AR-727E-V5
Single Door Controller

Installation and Programming Guide

AR-727EBR1121-AJ

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Version 1.1

RAYTEL SECURITY SYSTEMS

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GENERAL INFORMATION

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ALARMS

If this controller is being added to an existing set of networked controllers Or is replacing an existing networked controller REFER to PAGE xx to ensure the controller is correctly identified in 701 Server.

** Note that at any point during programming pressing $\boxed{*}$ **repeatedly will return the system to the QUIT menu. At this point press** $\boxed{\#}$ **to exit programming****

SYSTEM OVERVIEW

The AR-727E-V5 Controller

The AR-727E-V5 is a versatile single door proximity controller that can be used as either a stand-alone or networked device.

Key Features:

☞ **Built in Reader loop for token programming**

☞ **16,384 User Card capacity.**

☞ **Alarm functions**

☞ **Optional Anti-Passback function**

☞ **Optional egress function**

☞ **Network capability up to 254 doors**

☞ **Optional lock output - 12VDC or Clean Contacts**

☞ **Adjustable lock output - Timed 0.1 to 600 seconds, Latched On/Latched Off**

☞ **Will run as stand-alone controller during Host Controller failure**

☞ **Buffer for storing up to 32,000 Transactions**

☞ **Real time clock**

☞ **10x Auto Open Time zones in stand-alone mode**

☞ **Supports RS485 and TCP/IP protocols**

☞ **Battery management (when backup battery fitted)**

AR-747HS-RAY Reader DIP Switch Settings

Before any AR-747HS-RAY readers are installed, it is recommended that the DIP switch settings on the back of the readers are checked.

The default DIP switch settings for the AR-747HS-RAY reader are shown below.

If the DIP switch is set differently to the example below, the switch needs to be changed, and if the readers are powered up, they need to be powered down for the changes to take effect.

WG34

SW1	SW2	OUTPUT
ON	OFF	WG34
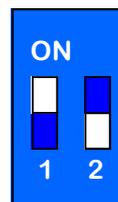
INTERFACE CONNECTIONS

Connector Table

Cable: P1 CN4

Wire Application	Wire	Color	Description
Lock Relay	1	Blue White	(N.O.)DC24V1Amp
	2	Purple White	(N.C.)DC24V1Amp
Lock Relay COM	3	White	(COM)DC24V1Amp
Door Contact	4	Orange	Negative Trigger Input
Exit Switch	5	Purple	Negative Trigger Input
Alarm Relay	6	Gray	N.O./N.C. Optional (by jumper)
Power	7	Thick Red	DC 12V
	8	Thick Black	DC 0V

Cable: P2 CN5

Wire Application	Wire	Color	Description
Beeper	1	Pink	Beeper Output 5V/100mA, Low
LED	2	Yellow	Red LED Output 5V/20mA, Max
	3	Brown	Green LED Output 5V/20mA, Max
Door Output	4	Blue White	Transistor Output Max. 12V/100mA (Open Collector Active Low)
Wiegand	5	Thin Green	Wiegand DAT: 0 Input
	6	Thin Blue	Wiegand DAT: 1 Input
WG Door Contact	7	Orange	Negative Trigger Input
WG Exit Switch	8	Purple	Negative Trigger Input

Cable: P3 CN7

(AR-327-E By order)

Wire Application	Wire	Color	Description
	1	---	---
	2	---	---
TCP/IP Module Output	3	Orange White	Net - TX+
	4	Orange	Net - TX-
	5	Green White	Net - RX+
	6	Green	Net - RX-
	7	---	---

Main PCB

AR-727-E LCD-PCB

Cable: P4 CN6

Wire Application	Wire	Color	Description
RS-485 for Lift Controller	1	Thick Green	RS-485(B-)
	2	Thick Blue	RS-485(A+)

Cable: P5 CN3

Wire Application	Wire	Color	Description
Anti-Tamper Switch	1	Red	N.C.
	2	Orange	COM
	3	Yellow	N.O.

Cable: P6 CN8

Wire Application	Wire	Color	Description
Power	1	Red	DC 12V Output
Security trigger signal	2	Purple	Security trigger signal Output
Arming	3	Red White	Arming Output
Duress	4	Yellow White	Duress Output

Please Note: By default the Lock Relay output may be configured to only operate when a token is presented to the controller. To 'Share' the Lock Relay so that tokens presented to a connected reader or the controller both operate the Lock Relay see page xx of this guide.

Suggested configurations and connections are shown above.
The controller has TCP/IP connectivity via the RJ45 connector and RS485 (A+ B-) connections Via the Host connections.
If Door alarms are not to be used we would recommend that CN4/4 and CN5/7 are linked directly to 0v to prevent unwanted alarm indications.

READER CONNECTIONS

AR-737/747HB-RAY

GND	Brown & Brown/White to GND
+12V	Orange & Orange/White to +12V
A+	
B-	
Door	
PB/W1	Blue & Blue/White to W1
SEN/W0	Green & Green/White to W0
DI/GL	

0V — PSU
+12V
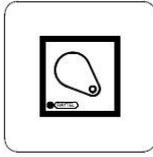
W1 — CONTROLLER
W0

Cat5e/6e or CW1308

Suggested WG reader connections
when using Cat5e/6e cable or CW1308
Maximum distance from reader to controller 30m

AR-737/747HB-RAY

GND	
+12V	
A+	
B-	
Door	
PB/W1	
SEN/W0	
DI/GL	

0V — PSU
+12V

W1 — CONTROLLER
W0

Alarm Cable

Suggested WG reader connections
when using Alarm cable 24AWG (non twisted pairs)
Maximum distance from reader to controller 30m
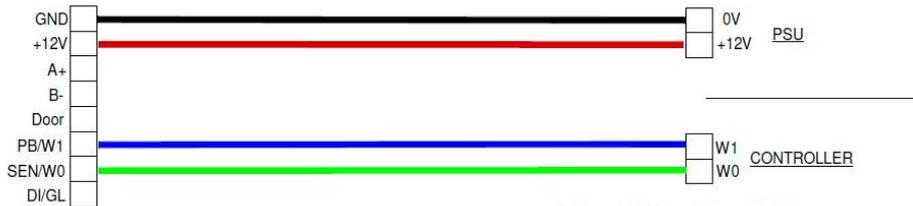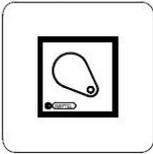
WG reader specified cable: Straight screened cable 18-22AWG, 6 + Screen (i.e. Belden 9536)
WG connections are used for AR-727H, AR-829, AR-837, AR-888 single door controllers.

DISPLAY AND KEYPAD LAYOUT

Front Panel Layout

Power (Green)
Alarm (Red)
Alarm (Green)

OK (Green)
Error (Red)
In Process (Green)

LED's

Power (Green)	- Power on
Alarm (Red)	- Abnormal condition
Alarm (Green)	- Arming status
OK (Green)	- Slow flash normal operation, rapid flash programming
Error (Red)	- Indicates error
IN Processing (Green)	- Controller busy, processing data from reader

Display
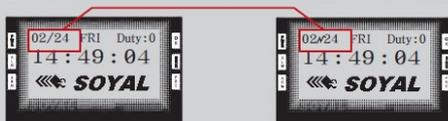
Networking : / and ⁄ interactively flash between the Month and DAY.
[e.g.] 02/24←→02⁄24

Stand-alone : No flashing   [e.g.] 02/24

(←Reference to picture)

Buttons

∧ ∨	**F1**	- Navigates up the menu.
◀	**F2**	- Navigates down the menu.
➤	**F3**	- Navigates left in the menu.
	F4	- Navigates right in the menu.
∗		- Press to escape current menu screen.
#		- Press to enter data.
∗ & **#**		- Press together to lock/unlock Keypad.

TOKENS / CARDS

Identifying Tokens and Cards

All Soyal Tokens and Cards have the Site Code and Card Code printed upon them. The Site Code and Card Code are the unique identifier for the Token or Card. The Site Code and Card Code can be located as shown below:

0007565682
00116 29042
SITE CODE   CARD CODE

0007565682
00116 29042
SITE CODE   CARD CODE

0007565682   00116 29042
SITE CODE   CARD CODE
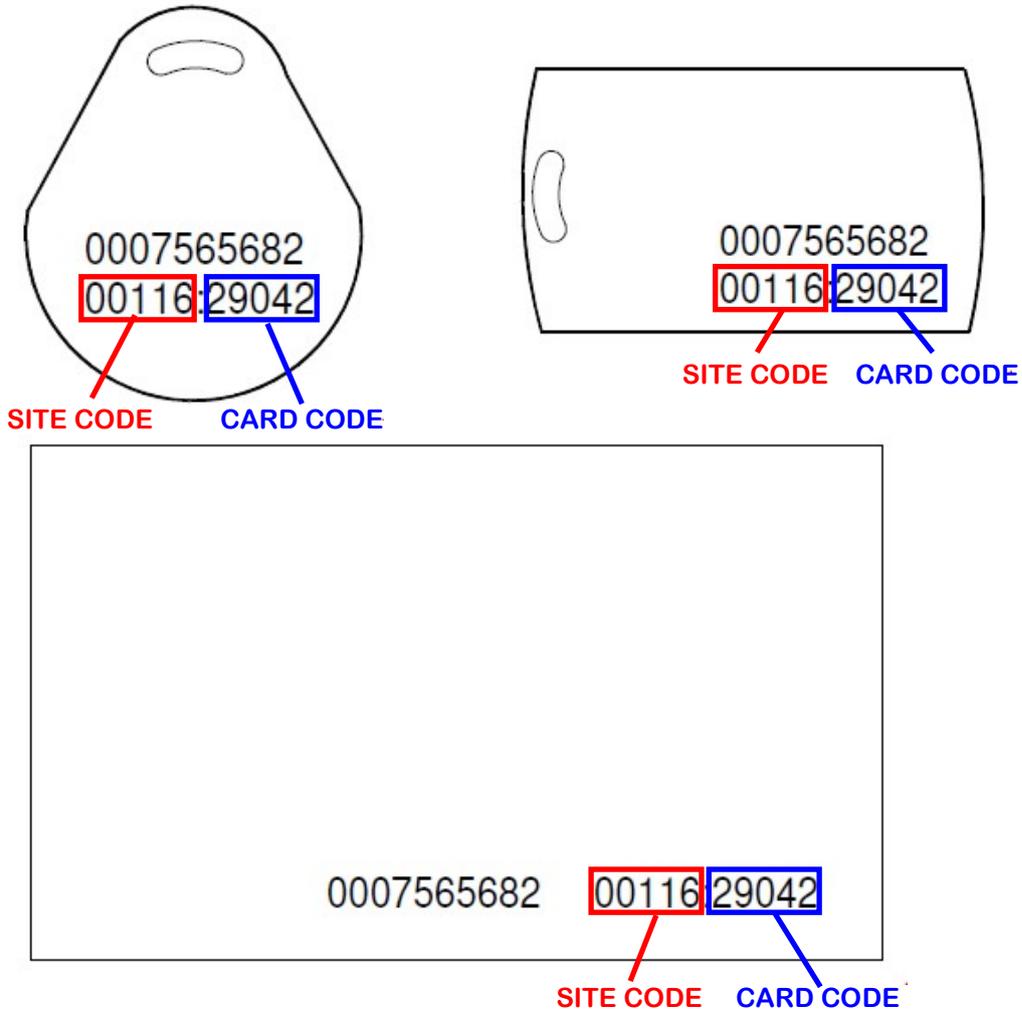
In the above example the numbers in the red box are the Site Code and the numbers in the blue box are the Card Code.

The Site Code and Card code are the unique identifiers that will show on the controller display or in the monitoring software.

If the Site Code and Card Code on the Token or Card cannot be read then the Token or Card can be presented to a controller and the display will show the required details.

Sequential Tokens or Cards will have the same Site Code with sequential Card Codes.

For Example : 00116:29041 to 00116:29050 represent 10 sequential Tokens or Cards.
Please not that Mifare Encrypted tokens can NOT be identified by the above.

PROGRAMMING TREE

1. Add/Delete
- 1. Add -> Card ID
- 2. Add -> RF Learn
- 3. Suspend -> Addr
- 4. Suspend -> ID#
- 5. Delete -> Addr
- 6. Delete -> ID#
- 7. Recover -> Addr
- 8. Recover -> ID#
- 9. Antipass Group

2. User Settings
- 1. Password
- 2. Access Mode
- 3. Extend Options
- 4. Single floor lift access
- 5. Multiple Floor lift access

3. Parameters (1)
- 1. Node ID
- 2. Auto Open Zone
- 3. Door Relay Tm
- 4. Door Close Tm
- 5. Alarm Relay Tm
- 6. Alarm Delay Tm
- 7. Arming Delay Tm
- 8. Arming Pwd
- 9. PIN & UID Format

4. Parameters (2)
- 1. Auto relock
- 2. Egress (R.T.E)
- 3. Miscellaneous
- 4. Force Open
- 5. Close & Stop
- 6. AntiPassback
- 7. Duress Code
- 8. Password Mode
- 9. Factory reset

5. Tools
- 1. Language
- 2. Master Code
- 3. Master Range
- 4. Terminal RS485
- 5. Ext. Comm CN11
- 6. Open Time Zone
- 7. Information
- 8. Clock Setting
- 9. Daily Alarm
- 0. UART Port CN9
- A. Event Logs

6. Quit

7. Quit & Arming

Enter programming mode by entering *Master Code#
Exit Programming mode by pressing * to step back through the menu until the display reads
6.Quit, then enter # to confirm.
If no keys are pressed for 30 seconds, programming mode will time out and the unit will
return to normal operation.

PROGRAMMING TREE

1.1   Adding tokens/cards by Site Code:Card Code
1.2   Adding tokens/cards by presenting them to the controllers in built reader loop.
1.3   Suspending a token/card by its user address
1.4   Suspending a token/card by its Site Code:Card Code
1.5   Deleting a token/card by its user address
1.6   Deleting a token/card by its Site Code:Card Code
1.7   Recover a token/card from suspension by its user address
1.8   Recover a token/card from suspension by its Site Code:Card Code
1.9   Set Antipass back - Start Address, End Address, Enable Y/N

2.1   Password - User PIN Code by user address
2.2   Access mode - By user address: Invalid, card only, card or PIN, card and PIN
2.3   Extend: User address, then Guard Yes or No, then Antipass back Yes or No
2.4   Single Floor Lift access by user address
2.5   Multiple Floor Lift access by user address

3.1   Node ID, DHCP: On or Off, IP address
3.2   Auto open zone settings for WG and Main Door
3.3   Door relay time: WG1 and Main Door
3.4   Door Close Time: WG1 and Main Door
3.5   Alarm Relay Time: WG1 and Main Door
3.6   Alarm Delay Time: WG1 and Main Door
3.7   Arming Delay Time: WG1 and Main Door
3.8   Arming Password
3.9   PIN & UID formats: xxxx

PROGRAMMING

Entering and Exiting Programming Mode

In order to program any function of the AR-727EBRxxx Controller you must first access the programming mode by entering the factory master code. This is done as follows:-

To enter programming mode press   `*123456#`

When the `#` button is pressed after the master code has been entered, the controller will enter into programming mode and the display will show   `1. Add/Delete`

From here the programming can be carried out by following the relevant sections of this manual.

To escape from programming press the `*` button to step back through the menu until the display reads   `6. Quit`   then press `#` to confirm. If no keys are pressed for about 30 seconds, the unit will automatically revert back to Standby mode.

The Master Code can be changed, and it is recommended that system organisers do so for security reasons; however, if the new code is lost, the controller can only be reset to the factory default by using PC software and an interface (supplied separately)

PROGRAMMING

Restoring Factory Settings

If for any reason there is any uncertainty about which settings have been changed, it is possible to restore the original factory default settings. It is always advisable to start by performing a factory reset before commencing with any other programming. This will ensure that all settings are started from a known condition.
The factory reset is performed as follows:-

Enter Programming Mode

Press 4 then press 9

The Display will then provide 3 options:

0:      System Parameters (System settings)
1:      User Settings (User card data and associated Door Groups etc)
2:      System & User (full system reset)

Option 0 clears all system settings but programmed tokens remain in memory.

Option 1 Clears all user data, all token information and associated Door Groups are deleted.

Option 2 clears both of the above.

WARNING

Performing a factory reset may permanently delete any tokens programmed into the controller. To ensure any programmed tokens are not permanently lost, it is recommended that the tokens are recorded in the Table of Users at the end of this manual.

PROGRAMMING

Changing Master Code

It is recommended that the Master Code be changed from the factory default to keep the system secure. This is done as follows:-

Enter Programming Mode `*123456#` or `*MASTER CODE#` if already changed

Press `5` then press `2`

Enter the new 6 digit master code.

The Display will now show `Succeeded!`

Record the new master code on the Table of Users in the back of this manual.

Changing Clock Setting

In standby mode, the display will show the date and time followed by **READY...** , the date and time are programmed as follows:-

Enter Programming Mode

Press `5` then press `8`

The Display will show - YY:xxxx MM:xx Day: xx Hour: xx Min: xx Sec: xx

Where xxxxx = the current setting.

The cursor will be flashing in the Year section. Either overwrite the existing year or if it is

correct press `#` The cursor will now move to the Month section,

Either overwrite or press `#` to continue.

Proceed with settings until the screen shows: `Month/Day Format`

2 options will be shown, select the preferred option

The Display will now show `Succeeded!`

PROGRAMMING

Language

If, for any reason the language of the controller has been changed the display can be reset to English as follows:

Enter Programming Mode

Then enter 5 1 0

The display will return to English

Door Relay Time

The time duration for which the lock relays are active can be adjusted between 0.1 to 600 seconds. This is done as follows:-

Enter Programming Mode

Press 3 then press 3

The display will now show:

> **Main Door Open Tm**
> **Range: 000 - 609**
> **601 - 609 = 0.1 - 0.9**
> **xxx**

xxx will equal the time currently set.

Set xxx to the time required as follows (use 3 digits):

If xxx = 000 the door will operate in Latch Mode
If xxx = 601 to 609 the time will equal 0.1 to 0.9 Seconds
If xxx = 001 to 600 the time will equal 1 to 600 Seconds.

Once the time for the Main Door Relay has been entered the 'WG Door Open time' options will be displayed. This function is only required if the reader is switching a separate Door output, usually the Main Door relay will be shared, set the 'WG Door Open time' to the same as the Main Door Open time if the default is not being used. Press # to use the default.

At the end of the process the display will show   Succeeded!

Exit programming mode.

By default each Door Relay time is set to 7 Seconds.

PROGRAMMING

Sharing Main Door Relay

Please Note: By default the Lock Relay output may be configured to only operate when a token is presented to the controller. To 'Share' the Lock Relay so that tokens presented to a connected reader or the controller both operate the Lock Relay proceed as follows: Enter Programming Mode and follow the steps below until the 7th Parameter is reached (next page in Red box) all steps must be followed until 'succeeded' is shown on the display.

Press 4 then press 3

The display will be showing

```
Main Controller
Time attendance
0:YES    1:NO
0
```

The default is YES pressing # accepts the default. If this is not required press 1

Press #

The display will be showing

```
WG1 Port
Time attendance
0:YES    1:NO
0
```

The default is YES pressing # accepts the default. If this is not required press 1

Press #

The display will be showing

```
Main Controller
Skip PIN Check
0:NO    1:YES
0
```

The default is NO pressing # accepts the default. If the PIN check is to be skipped press 1

Press #

The display will be showing

```
WG1 Port
Skip PIN Check
0:NO    1:YES
0
```

The default is NO pressing # accepts the default. If the PIN check is to be skipped press 1

Press #

The display will be showing

```
Main Controller
Pass any Tags
0:NO    1:YES
0
```

The default is NO pressing # accepts the default. If any Token is to be accepted press 1

Press #

The display will be showing

```
WG1 Port
Pass any Tags
0:NO    1:YES
0
```

The default is NO pressing # accepts the default. If any Token is to be accepted press 1

Press #

Continued on next page

PROGRAMMING

Sharing Main Door Relay

The display will be showing

> WG1 Port
> Share Main Relay
> 0:NO   1:YES
> 0

Generally the Main relay will be shared. If the default is already 1 press # If the default is 0 press 1 on the keypad.

Press 1 or # dependant on default setting.

The display will be showing

> Tag Second time
> interval (10mS)
> Range (0000~9999)
> 0100

This is the time before the next token can be presented, the default is 0100 which is 1 Second. To accept the default press #, to set a different time enter the value required.

Press # to accept the default of 1 Second

The display will be showing

> Max Error Times
> To Lock keypad
> Range (0~9)
> 5

This is the number of times an incorrect PIN code can be entered before the keypad is locked out. To accept the default press #, to set a different value enter the value.

Press # to accept the default or enter value required.

The display will be showing

> Main Controller
> On Egress Beeps
> 0:N0 1:Bi 2:Bibb
> 2

This setting determines the sound from the controller when the Request to Exit input is triggered. Press # to accept default.

Press # to accept the default.

The display will be showing

> WG1 Port
> On Egress Beeps
> 0:NO 1:Bi 2:Bibb
> 2

This setting determines the sound from the controller when the Reader Request to Exit Input is triggered. Press # to accept default.

Press # to accept the default.

The display will be showing

> Lock Door Relay
> 0:NO   1:YES
>
> 0

The default is NO pressing # accepts the default.

After this screen the display should 'Succeeded' and return to the menu tree. Press ✱ until the display shows 'Quit' Press # to quit programming mode.

The Main Door Relay will now operate when a token is presented to the controller or a connected reader.

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MANAGING TOKENS

Checking Existing Users

Enter Programming Mode

Press `5` **then press** `7`

The display will be showing

> **F/w Ver   : xxxx**
> **Users   : xxxxx**
> **Messages : xxxxx**
> **Press any key . . .**

F/w Ver - is the current version of Firmware installed on the controller.
Users - is the current number of Users (Tokens) on the controller, please note that suspended tokens will not be shown.
Messages - is the quantity of transaction messages stored on the controller.

On a new controller Users will be 00000

To check if there are any suspended tokens proceed as follows:

Enter Programming Mode

Press `1` **then press** `1`

The display will now show

> **User Information**
> **   65535 65535**
> **Range: (0-16383)**
> **xxxxxx**

Where xxxxxx is the next available single empty user location

The line below User Information will show the identity of the token at this user location.

If it is 00000 00000 OR 65535 65535 the user location is empty.

To check further user locations use F1 to scroll up 10 locations at a time, F2 to scroll down 10 user locations at a time, F3 to scroll up 1 user location at a time and F4 to scroll down 1 user location at a time.

If xxxxxx + 1 = The number of Users no suspended tokens are present.

If xxxxxx +1 does not equal the number of users then use F1, F2, F3 and F4 to scroll through the user locations to confirm where tokens are located.

When complete exit programming mode.

##The above check for suspended users will only be vaild if our guidance for adding tokens on Pages 17 and 18 has been followed##

MANAGING TOKENS

Using Add RF Learn to Add Single Tokens

Enter Programming Mode

Press 1 **then press** 2

The display will be showing

> **User Address :**
> **F3: Prev F4: Next**
> **Range: (0-016383)**
> **xxxxxx**

Where xxxxxx will equal the next available User Address (On a new controller xxxxxx will equal 000001) Press #

For a single token the display will be showing

Press #

> **Tag Units (pcs)**
> **Must be sequence**
> **Range:1-016383)**
> **000001**

The display will be showing

> **Close Tag**
> **Into RF Area**

Present the Tag to the keypad / display area of the controller.

The Display will show

> **aaaaa:bbbbb OK**

Where aaaaa:bbbbb is the identity of the token presented.

If further individual tokens are to be added present each token in turn.

The display will show for each token presented.

> **aaaaa:bbbbb OK**

Where aaaaa:bbbbb is the identity of the token presented.

When all tokens have been added press * **until the Quit menu is displayed then press** #

Check that the tokens added open the door(s) from the reader(s)

MANAGING TOKENS

Using Add RF Learn to Add Sequential Tokens

Before proceeding confirm that the tokens are sequential, confirm the quantiy and separate the lowest numbered token from the batch.

Enter Programming Mode

Press ⬚1 then press ⬚2

The display should be showing
The next free User Address (On a new controller xxxxxx will equal 000001)
Press ⬚# to accept the address.

> User Address :
> F3: Prev F4: Next
> Range: (0-016383)
> xxxxxx

The display should be showing

> Tag Units (pcs)
> Must be sequence
> Range:1-016383)
> 000001

Enter the quantiy of tokens to be added via the keypad (e.g. for 20 tokens enter 20)
Then press ⬚#

The display will be showing

> Close Tag
> Into RF Area

Present the lowest numbered token only to the keypad / display area of the controller.

The Display will show aaaaa:bbbbb
Which will be the identity of the token
Presented.

> aaaaa:bbbbb OK

If no further tags are to be added press ⬚* until the quit menu is displayed, then press ⬚#

Check the tokens open the Door(s) by presenting them to the relevant Reader(s)

(Check the highest and lowest numbered tokens to confirm correct function)

MANAGING TOKENS

Suspending Tokens by Address

We recommend that tokens are suspended rather than deleted. Suspended tokens can be recovered (see pages 19-20) Suspending tokens also prevents overwriting existing tokens when using "Add by RF Learn"

Before proceeding the User Address of the token(s) to be suspended will be required, refer to the table of users at the back of this manual.

Once Tokens are suspended when presented they will show as "Invalid User" at the controller or "Scan Data" when presented at the reader.

To suspend Token(s) by User Address

Enter Programming Mode

Press 1 then press 3

The display will be showing

> **Input Start Addr**
>
> **Range: (0 - 16383)**
> **000000**

Enter the start address for suspending tokens (if less than 6 digits are entered then Press #)

The Display will be showing

> **Input End Addr**
>
> **Range: (0 - 16383)**
> **000000**

Enter the end address for suspending tokens (if less than 6 digits are entered then Press #)

The Display will be showing

> **Input End Addr:**
>
> **xxxxxx : xxxxxx**
> **Succeeded**

Where xxxxxx : xxxxxx will be the Start and End address entered.

Exit Programming Mode.

MANAGING TOKENS

Suspending Tokens by Code

Before proceeding the Site Codes <u>and</u> Card Codes of the token(s) to be suspended will be required, refer to the table of users at the back of this manual.

Once Tokens are suspended when presented they will show as "Invalid User" at the controller or "Scan Data" when presented at the reader.

To suspend Token(s) by Site Code and Card Code

Enter Programming Mode

Press 1 then press 4

The display will be showing

> **Set   Site:**
>
>   **00000:xxxxx**
> **Range : (0 - 65535)**

Enter the site code for the token to be suspended then press #

The display will be showing

> **Set   Code:**
>
>   **aaaaa : 00000**
> **Range   : (0 - 65535)**

Where aaaaa will be the site code entered (if less than 5 digits are entered then press #)

Now enter the card code for the token to be suspended.

If the site code and card code are not recognised the screen will show

> **Set   Code:**
>
>   **aaaaa : bbbbb**
>   **Data Not Found**

If the site code and card code are recognised the screen will show

> **Set   Code:**
>
>   **aaaaa : bbbbb**
>   **Succeeded**

Where aaaaa = The site code and bbbbb = The card code of the token suspended.

Exit Programming mode

MANAGING TOKENS

Recovering Tokens by Address

Before proceeding the User Address of the token(s) to be recovered will be required, refer to the table of users at the back of this manual.

Once Tokens are suspended when presented they will show as "Invalid User" at the controller or "Scan Data" when presented at the reader.

To Recover Token(s) by User address

Enter Programming Mode

Press `1` then press `7`

The display will be showing

> **Input Start Addr**
>
> **Range: (0 - 16383)**
> **000000**

Enter the start address for suspending tokens (if less than 6 digits are entered then press `#`)

The Display will be showing

> **Input End Addr**
>
> **Range: (0 - 16383)**
> **000000**

Enter the end address for suspending tokens (if less than 6 digits are entered then press `#`)

The Display will be showing

> **Input End Addr:**
>
> **xxxxxx : xxxxxx**
> **Succeeded**

Where xxxxxx : xxxxxx will be the Start and End address entered.

Exit Programming Mode

MANAGING TOKENS

Recovering Tokens by Code

Before proceeding the Site Codes <u>and</u> Card Codes of the token(s) to be recovered will be required, refer to the table of users at the back of this manual.

Once Tokens are suspended when presented they will show as "Invalid User" at the controller or "Scan Data" when presented at the reader.

To recover Token(s) by Site Code and Card Code

Enter Programming Mode

Press `1` then press `8`

The display will be showing (the initial number aaaaa is not relevant and can be Ignored)

```
Set             Site:

   aaaaa:xxxxx
Range  : (0 - 65535)
```

Enter the Site Code for the token to be recovered, if a Site Code is already present enter the Site Code for the token to be recovered. (if less than 5 digits are entered then press `#`)

The display will be showing

```
Set             Code:

   aaaaa : 00000
Range  : (0 - 65535)
```

Where aaaaa will be the site code entered.

Now enter the card code for the token to be recovered (if less than 5 digits are entered then press `#`)

If the Site Code and Card Code are not recognised the screen will show

```
Set             Code:

   aaaaa : bbbbb
Data Not Found
```

If the Site Code and Card Code are recognised the screen will show

```
Set             Code:

   aaaaa : bbbbb
   Succeeded
```

Where aaaaa = The Site Code and bbbbb = The Card Code of the token suspended.

Exit programming Mode.

NETWORKING

Setting Node ID (and IP Address)

If controllers are networked they can be programmed and monitored remotely using dedicated software available from our website https://www.raytelsecurity.com

Controllers can be networked by three different methods as follows:

RS485 (controllers are connected to a RS485 network and a USB to RS485 adaptor is used at the PC)

RS485 via TCP/IP (controllers are connected to a RS485 network via a TCP/IP to RS485 adaptor)

TCP/IP (controllers can be connected directly to a TCP/IP network.
The AR-716E-RAY-AJ has a TCP/IP connection on the interface pcb,

For Networking purposes each controller will require a unique Node ID.

To set the Node ID proceed as follows:

Enter Programming Mode

Press 3 then press 1

The display will show

> Input New Node ID
> Range: 001 - 254
> Current Data: xxx
> yyy

Current data: xxx is the node ID currently set (Default = 001)

Enter the required Node ID (yyy will be overwritten) if less than 3 digits are entered then press #

The display will show

> Main Door Number
>
> Range: 000 - 255
>
> 001

Press #

The display will show

> WG1 Door Number
>
> Range: 000 - 255
>
> 002

Press #

Continue to next page.

NETWORKING

Setting Node ID (and IP Address) continued

The display will show

> Show WG Message
>
> 0: No 1 : Enable
>
> x

X is the current setting, if x = 1 press # 　if x = 0, press 1

The display will show

> Enable DHCP
> 0 : No 1 : En 2: Exit
> 192.168.001.127*
> x

X by default will be 0, there are now 3 options:

1.　　If an IP address is not required for the controller press 2 　This will save the settings already changed and return the controller to the main menu.

2.　　*DHCP would not usually be enabled, if it is to be enabled press* 1

3.　　To proceed with allocating an IP address <u>without</u> DHCP enabled press 0

The display will show

> IP Address (IPv4)
> 192.168.001.127
> 192.xxx.xxx.xxx

To modify the default IP address over type 192.xxx.xxx.xxx with the required IP address

The display will show

> Net Mask   (IPv4)
> 255.255.255.000
> 255.xxx.xxx.xxx

To modify the net mask over type 255.xxx.xxx.xxx with the required net mask.

Continue to next page.

NETWORKING

Setting Node ID (and IP Address) continued

The display will show

> **Gateway   (IPv4)**
> **192.168.001.254**
> **192.xxx.xxx.xxx**

To modify the default Gateway address over type 192.xxx.xxx.xxx with the required gateway address.

At the end of this process the controller will restart and the modified settings will be active.

If the controller is to be used on a network it should be selected In the LAN settings drop down of 701 Server as:

881/837/82xEv5/727Ev5/725Ev2/721Ev2

If 701 Client software is being used to manage Door Groups the Doors will need to be Named in 701 Client as:

XXX:001   For Door 1 where XXX is the selected Node ID of the controller.

All TCP/IP controllers have a default IP address of 192.168.001.127

All controllers have a configuration function that can be accessed using this default IP address with a suitably configured PC. From within the configuration function Node ID, IP address and other basic functions can be configured.

ALARMS

Setting and Configuring Door Alarms

For alarms to be configured a normally closed door sensing Contact is required (if monitored mag locks are being used then monitoring contacts are built in to the mag lock) at each door where an alarm is required. The door contacts must be connected to 0V and the xxx inputs as required (See Page xx) Alarm outputs are Normally Open clean contacts that close when an alarm condition is met.

Alarms can be set for:

Door Open too long (only functions when On and the controller is 'Armed')
Door forced open (If ON always functions irrespective of controller 'Arming' status)

If monitored mag locks are being used then the monitoring switch in the mag lock will identify when power is cut to a lock (Break Glass operated) and trigger a Door Forced Open Alarm.

If un-monitored mag locks are being used normally closed isolated break glass contacts can also be configured in series with each of the door contacts if required to identify the operation of a Break Glass and sound an alarm.

If the controllers are networked alarms will also be identified on 701 Client monitoring software.

The following functions can be set independently for each door:

Door Relay time (WG Door & Main Door)
Door Close time (WG Door & Main Door)
Door Forced Open (WG Door & Main Door) If set ON this will always function.
Door Close to Stop alarm (WG Door & Main Door)

The following functions when set apply to BOTH doors.

Alarm Relay Time
Alarm Delay Time
Arming Delay Time
Arming PIN Code

For the 'Door Open too long' alarm to function the controller MUST be armed, this can be carried out at the controller or via 701 Client Software.
From the software each door can be armed independently,
At the controller both doors are armed simultaneously by presenting a valid token to the controller and then entering the arming passcode followed by #

The Controller display will confirm that the controller is 'Arming'

Controllers can be 'Disarmed' at the controller or via 701 Client Software. From the software each door can be disarmed separately, at the controller both doors will be disarmed by presenting a valid token to the controller and then entering the arming passcode followed by #

The controller display will confirm that the controller is 'Disarming'

See Pages 27 to 31 for alarm Setting and monitoring procedures.

ALARMS

Door Relay Time

To set the Door relay times refer to Page xx of this manual.

Door Close Time

The Door Close time is the amount of time from the start of the Door Open time until the Alarm is triggered.
E.g. if the door relay time is 7 Seconds and the door close time is 20 Seconds the alarm will be triggered 13 seconds after the door should have been closed if the door is still open.

To set the Door Close Time

Enter Programming Mode.

Press `3` **then press** `4`

The display will now show:

> **Reader 1   Close**
> **Delay time (Sec)**
> **Range: 000 - 255**
> **xxx**

xxx will equal the time currently set.

Set xxx to the time required using 3 digits or press # to retain the existing setting.

Once the time for Reader 1 has been entered Reader 2 options will be displayed. Follow the above procedure for Reader 2.

At the end of the process the display will show | **Succeeded!**
Exit programming mode.

By default the Door Close times are set to 15 Seconds.

Door Forced Open

These settings determine whether the alarm will be triggered if a door is forced open.

To set the Door Forced Open Alarms

Enter Programming mode.

Press `4` **then press** `4`

The display will now show:

> **Main Controller**
> **Force Open Alarm**
> **0:NO   1: YES**
> **x**

x is the default setting, Set x to the required setting or press # to retain the existing setting.
Once the setting for Reader 1 (Main Controller) has been set Reader 2 (WG1 Port) settings will be displayed. Follow the above procedure for Reader 2.

At the end of the process the display will show | **Succeeded!**
Exit programming mode

By default the Door Forced Open alarms are OFF

ALARMS

Door Close to Stop Alarm

Alarms can be set to either sound for the programmed 'Alarm Relay Time' or alarms can be silenced by closing the door.

To set the Close Door to Stop Alarm options:

Enter Programming Mode.

Press 4 **then press** 5

The display will now show:

> Main Controller
> Close Door Stop
> Alarm 0:NO 1: YES
> x

X is the default setting, Set x to the required setting or press # to retain the existing setting. Once the setting for Reader 1 (Main Controller) has been set Reader 2 (WG1 Port) settings will be displayed. Follow the above procedure for Reader 2.

At the end of the process the display will show Succeeded!
Exit programming mode

By default the Door Close to Stop Alarm parameters are OFF

Alarm Relay Time

The Alarm Relay Time is common to both doors. The Alarm Relay Time determines the time the alarm relay contacts on each door will close if an alarm condition is met.

To set the Alarm Relay Time:

Enter Programming Mode.

Press 3 **then press** 5

The display will now show:

> Alarm Relay Time
> Range 000-609
> 601 - 609 = 0.1 - 0.9
> xxx

xxx will equal the time currently set.

Set xxx to the time required as follows (use 3 digits):

If xxx = 000 the alarm will sound continuously until cancelled
If xxx = 601 to 609 the time will equal 0.1 to 0.9 Seconds
If xxx = 001 to 600 the time will equal 1 to 600 Seconds

Once the 3 digits have been entered the display will show Succeeded!
Exit programming mode

By default the Alarm Relay Time is set to 15 Seconds

ALARMS

Alarm Output Delay Time

The Alarm Output Delay Time is the time between the Alarm condition being identified and the Alarm output switching ON.

To set the Alarm Output Delay time:

Enter Programming Mode.

Press 3 **then press** 6

The display will now show:

> Alarm Output
> Delay Time (Secs)
> Range 000 - 255
> xxx

xxx is the current setting:
Set xxx to the time required (use 3 digits):
At the end of the process the display will show Succeeded!
Exit programming mode

By default the Alarm Output Delay Time is 1 Second

Arming Delay Time

The Arming Delay Time is the time between the controller being placed into Arming Mode and the Actual Arming process taking place on the controller. An output pulse can also be generated to indicate the controller is arming if it is required.

To set the Arming Delay time:

Press 3 **then press** 7

The display will now show:

> Enter Armed sta.
> Delay time (Sec)
> Range: 000 - 255
> xxx

xxx is the current setting:
Set xxx to the time required (use 3 digits)

The display will now show:

> Armed pulse out-
> Put time. (10mS)
> Range: 000 - 255
> xxx

xxx is the current setting:
Set xxx to the time required (use 3 digits)
At the end of the process the display will show Succeeded!
Exit programming mode

By default the Arming Delay Time is 1 Second and the Ouput Pulse Time is 0 Seconds

ALARMS

Arming Password

To enable Alarms to be Armed at the controller a 4 digit passcode is required.

To set the Arming Passcode :

Enter Programming Mode.

Press 3 then press 8

The display will now show:

> **Input PIN Code**
> **Range: 0000 -**
> **   9999**
> **xxxx**

xxxx is the current passcode:
Set xxxx to the passcode required (use 4 digits)

At the end of the process the display will show Succeeded!
Exit programming mode

The default arming passcode is '1234'

Controllers can be armed at the controller or via 701 Client Software. From the software each door can be armed separately.

At the controller both doors are armed simultaneously by presenting a valid token to the controller and then entering the arming passcode followed by #

The Controller display will confirm that the controller is 'Arming'

Controllers can be 'Disarmed' at the controller or via 701 Client Software. From the software each door can be disarmed separately,

At the controller both doors will be disarmed by presenting a valid token to the controller and then entering the arming passcode followed by #

The controller display will confirm that the controller is 'Disarming'

See the next page for Arming and Disarming via 701 Client software

ALARMS

701 Client-Monitoring + Arming/Disarming Doors

From within the 701 Client software door alarms can be Armed, Disarmed and monitored. The screen above shows a typical event log with Alarm events, the software shows alarm events in Red text.

Controllers can be armed and disarmed either via the 701 Client software or at the controller(s)
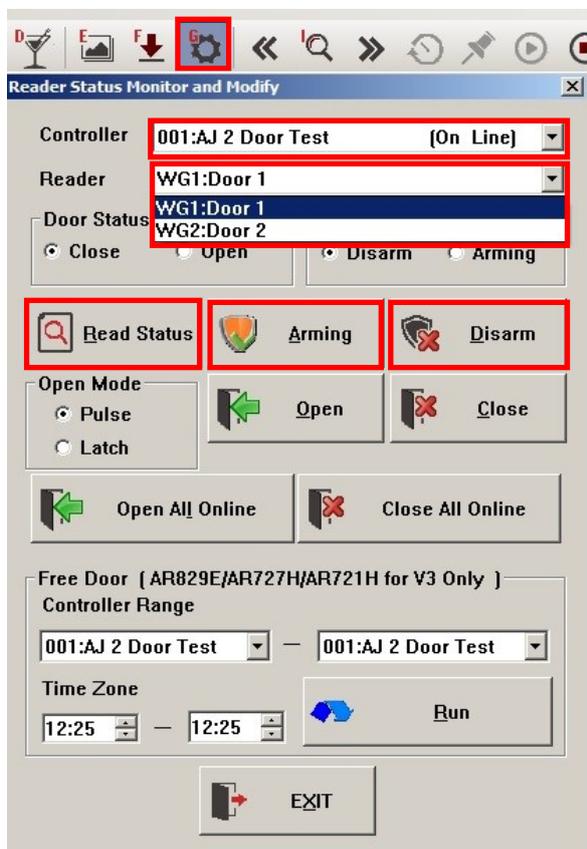
By selecting G from the 701 Client header strip the 'Reader Status Monitor and Modify ' tab shown to the left can be opened.

All on line controllers can be selected from the 'Controller' drop down.

Individual doors (readers) can be selected from the Reader drop down.

By left clicking the 'Read Status' button the current status of the selected door will be reported.

Individual doors can be armed or disarmed by selecting the Controller and Door in the drop downs, reading the status and then using the Arming or Disarming buttons as required.

The Arming and Disarming buttons only function on the Controller and Reader selected in the drop down menus.

TABLE OF USERS

Name of On-Site Programmer(s): ....

Installation Company: ....

Tel: ....

Date: ....

DEFAULT MASTER CODE:- *123456#

USER MASTER CODE: ....

Lock Time:

Lock Type: ....
....

User Address	Users Name	Card ID	User Code	Date
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		;		
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We recommend this page should be filled in and regularly updated and kept in a safe and secure location by the person responsible for the upkeep of the system.