1	Lock 1	IN	Entry Authorized
Channels 2&3	Channel 2	Lock 2	IN	Entry Authorized
Channels 2&3	Channel 3	Lock 2	OUT	Exit Authorized
Channels 1&4	Channel 4	Lock 1	OUT	Exit Authorized

K1100

K1100: When Sharing is set for:-

	Reader Channel ..	Operates ..	Direction	Transaction
Channels 1&2	Channel 1	Lock 1	IN	Entry Authorized
Channels 1&2	Channel 2	Lock 1	OUT	Exit Authorized

Example: Two readers are installed on each side of a door, one controlling entry, the other controlling exit.

The entry reader should be connected to channel 1 of the door controller, the exit reader to channel 4. Alternatively, you could use channel 2 (entry) and channel 3 (exit).

Using the DC command (see below), set **RDR-LK D/C 1** to 1- (-2 if using 2 and 3, or 12 for both pairs).

From now on a valid key presented to reader 4 (exit) or reader 1 (entry) will operate lock 1. These actions will generate Exit Authorized and Entry Authorized transactions respectively.

Using the DC Command

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD *DC*

Type *DC* and press ENT.

Use the up and down arrow keys to select the door controller. D/C 1 is the Master door controller, D/C 2,3 and 4 are Slave door controllers.

PBC D/C 1 ---

Setting Anti-Passback

This is an option field. To change a setting press the number corresponding to the option you want to change. In this case 1,2 or 3. If an option is set then its number will be displayed, if not set then a -(dash) will be displayed.

K2100

- Option 1 Sets anti-passback with door 1 as entry and door 4 as exit.
- Option 2 Sets anti-passback with door 2 as entry and door 3 as exit.
- Option 3 Sets anti-passback on exit.

K1100

- Option 1 Sets anti-passback with door 1 as entry and door 2 as exit.
- Option 2 Not applicable.
- Option 3 Sets anti-passback on exit.

PB-TIM D/C 1 0

Anti-Passback Time

Enter the time, in minutes between 10 and 30, after which a key may be used again after entry (or exit). Set a time of 0 for no time-out - entry will only be allowed when a key has left the area.

Press **NXT** to go to the next field.

RDR-LK D/C 1 --

Lock Sharing

This is an option field. To change a setting press the number corresponding to the option you want to change. In this case 1 or 2. If an option is set then its number will be displayed, if not set then a -(dash) will be displayed.

K2100

- Option 1 Channels 1 and 4 operate lock output 1.
- Option 2 Channels 2 and 3 operate lock output 2.

K1100

- Option 1 Channels 1 and 2 operate lock output 1.
- Option 2 Not applicable.

Press **ESC** to return to **CMD** prompt.

Printing Door Controller Data

Use the **P6** command to print Door Controller data, see *Printer Reports*.

The D Command

The **D** command allows the setting of several features on each door or reader. Each of these features is described in detail below, followed by a description of the **D** command itself.

The features are described in the order in which they appear, and the heading for each command also includes the prompt displayed when using the **D** command.

When a K2100/K1100 system is first installed, if the SYSTEM START command is used (see *QuickStart*), then some values will already be set. These will be indicated in the descriptions below.

Lock Release Time

Prompt: *LRT*
Range: 0-255 seconds
Default: 5

The amount of time, in seconds, that a lock will operate when a valid key is presented or a Request to Exit button is pressed. After the SYSTEM START command has been used, the Lock Release Time for all doors is set to 5 seconds.

When setting this value, consideration should be given to the way in which the door operates, its location and the people who will be using it. For instance, elderly or disabled people may require a longer time to open the door after presenting their keys.

Note: If door monitoring is enabled (see below) then the lock release time will be canceled when the door controller detects the door has closed.

Door Open Time

Prompt: *DOT*
Range: 0-255 seconds
Default: 0

The value entered here performs two functions, enabling door monitoring and the length of time a door can be left open before a warning.

Door Monitoring

The connection of a door monitoring switch is described in the *K2100/K1100 Installation Manual*.

- If the value is non-zero (i.e. between 1 and 255) then door monitoring is enabled. This means that the door controller expects a switch to open when the door is opened, and to close when the door is closed.
- If no door monitoring switch is connected then this value should be set to zero.
- If a door monitoring switch is connected and this value is set to zero, then the switch will be ignored.
- If no door contact is connected, but you wish to monitor the reader and its cable for tamper events, then a non-zero value should be entered here. The DR1 terminal of the reader channel must also be connected to ground at the reader.

Once door monitoring is enabled then the door controller will respond to alarm events and warnings. These are:

Unauthorized Access, the door has opened without a valid key being presented or a request to exit switch being pressed. This event must be accepted by an editor key.

Anti-Tamper, the cable between the door controller and reader has been broken. This event must be accepted by an editor key.

Door Left Open

This is a warning event generated when a door is left open for a period longer than the lock release time **plus** the door open time.

Time Profile

Prompt: *TP*
Range: 0-128
Default: 0

See the section *Time Profiles* for details on creating Time Profiles.

A Time Profile can be used to automatically lock and unlock a door at set times of the day and days of the week. A typical example would be a public access door that is unlocked during office hours, to allow non-keyholders to enter, but requires a key at all other times. In this case the door would unlock between say, 8:30am and 5:30pm, Monday to Friday. The Time profile could also prevent unlocking on public holidays, such as Christmas etc.

If you have no intention of automatically unlocking a door, then set the value to zero.

The value entered is the number of the Time Profile that will control automatic locking and unlocking. It is recommended that Time Profiles used for controlling doors are not used for any other purpose. This allows changes to be made to door control, without inadvertently disturbing other time controlled functions, such as Access Codes, alarm zones etc.

Automatic Lock and Automatic Unlock transactions are generated on each occasion.

- If a value of zero is used then a key will be required at all times.
- If a Time Profile is disabled, then the door will lock (if it is already unlocked) and a key will be required at all times until the Time Profile is enabled again.

Lock Mode

Prompt: *M*
Option Field, 8 options
Default: All unset

This option field controls 8 different settings controlling the operation of the reader and lock. They are:

1 Lock Type

Unset Power to unlock, fail-secure
 Power to lock, fail-safe

If you using a power to lock (or fail-safe) locking device then this option should be set. In this case power will be provided continuously, and removed to release the lock. If unset then power will be provided to operate the lock.

2 Emergency Override/Free Exit

Unset Normal Operation
Set Emergency Override/Free Exit

The operation of this option is described in detail in the *K2100/K1100 Installation Manual*.

When **unset** the DR1 inputs operate normally:

DR1, the door contact switch, if connected, monitors the door position

DR2, the Request to Exit switch.

When this option is **set**, the operation of the DR1 and DR2 inputs is altered:

DR1, the door contact switch, produces a *Free Exit* transaction. It may also operate as a Request to Exit switch, in that if it is opened the lock will also operate. A door open time must be set to allow this feature to operate. Door left open reports will also be generated if it is used as a door monitoring switch.

DR2, when opened produces an **Emergency Override On** transaction, when closed produces an **Emergency Override Off** transaction. This allows the monitoring of an emergency switch such as a break-glass.

3 Request for Entry

Unset Normal Operation
Set Request for Entry

When set, a Request to Exit switch will produce a Request for Entry transaction. This is a useful feature, for instance, when the switch is operated from inside an area to unlock a door once a person outside has been recognized. This may be the case when using audio or video entry systems.

4 Not Used

Leave Unset

5 K2015 Alarm Module

Unset No K2015 Alarm Module installed
Set K2015 Alarm Module

Only set this option when a K2015 Alarm Module is connected to the reader channel. If you set this option when an Alarm Module is not connected then the reader LED will flicker. You cannot have both option 7 (PIN Reader with Time Profiles) and a K2015 Alarm Module set on the same channel.

6

Unset Normal Operation
Set Exit Out Of Hours

When set, this option allows people to use a door when their time profile has expired. This would normally be the case for an exit door, where people would be locked in they failed to leave before their time profile expired. An Exit out of Hours report is generated when set.

7 PIN Reader with Time Profiles

Unset No K2001-P PIN Reader with Time Profiles installed
Set K2001-P PIN Reader with Time Profiles installed.

Only use this option if a K2001-P PIN Reader with Time Profiles is connected to the reader channel. Do not set this option if any other type of PIN Reader is connected. You cannot have both option 5 (K2015 Alarm Module) and a PIN Reader with Time Profiles set on the same channel.

8 Free Exit Lock Operation

This is a special setting that is used in combination with Option 2. Leave this **Unset** unless specifically required.

Unset: DR1 does not operate the lock, if used as a door contact it will generate a Free Exit transaction.

Set: DR1 input will operate the lock output and generate a Request to Exit transaction.

Door Name

Prompt: ID
Default: DOOR n, where n is 1-16.

Use this field to give the door a useful name. This name, which may contain up to 12 letters (A-Z), numbers (0-9) and spaces (SPC), will appear on all printed reports.

PIN Reader Time Profile

Prompt: *PINTP*
Range: 0-128
Default: 0

A K2001-P PIN Reader with Time Profiles provides two levels of security. When the Time Profile is active, a valid key alone will allow access, when the Time Profile is inactive then a valid key **plus** the correct PIN is required. If a Time Profile of zero is used here then a valid key plus PIN will always be required.

An example may be a door that only requires a key during normal office hours, but requires a key plus PIN at any other time.

Using the D Command

Each of the settings in the D command is fully described above.

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD D

Type *D* and press ENT.

Use the up and down arrow keys to select the door.

Lock Release Time

DR 1 LRT 5

Enter a value, in seconds, between 0 and 255 for the amount of time the lock will operate. Press ENT.

Press **NXT** to go to the next field.

Door Open Time

DR 1 DOT 0

A non-zero value enables door monitoring. The value itself is the time, in seconds when added to the lock release time, after which a door left open warning will be generated. Press ENT.

Press **NXT** to go to the next field.

Time Profile

DR 1 TP 0

Enter a Time Profile that will control the automatic locking and unlocking of the door. If a Time Profile of zero is entered then a key will always be required. Press ENT.

Press **NXT** to go to the next field.

Lock Mode Options

DR 1 M -----

This is an option field. To change a setting press the number corresponding to the option you want to change. In this case 1 to 8. If an option is set then its number will be displayed, if not set then a - (dash) will be displayed.

- Option 1 Unset: Fail secure lock
 Set: Fail safe lock
- Option 2 Unset: Normal RTE, Door Contact
 Set: Emergency Override, Free Exit
- Option 3 Unset: Normal RTE report
 Set: Request for Entry report
- Option 4 Unset (Not used):
 Set (Not used):
- Option 5 Unset: No K2015 Alarm Module
 Set: K2015 Alarm Module connected
- Option 6 Unset: Normal Operation
 Set: Exit out of Hours allowed
- Option 7 Unset: No PIN Reader with Time Profiles
 Set: PIN Reader with Time Profiles connected
- Option 8 Used with Option 2, see above.

Press ENT when all required options are set.

Press **NXT** to go to the next field.

Door Name

DR 1 DOOR 1

Enter a name for the door. Use up to 12 letters (A-Z), numbers (0-9) and spaces (SPC). Press ENT

Press **NXT** to go to the next field.

PIN Reader Time Profile

DR 1 PINTP 0

Only used when a K2001-P PIN Reader with Time Profiles is connected. When the Time Profile is active, only a valid key is require, when inactive a valid key **plus** PIN is required for access. A Time Profile of zero requires a valid key **plus** PIN at all times. Press ENT.

Press ESC to return to the *CMD* prompt.

Printing Door Data

Use the P2 command to print door data, see *Printer Reports*.

Data Protection

A facility exists within the Readykey access control system that allows users to comply with local Data Protection laws. This may mean that records of authorized key use may not be reported or stored.

The following transactions are considered to be **Positive Transactions**, in that they indicate the authorized use of a key:

Access Authorized
Entry Authorized
Exit Authorized

The following transactions are considered **Negative Transactions**, in that they indicate the unauthorized use of a key:

No Access: Level
No Access: Locked Out
No Access: Time
No Access: Passback
No Access: Holiday

There are several means by which you can prevent the reporting at these transactions, including by defined doors, and by a Time Profile.

The DP Command has 5 prompts. As the settings may be rather hard to understand, several examples are given, including the default operation with no data protection.

Prompt	Default	Timed	Exclude Doors	No Pos or Neg
TRANS ENABLE	Y	Y	Y	N
POS TRANS ENAB	Y	Y	Y	N
TRANS TP	0	7	0	0
EXCL 1	-----	-----	1--4--8	-----
EXCL 2	-----	-----	1--4----	-----

Default

These are the settings that should be present for all transactions to be printed and stored.

Timed

Use these settings to suppress positive transactions when the Time Profile is **inactive**, all transactions will be reported and stored when the Time Profile is **active**. You will probably want to report all transactions outside normal hours, and suppress positive transactions during normal hours.

Exclude Doors

Indicate which doors will **not** produce positive transactions. These will usually be doors with lower importance. EXCL 1 indicates doors 1-8, EXCL 2 indicates doors 9-16. The example shows doors 1,4,8,9 and 12.

No Pos. or Neg.

This setting means that no positive **or** negative transactions are reported or stored.

K2015 Alarm Modules and Relay Outputs

Overview

The K2015 Alarm Module is an optional device that can be attached to any reader channel. It can be connected at any point in the cable between the door controller and reader. Each module has 8 inputs and 4 relay outputs.

8 Monitored Inputs

Each K2015 Alarm Module can monitor up to 8 additional points and generate an alarm if any enabled point is activated.

Each point may be:

- Normally Open or Normally Closed (set on the K2015 Alarm Module itself)
- Enabled/Disabled Manually
- Enabled/Disabled using a Time Profile
- Programmed to activate a relay.

4 Relay Outputs

The 4 relay outputs on the K2015 Alarm Module may be activated by:

- An Alarm Module input being activated.
- A system event (see below)
- A Time Profile

Identifying Alarm Modules, Points and Relays

Each reader channel on a K2100/K1100 door controller may have an Alarm Module connected. This means a maximum of 16 K2015 Alarm Modules per system (four on each door controller, although only two on a K1100).

Each Alarm Module has 8 possible inputs. These are numbered 1 to 8 on each alarm module. When reporting, however, the zone number, from 1 to 128, is used. The zone number is as shown in the following table.

Location	Zone Numbers							
Door Controller 1	Input Number:							
	1	2	3	4	5	6	7	8
Alarm Module 1	1	2	3	4	5	6	7	8
Alarm Module 2	9	10	11	12	13	14	15	16
Alarm Module 3 *	17	18	19	20	21	22	23	24
Alarm Module 4 *	25	26	27	28	29	30	31	32
Door Controller 2								
Alarm Module 5	33	34	35	36	37	38	39	40
Alarm Module 6	41	42	43	44	45	46	47	48
Alarm Module 7 *	49	50	51	52	53	54	55	56
Alarm Module 8 *	57	58	59	60	61	62	63	64
Door Controller 3								
Alarm Module 9	65	66	67	68	69	70	71	72
Alarm Module 10	73	74	75	76	77	78	79	80
Alarm Module 11 *	81	82	83	84	85	86	87	88
Alarm Module 12 *	89	90	91	92	93	94	95	96
Door Controller 4								
Alarm Module 13	97	98	99	100	101	102	103	104
Alarm Module 14	105	106	107	108	109	110	111	112
Alarm Module 15 *	113	114	115	116	117	118	119	120
Alarm Module 16 *	121	122	123	124	25	26	127	128

* Not available on K1100.

Each Alarm Module has 4 relay outputs, giving a maximum number of 16 on each door controller, or 64 on the whole system (assuming all door controllers are K2100s). In addition, the 4 relays on each door controller can be programmed in the same way as an Alarm Module relay, but only if reader channel 4 **does not** have an Alarm Module connected.

Alarm Module Relays

There are three ways an Alarm Module Relay may be activated:

1. By an Alarm Module input being activated. See the MS command.
Each input on an Alarm Module may be programmed to activate a relay on any Alarm Module connected to the same door controller.
2. By a system event. See the RE command.
System events include Unauthorized Access, Door Left Open and Door Open. For a complete list, see below.
3. By a Time Profile. See the RE command.
Each relay can be activated by a Time Profile.

Door Controller Relays

The 4 relays on each door controller each have a default action. The relays will operate according to these defaults, unless programmed to do otherwise.

Relay 1	Activated by an Unauthorized Access or Anti-Tamper Alarm at any door on the door controller.
Relay 2	Activated by Time Profile 1
Relay 3	Activated by a Door Left Open at any door.
Relay 4	Activated by Enclosure Tamper (T+, T-)

Door Controller relays are programmed as if they were on Alarm Module 4 (this works for K1100 Door Controllers as well). Therefore you cannot program relays on the Door Controller if an Alarm Module is present on channel 4 of the Door Controller.

Door Controller Relays cannot be activated by an Alarm Module input, but they do respond to system events and Time Profiles.

Alarm Module Programming

There are three stages to programming an Alarm Module.

1. Indicate the presence of the Alarm Module on a reader channel by setting Option 5 of the Lock Mode using the D command.
2. Define one or more Input Responses using the MR command. A Response consists of two items, a manual switch and a Time Profile, see below.
3. Assign a response and/or a relay activation to one or more of the Alarm Module Inputs using the MS command, see below.

Alarm Module Responses - The MR Command

There are 255 possible Alarm Module Responses, each consisting of two items, a Manual switch and a Time Profile. By assigning one response to several alarm inputs, several points can be enabled and disabled at once. For instance, if you had 10 fire doors all monitored by Alarm Module inputs, then by assigning the same response they can all be enabled/disabled together. Alternatively, if you need to control points individually, then you should define responses for each point.

Manual Switch

The Manual switch allows an operator to manually enable/disable all inputs that are assigned the response.

Transactions: Inputs that are enabled manually will produce a `Manual Engage` transaction. Inputs that are disabled manually will produce a `Manual Isolate` transaction.

Time Profile

If a Time Profile is part of a response, then any alarm inputs that are assigned that response will be **disabled** while the Time Profile is active. For instance, a Time Profile set to 9:00am to 5:00pm, Monday to Friday, assigned to a response, will disable all inputs with that response between those hours.

For an alarm input to automatically enable/disable with a Time Profile it must be manually enabled first.

Transactions: Inputs that are enabled automatically will produce an `Auto Zone Enable` transaction. Inputs that are disabled automatically will produce an `Auto Zone Disable` transaction.

The MR Command

Use the MR command to define Alarm Module responses. These responses can then be assigned to individual inputs using the MS command.

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD MR

Type *MR* and press ENT.

Use the up and down arrow keys to select a response.
There are a maximum of 255 responses.

REC 1 ON N

Manual Switch

Press Y to switch on the response. Press ENT.

Press N to switch off the response. Press ENT.

Note: Any points that have been assigned this response will be disabled if you select N, or enabled if you select Y.

Press **NXT** to go to the next field.

REC 1 TP 0

Time Profile

Enter the Time Profile number used to control the response. When the Time Profile is active, any points assigned this response will be disabled.

A Time Profile of zero means any points assigned this response will be controlled only by the Manual Switch.
Press ENT

Press ESC to return to the *CMD* prompt.

Alarm Module Sensors - The MS Command

Each Alarm Module input is enabled by giving it a response number, see the MR command above. In addition, each input may be programmed to operate a relay on any Alarm Module **on the same door controller**.

Response Number

By giving one or more inputs the same response number, several points can be controlled together. The number you enter is the record number of the response you create using the MR command.

Module Relay

Any Alarm Module Relay on the same door controller can be set when a point is activated. The number you enter is the number of the relay according to the table below:

Module Location	Relays			
Channel 1	1	2	3	4
Channel 2	5	6	7	8
Channel 3 *	9	10	11	12
Channel 4 *	13	14	15	n/a

* Not available on K1100 door controllers

Note: The fourth relay on Module 4 is not available for Alarm Input activation.

The MS Command

Use the MS command to assign responses to Alarm Module inputs. Each record contains responses for all 8 inputs on each Alarm Module

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD MS

Type *MS* and press ENT.

Use the up and down arrow keys to select an Alarm Module. There are a maximum of 16 Alarm Modules.

DR 1 IP 1 R 0

Input 1 Response Number

Enter the response number for this input. If you enter zero, then the input will not be monitored at all. Press ENT

Press **NXT** to go to the next field.

MODULE RELAY 0

Input 1 Module Relay

Enter a relay number, see the table above, that will be set if the input is activated. Enter zero for no relay activation. Press ENT

Press **NXT** to go to the next field.

DR 1 IP 2 R 0

Input 2 Response Number

Input 2 Module Relay

Repeat the above for the inputs you are using.

Press **NXT** to go to the next field.

Press **ESC** when you have finished.

Relay Programming - The RE command

There are two types of relay that can be activated on the K2100/K1100 system. They are:

1. The 4 relays located on each Door Controller.
2. The 4 relays located on each Alarm Module.

Note: The Door Controller relays can only be used on a K2100 if no Alarm Module is assigned to reader channel 4. A K1100 has no reader channel 4, therefore can always use its Door Controller relays

The relays on the Alarm Modules can be activated by Alarm Module Inputs as described above, in the *MS* command. This section describes how to use both these types of relay to respond to other events.

There are two types of event to which these relays can respond; System Events and Time Profiles. It is unlikely that you will activate a relay on both a system event and Time Profile, however, it is possible - the relay will stay set until all conditions are clear.

System Events

Below is a table showing the types of event and their code number, that can be assigned to a relay.

System Event	Relay Code	Notes
No Response	0	
Door Alarm on any door	1	Note 1
Door Left Open on any door	2	Note 2
Enclosure Tamper	3	
Door 1 Open	4	Note 3
Door 2 Open	5	"
Door 3 Open	6	"
Door 4 Open	7	"
Door 1 Left Open	8	Note 4
Door 2 Left Open	9	"
Door 3 Left Open	10	"
Door 4 Left open	11	"
Door 1 Alarm	12	Note 5
Door 2 Alarm	13	"
Door 3 Alarm	14	"
Door 4 Alarm	15	"

Notes:

1. An alarm event, i.e. unauthorized access, cable tamper, at **any** of the 4 doors on the door controller will activate a relay given this code. The relay will not be deactivated until **all** such alarms are cleared. This is the same as the default action given to relay 1 if not programmed otherwise.
2. This code will activate a relay if **any** of the 4 doors on the door controller are left open, it will be deactivated when all the doors are closed. This is the same as the default action given to relay 3 if not programmed otherwise.
3. These codes will activate a relay if the particular door is opened, for whatever reason, it will deactivate when the door is closed.
4. These codes will activate a relay if the particular door is left open, it will deactivate when the door is closed.
5. These codes will activate a relay if the particular door has an alarm event, i.e. unauthorized access or cable tamper, it will deactivate when the alarm is cleared.

Time Profiles

A relay can be made to operate with a Time Profile. When the Time Profile is active the relay will be set. Examples may the use of external lighting, switching heating or ventilation systems etc.

Using the RE Command

There are 16 relay records, one for each alarm module.

To program Door Controller relays you should select DR 4, DR 8, DR 12, DR 16 for Door Controllers 1,2,3 and 4 respectively, provided no Alarm Modules are installed on these channels.

Present an editor key to the front panel reader.
Enter the password and press ENT, if required.

You will now see the *CMD* prompt.

CMD RE

Type *RE* and press ENT.

DR 1 RLY1 TP 0

Door 1, Relay 1 Time Profile Number.

Enter a Time Profile number (1-128). When the time profile is activated the relay will activate, when the time profile finishes, the relay will deactivate. A Time Profile of zero will remove any timed activation.

Press **NXT** to go to the next field.

DR 1 RLY1 SYS 0

Door 1, Relay 1 System Event

Enter a system event (0-15) as shown in the table above.

Press **NXT** to go to the next relay.

There are a total of 4 relays, each with a Time Profile and System Event value.

Press **ESC** to return to the *CMD* prompt.

Examples:

To have each Door Controller use its 4 on-board relays to indicate Door Left Open for its own individual doors:

1. Use the RE command and select the DR 4 record for Door Controller 1.
2. For RLY1 SYS enter a value of 4 and press ENT.
3. For RLY2 SYS enter a value of 5 and press ENT.
4. For RLY3 SYS enter a value of 6 and press ENT.
5. For RLY4 SYS enter a value of 7 and press ENT.

Now, if door 2 is left open relay 2 will activate and stay activated until the door is closed.

Appendix A: System Specification

Features

Access Points	16, one Master 4 door (2 doors on a K1100) controller controlling up to 3 Slave controllers (Slaves may be K2100, 4 door or K1100, 2 door)
Personnel	4000
Editor Keys	Master plus 32 editors, each with optional password and editor level.
Access Codes	128, comprising two Access Levels, each with a Time Profile.
Access Levels	128
Time Profiles	128, each comprising 3 time periods (max. 32 time periods).
Holiday Profiles	24, each comprising 20 holiday periods (max. 254 holiday periods).
System Holidays	20, for controlling access on public holidays.
Transactions	2500 most recent transactions stored in non-volatile memory.
Zone Alarms	128, up to 32 per door controller using K2015 Alarm Modules.
Relay Outputs	4 on each door controller, plus 8 on each K2015 Alarm Module. These may be controlled by Time Profile or system event.
Alarms	Unauthorized Access, Anti-Tamper (on reader, alarm module and door controller), Door Override, Zone Alarms, PIN Reader Duress.
Warning	Door Left Open
Printer Output	Continuous printing of system events. 9 different reports available on demand.

Appendix B: Transactions

The following pages show all the transactions generated by a K2100 or K1100 door controller. Each transaction described below shows:

Description, this is the text produced on the printer.

Priority, all **high priority** transactions will be sent to the printer before any **low priority** transactions. A list of all high priority transactions is shown below.

An example of the printed report is also given. You will notice that each transaction is preceded by an Audit Number [in brackets], the date and time.

Description	Priority
Access Authorized	low
A key has been allowed through an access point. This transaction will always be generated unless the access point is set as entry or exit, when one of the two previous transactions will be produced.	
[1274] 02/12/93 15:41 DOOR NAME KEYHOLDER Access Authorized	
Alarm Cleared	high
A door has been secured after an Unauthorized Access or a reader/cable has been restored after an anti-tamper alarm.	
[1268] 02/12/93 15:34 DOOR NAME Alarm Cleared	
Alarm Zone Active	high
An Alarm Module input has activated.	
[1235] 02/12/93 15:14 ZONE 2 Alarm Zone Active	
Anti-Tamper Alarm	high
A reader has been disconnected or its cable has been broken.	
[1263] 02/12/93 15:33 DOOR NAME Anti-tamper Alarm	
Auto Relay Reset	low
A relay, either on the Door Controller (Main) or an Alarm Module (Relay No.), has been reset by a time profile.	
[1256] 02/12/93 15:21 DOOR CIRCUIT 1 MAIN 1 Auto Relay Reset	
[1231] 02/12/93 15:11 DOOR CIRCUIT 1 3 Auto Relay Reset	
Auto Relay Set	low
A relay, either on the door controller or an Alarm Module, has been set by a time profile.	
[1224] 02/12/93 15:11 DOOR CIRCUIT 1 MAIN 1 Auto Relay Set	
[1231] 02/12/93 15:11 DOOR CIRCUIT 1 3 Auto Relay Set	
Auto Zone Disable	low
An alarm module input has been disabled with a time profile.	
[1289] 02/12/93 15:54 ZONE 2 Auto Zone Disable	
Auto Zone Enable	low
An alarm module input has been enabled with a time profile.	
[1298] 02/12/93 15:55 ZONE 2 Auto Zone Enable	
Automatic Lock	low
A door has automatically locked on a time profile.	
[1296] 02/12/93 15:55 DOOR NAME Automatic Lock	
Automatic Unlock	low
A door has automatically unlocked on a time profile.	
[1286] 02/12/93 15:54 DOOR NAME Automatic Unlock	

Description	Priority
Door Closed	high
A door has been closed after being left open. [1272] 02/12/93 15:34 DOOR NAME Door Closed	
Door Left Open	high
A door has been left open beyond the time allowed. [1270] 02/12/93 15:34 DOOR NAME Door Left Open	
Editor Off (Panel)	low
An operator has left the Editor, or it has timed out, at the Front Panel. [1219] 02/12/93 15:02 MASTER KEY Editor Off (Panel)	
Editor On (Panel)	low
An operator has entered the Editor at the Front Panel [1218] 02/12/93 15:02 MASTER KEY Editor On (Panel)	
Emergency Override Off	high
Using a special lock mode option, the request to exit input can be used to monitor an emergency break-glass (manual pull). This transaction occurs when the switch is restored. [1326] 02/12/93 16:10 DOOR NAME Emergency Override Off	
Emergency Override On	high
Using a special lock mode option, the request to exit input can be used to monitor an emergency break-glass (manual pull). This transaction occurs when the switch is broken. [1325] 02/12/93 16:10 DOOR NAME Emergency Override On	
Entry Authorized	low
A key has been allowed through an access point that was set as an entry point. This would be channel 1 or 2 on a K2100 or channel 1 on a K1100. Entry and exit points are only set by using Lock Sharing or Passback. [1321] 02/12/93 16:06 DOOR NAME KEYHOLDER Entry Authorized	
Exit Authorized	low
A key has been allowed through an access point that was set as an exit point. This would be channel 3 or 4 on a K2100 or channel 2 on a K1100. Entry and exit points are only set by using Lock Sharing or Passback. [1322] 02/12/93 16:06 DOOR NAME KEYHOLDER Exit Authorized	
Exit Out of Hours	low
A key has been allowed to pass through an exit door, although a time profile would not normally let the key through. A special lock mode option needs to be set on the door to allow this feature. [1342] 02/12/93 16:06 DOOR NAME KEYHOLDER Exit Out of Hours	
Free Exit	low
This is a special condition where a door contact is installed but no request to exit button is used. Every time the door opens without a key being used this transaction will be generated. A special lock mode option is required. [1327] 02/12/93 16:10 DOOR NAME Free Exit	
Incorrect PIN Entry	high
A keyholder has made 5 attempts to enter a PIN without success. That key will not be accepted for 2 hours. [1306] 02/12/93 15:59 DOOR NAME KEYHOLDER Incorrect PIN Entry	

Description	Priority
Local Alarm Accepted	high
An alarm has been accepted at the door controller by presenting an Editor key. [1237] 02/12/93 15:14 DOOR NAME MASTER KEY Local Alarm Accepted	
Local Duress Accepted	
A PIN Duress Alarm has been accepted by an operator at the door controller [1320] 02/12/93 16:03 DOOR NAME MASTER KEY Local Duress Accepted	
Local Override Accept	
An Override Alarm has been accepted by an operator. [1365] 02/12/93 16:20 DOOR CIRCUIT 1 MASTER KEY Local Override Accept	
Manual Engage	low
An alarm module input has been switched on by an operator. [1359] 02/12/93 16:16 ZONE 2 Manual Engage	
Manual Isolate	low
An alarm module input has been disabled by an operator. [1357] 02/12/93 16:16 ZONE 2 Manual Isolate	
Manual Lock	high
An operator has manually locked a door open on a time profile, or previously opened manually. [1343] 02/12/93 16:14 DOOR NAME MASTER KEY Manual Lock	
Manual Unlock	high
An operator has manually unlocked a door. [1342] 02/12/93 16:14 DOOR NAME MASTER KEY Manual Unlock	
No Access: Holiday	high
A key has been presented, but a holiday period has been assigned to this key. [1444] 02/12/93 16:02 DOOR NAME KEYHOLDER No Access: Holiday	
No Access: Level	high
A key has been presented, but is not allowed through this door. [1451] 02/12/93 16:03 DOOR NAME KEYHOLDER No Access: Level	
No Access: Locked Out	high
A key has been presented, but it is not been given any access authority. [1217] 02/12/93 15:02 DOOR NAME KEYHOLDER No Access: Locked Out	
No Access: Time	high
A key has been presented, but is not allowed through this door at this time. [1456] 02/12/93 17:04 DOOR NAME KEYHOLDER No Access: Time	
No Access: Unknown ID	low
A key has been presented, but it is unknown to the door controller. [1362] 02/12/93 16:19 DOOR NAME ??? No Access: Unknown ID	
No Entry: Passback	high
A key has been presented, but will not allowed through this door until it has left the pass-back area. [1466] 02/12/93 17:06 DOOR NAME KEYHOLDER No Entry: Pass Back	

Description	Priority
No Exit: Passback	high
A key has been presented, but will not allowed through this door until it has entered the pass-back area.	
[1475] 02/12/93 17:08 DOOR NAME KEYHOLDER No Exit: Passback	
Override Alarm	high
An override alarm has opened all the doors attached to the door controller.	
[1363] 02/12/93 16:20 DOOR CIRCUIT 1 Override Alarm	
Override Alarm Reset	high
The override input has been cleared, all the doors will close again.	
[1364] 02/12/93 16:20 DOOR CIRCUIT 1 Override Alarm Reset	
PIN Reader Duress Alarm	high
A PIN duress code has been entered (PIN +1) and the door has opened.	
[1319] 02/12/93 16:03 DOOR NAME KEYHOLDER PIN Reader Duress Alarm	
Power Off	high
The door controller has had its power removed, or the Reset button has been pressed.	
[1222] 02/12/93 15:11 DOOR CIRCUIT 1 Power Off	
Power On	high
The door controller has been powered up, or the Reset button has been released.	
[1223] 02/12/93 15:11 DOOR CIRCUIT 1 Power On	
Repeated Key Use	high
The same key has been presented continuously to a reader for 5 lock operations and the door has closed.	
[1252] 02/12/93 15:20 DOOR NAME KEYHOLDER Repeated Token Use	
Request for Entry	low
A special lock mode option can be used to allow a Request for Entry transaction. This may be used when a button is used from inside an area to allow a person access.	
[1481] 02/12/93 17:09 DOOR NAME Request for Entry	
Request to Exit	low
The Request to Exit switch has been used to open a door.	
[1240] 02/12/93 15:19 DOOR NAME Request to Exit	
RTE Button Held Down	high
A Request to Exit button has been continuously operated 5 times and the door has closed.	
[1246] 02/12/93 15:20 DOOR NAME RTE Button Held Down	
Unauthorized Access	high
A door has been opened without a key being presented or the Request to Exit being pressed.	
[1258] 02/12/93 15:21 DOOR NAME Unauthorized Access	
Zone Restored & ReArmed	high
An alarm module input has been restored, if reactivated it will cause another alarm.	
[1239] 02/12/93 15:14 ZONE 2 Zone Restored, ReArmed	

High Priority Transactions

These transactions are always sent to the printer before any other transactions.

Alarm Cleared	No Access: Level
Alarm Zone Active	No Access: Locked Out
Anti-Tamper Alarm	No Access: Repeated Use
Door Closed	No Access: Time
Door Left Open	No Entry: Passback
Emergency Override Off	No Exit: Passback
Emergency Override On	Override Alarm
Incorrect PIN Entry	Power Off
Local Alarm Accepted	Power On
Manual Lock	RTE Button Held Down
Manual Unlock	Unauthorized Access
No Access: Holiday	Zone Restored & ReArmed