ZANKAP

Bticino

Access Control Interface

Installation/Programming Manual
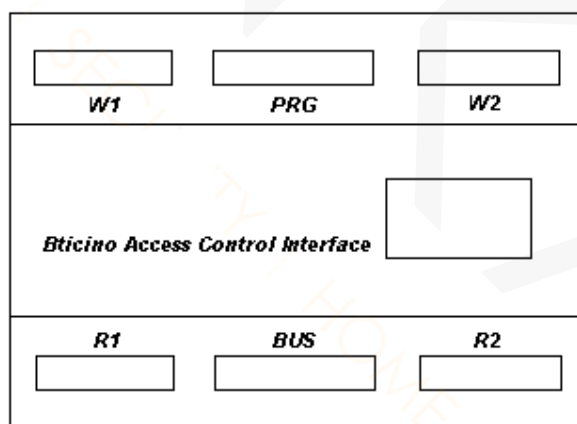
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Installation

1. Overview

The Bticino Access Control Interface provides 4 x 26 bit Wiegand outputs for interfacing with an access control system. This functionality will allow door and lift movements initiated from units to be recorded (subject to access control system programming).

The interface is fitted in a standard Bticino case similar to the 346190 floor distributor and is DIN rail mounted

Interface will work on both 2 and 8 wire Bticino digital systems and multiple units can be added to a system to suit both door and lift applications.
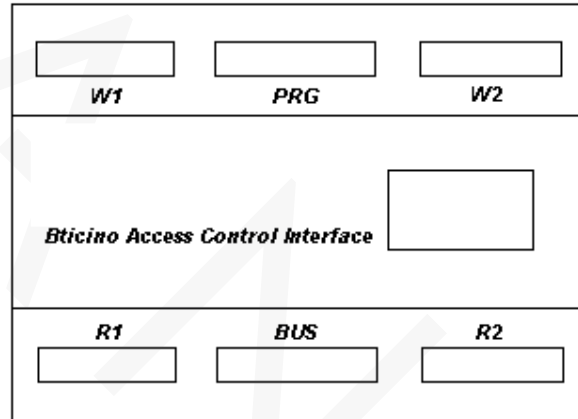

Figure 1.1

2. Set-up

The interface can be set for either 2 wire digital or 8 wire digital operation via jumper 1.

Jumper on 1 & 2 = 2 wire operation

Jumper on 2 & 3 = 8 wire operation

This needs to be set prior to powering the interface.

Two LED's provide indication of data on the BUS. The green LED will flash at approximately 1-second intervals during normal operation. The red LED will flash to indicate a reboot has taken place. This will happen at power up and also when rebooted via the programming software or the Reboot switch
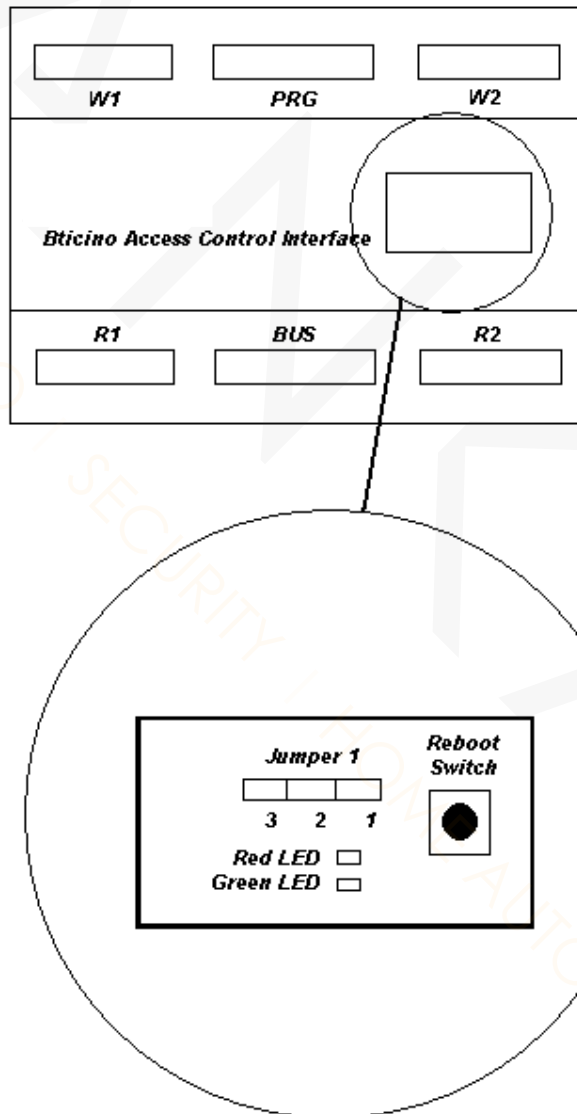

Figure 2.1

3. Connections

3.1 Overview

Connection to the interface is made with 6 standard Bticino 8-way connector plugs. The connectors are:

BUS   Power and Bticino data bus

PRG   Programming connection RS-232 to computer serial port.

R1 & R2   Solid State Form A N/O outputs (4 output's per plug)

W1 & W2   26 bit Wiegand outputs and Interface inputs (2 of each per plug)

3.2 BUS

The BUS connector provides the power and the data to the interface.

2 Wire Mode

Plug Pin No.	Function
1	Not connected
2	Not connected
3	Not connected
4	Not connected
5	To the BUS connection on the 2 wire system
6	To the BUS connection on the 2 wire system
7	Not connected
8	Not connected

8 Wire Mode

Plug Pin No.	Function
1	0 volts
2	+ 24 volts from 8 wire BUS
3	Not connected
4	Not connected
5	To the BUS connection on the 8 wire system
6	To the BUS connection on the 8 wire system
7	Not connected
8	Not connected

3.3 PRG

The PRG connector is used to connect the interface to a serial com port to upload/download the programming.

PRG

Plug Pin No.	Function
1	Not connected
2	To Pin 5 of DB9 Serial connector
3	Linked to pin 2 of this plug
4	Not connected
5	Not connected
6	Not connected
7	To Pin 3 of DB9 Serial connector
8	To Pin 2 of DB9 Serial connector

The PRG connector is not a permanent connection and as such should only be connected when uploading or downloading with the software program.

3.4 R1 & R2

The R1 & R2 connectors provide Solid State Form A N/O outputs

R1 has outputs 1 – 4 and R2 has outputs 5 – 8

These outputs can be use to drive a relay that could turn on a light in a foyer or activate a camera.

R1

Plug Pin No.	Function
1	Common Output No. 2
2	Output No. 2
3	Common Output No. 4
4	Output No. 4
5	Common Output No. 1
6	Output No. 1
7	Common Output No. 3
8	Output No. 3

R2

Plug Pin No.	Function
1	Common Output No. 6
2	Output No. 6
3	Common Output No. 8
4	Output No. 8
5	Common Output No. 5
6	Output No. 5
7	Common Output No. 7
8	Output No. 7

3.5 W1& W2

W1 & W2 provide the Wiegand outputs and the 4 Active low inputs

W1 has Wiegand outputs 1 & 2 and also inputs 1 & 2

W2 has Wiegand outputs 3 & 4 and also inputs 3 & 4

W1

Plug Pin No.	Function
1	Output 1 - 26 Bit Wiegand Data 0
2	Output 1 - 26 Bit Wiegand Data 1
3	Output 1 - Ground
4	Input 1 - N/O to ground
5	Output 2 - 26 Bit Wiegand Data 0
6	Output 2 - 26 Bit Wiegand Data 1
7	Output 2 - Ground
8	Input 2 - N/O to ground

W2

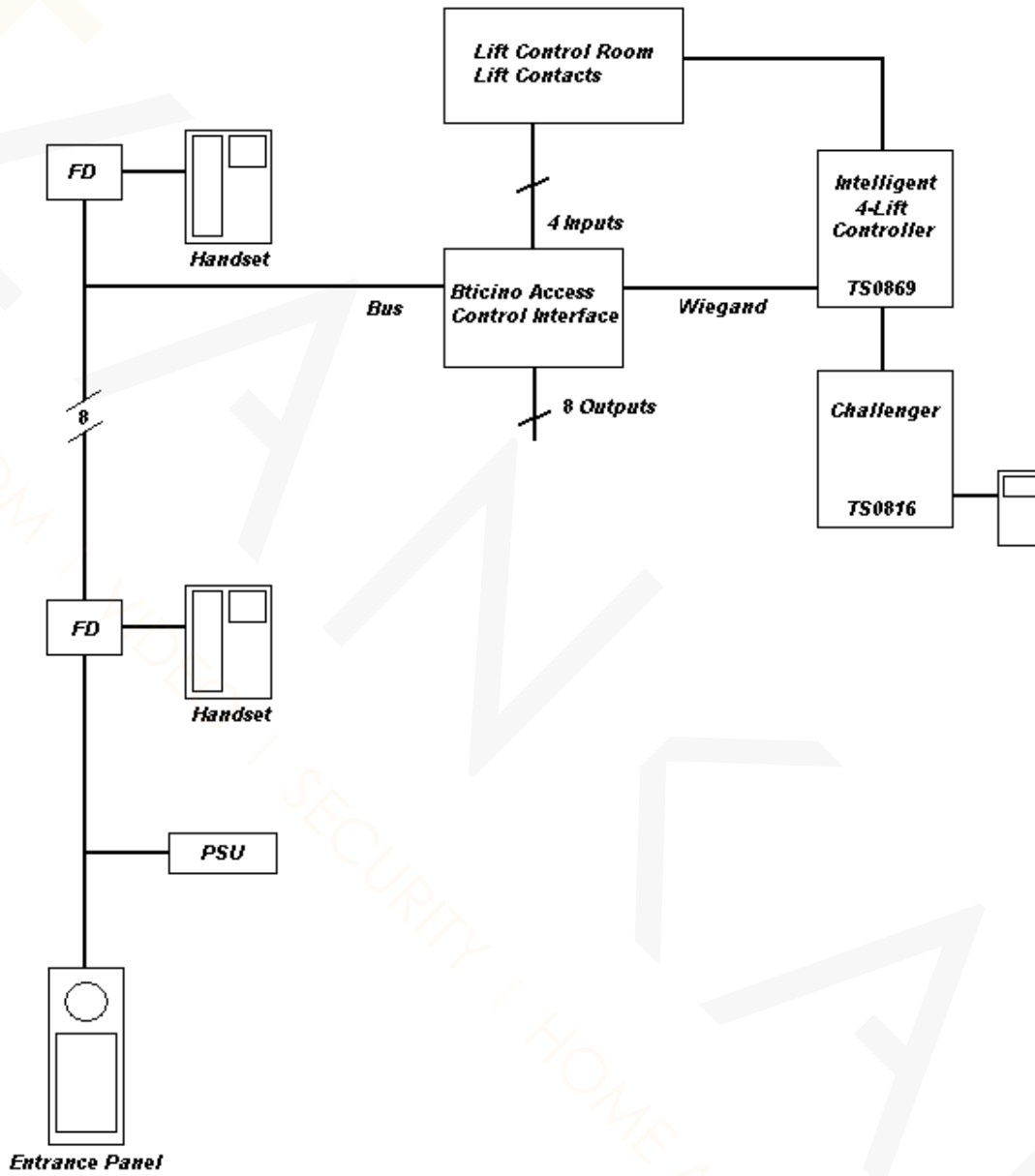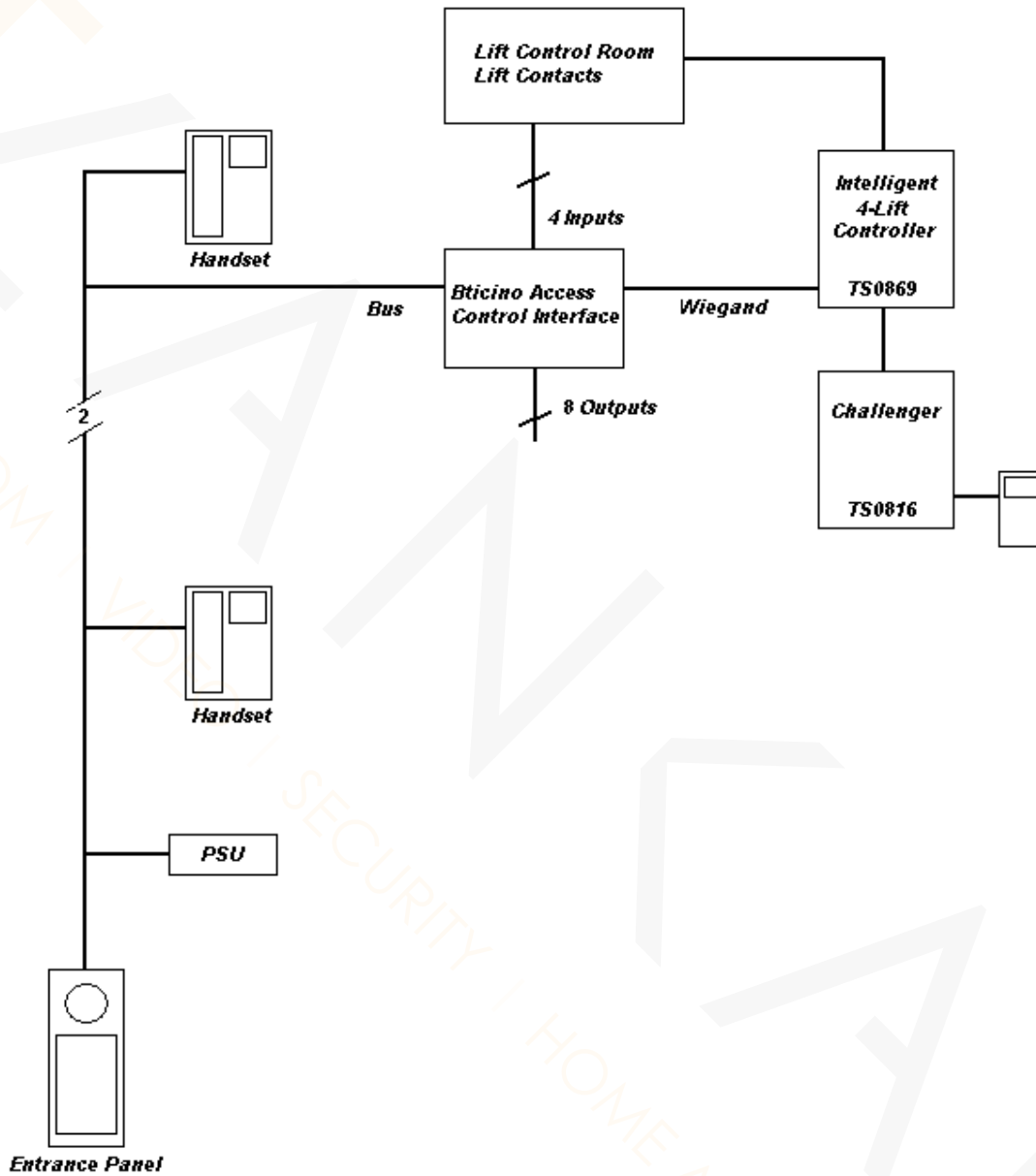| Plug Pin No.	Function
1	Output 3 - 26 Bit Wiegand Data 0
2	Output 3 - 26 Bit Wiegand Data 1
3	Output 3 - Ground
4	Input 3 - N/O to ground
5	Output 4 - 26 Bit Wiegand Data 0
6	Output 4 - 26 Bit Wiegand Data 1
7	Output 4 - Ground
8	Input 4 - N/O to ground

4. System Overview
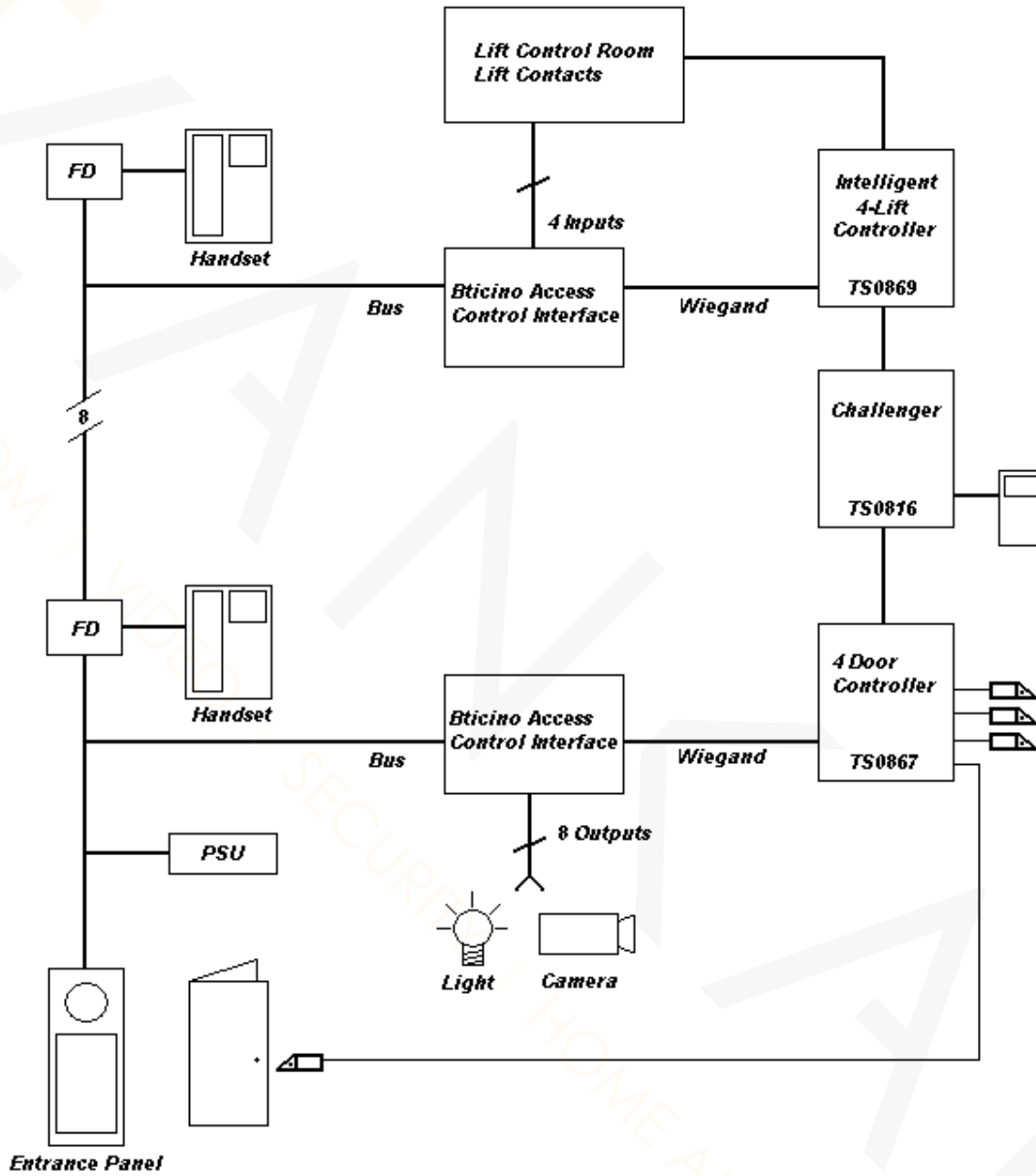
Typical 8 wire system Doors and Lifts
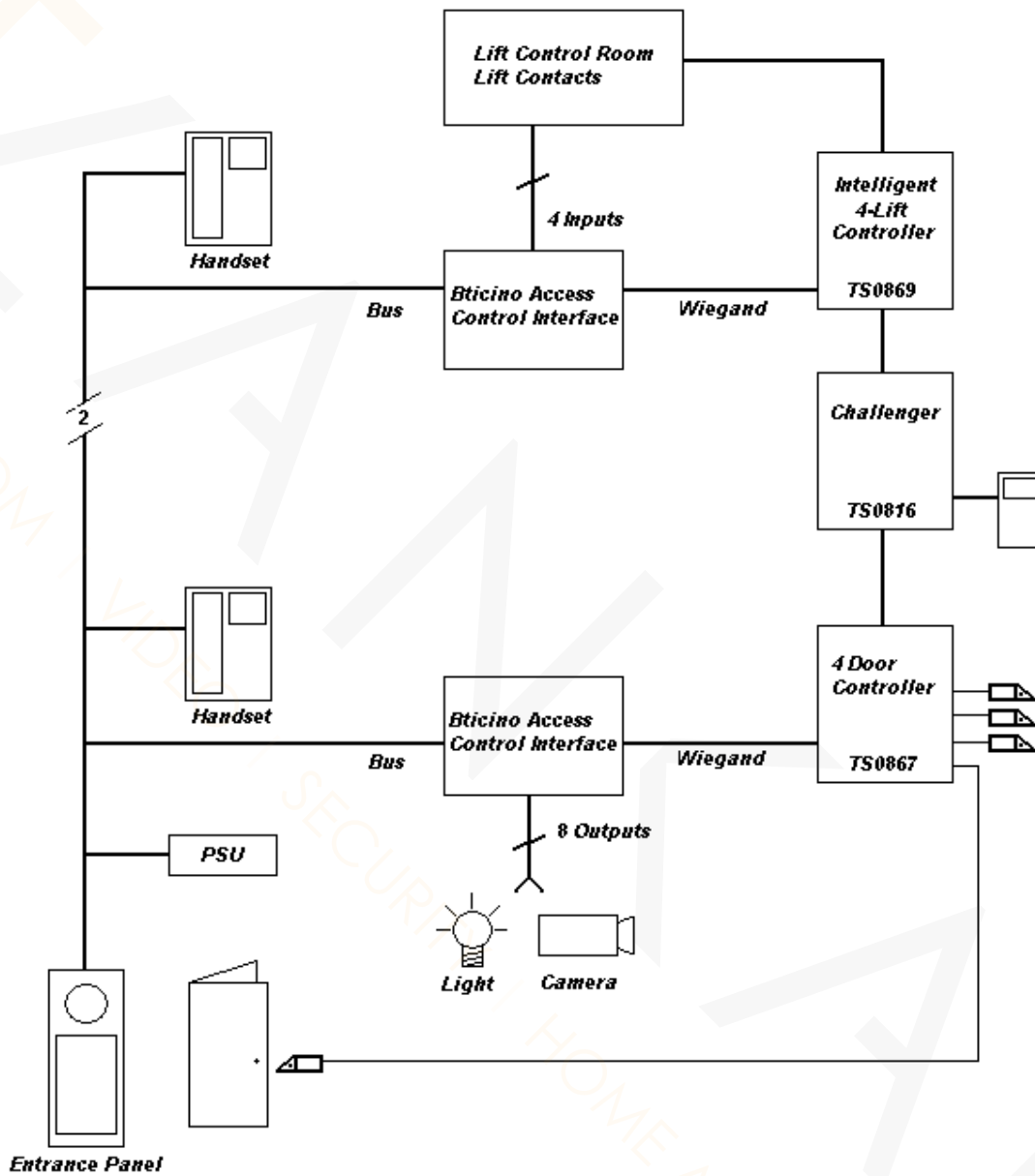
Typical 2 wire system Doors and Lifts

Typical 8 wire system Lifts only

Typical 2 wire system Lifts only

Programming

1. Overview

The   Bticino Access Control Interface provides 4 x 26 bit Wiegand outputs for interfacing with an access control system. This functionality will allow door and lift movements initiated from units to be recorded (subject to access control system programming).

The interface is programmed via a simple application that can be run on any Windows™ compatible computer. The program contents are then loaded into the interface by a programming cable connected to the computers serial port.

The interface also provides 8 Solid State Form A N/O outputs and 4 inputs for additional control functionality. Both the inputs and outputs can be programmed to perform different functions to customize the installation.
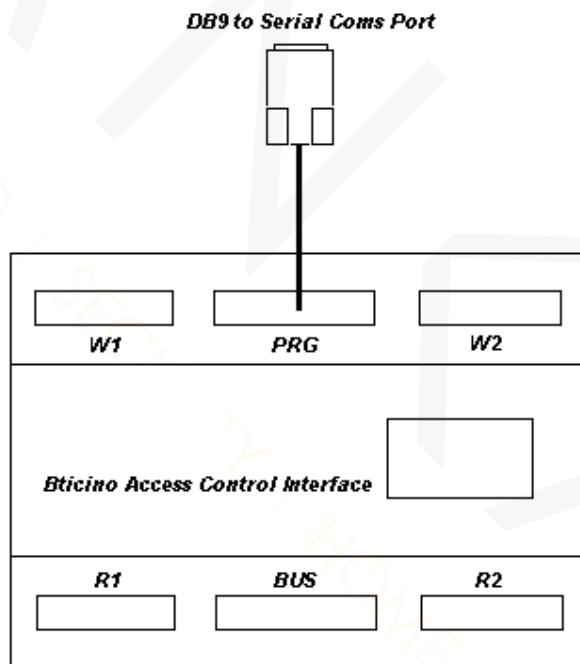
2. Setup

To start, select **Setup** from the menu on the main screen. (Figure 2.1)
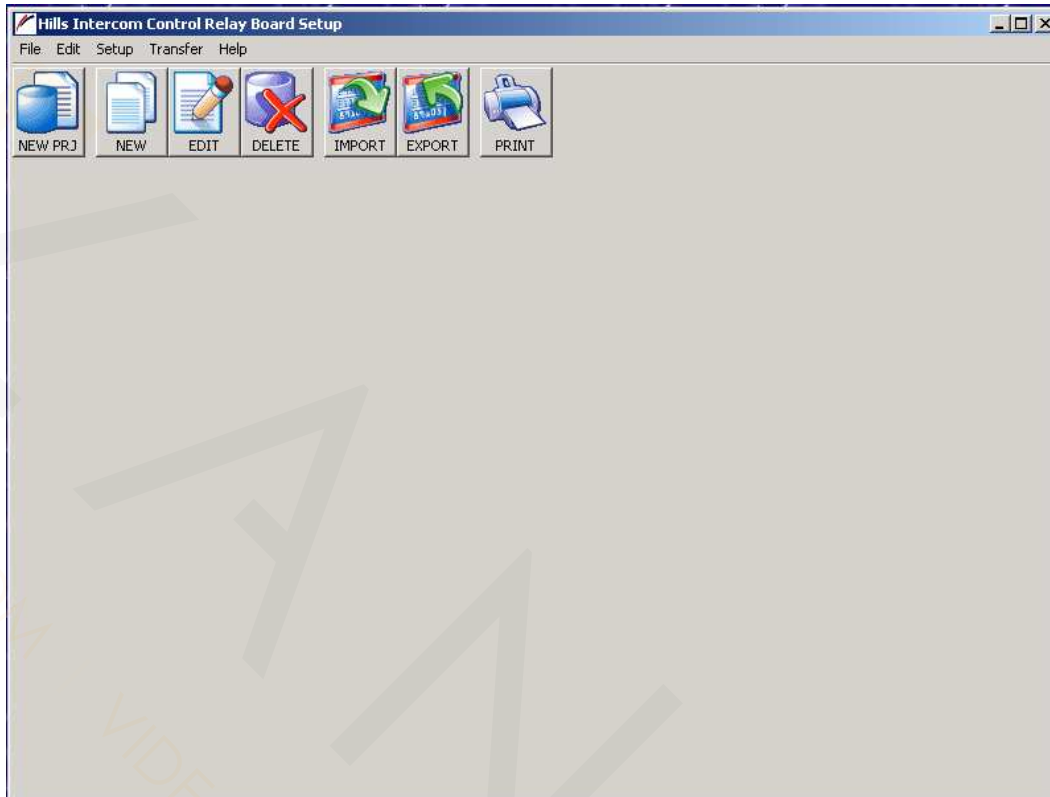

Figure 2.1

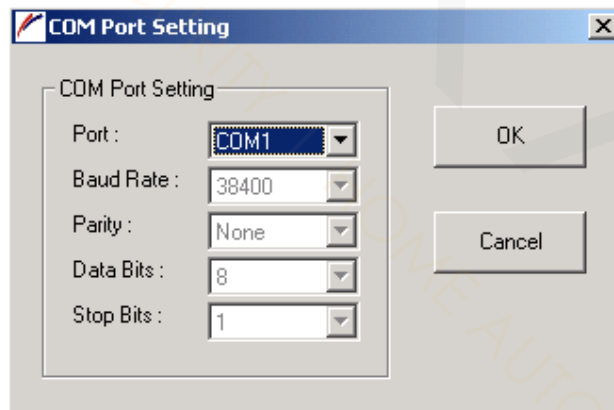This will display the COM port settings screen (Figure 2.2)

Figure 2.2

From the drop down list select your COM port with which you will connect to the interface for programming. Other COM port settings are fixed and cannot be altered.

3. Basic Programming

To begin programming you will need to create a new project or select an existing project. Click on the File menu and then New Project (Ctrl + N) or for an existing project select Open Project (Ctrl + O)

3.1 Site Code

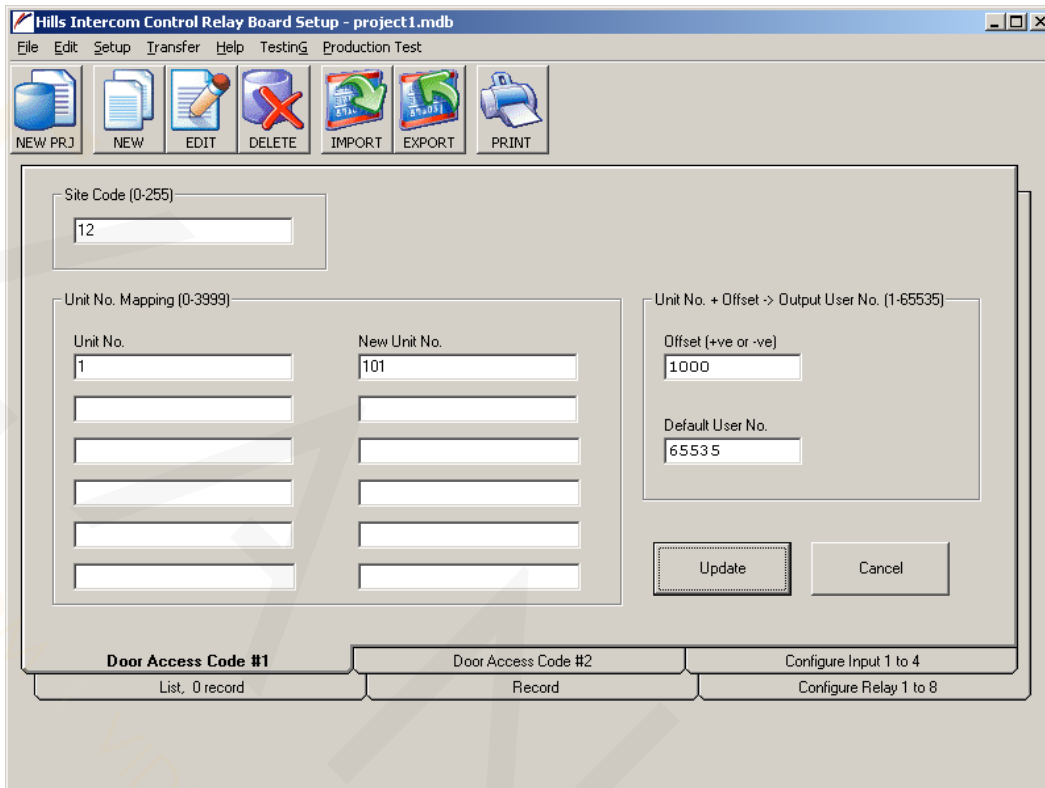The system site code can be entered on the Door Access Code #1 Tab. (Figure 3.1)

Figure 3.1
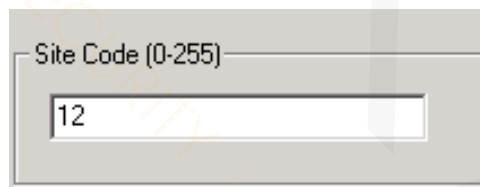
The site code will be between 0 and 255 (Figure 3.2)

Figure 3.2

In the example above the site code is set to 12

3.2 Unit Remapping and Offset Programming

At times the Wiegand output for a certain unit number may clash with an existing access control system user. For example an existing system may have the building owner or maintenance personnel as user 1. This would cause a problem in the system, as they would be unable to have a unit 1 without relocating the existing user to another user number.

Another problem that may arise involves the access control system not having user numbers in a range the same as the Units numbers. For example an existing access control system may have users in the range of 1001 – 1100, where as the Units may be numbered 1 – 100.

To overcome these problems, up to 6 individual Units can be remapped and a system wide offset can also be programmed.

Figure 3.3 shows an example of remapping. Unit 1 will output as user 101.

Figure 3.3

A system wide user offset can also be programmed into the interface as shown in figure 3.4. This offset value can be either positive or negative and is optional.

This can be used to offset all unit numbers by a fixed amount. In the example below unit 1 would then output user 1001 unit 2's output would be 1002 and so on.

The output is calculated by adding the Unit No. and the Offset. If the resulting value is out of the range (1-65535) the default user number value will be sent to the access control system. If the Default User No. is left blank no Wiegand output will occur when the output is out of range.

For example Unit 1 + Offset 65535 = Output 65536 this is outside the range (1 – 65535) and will result in the Default User No. to be sent to the Access Control System.

Figure 3.4

3.3 Units & Entrys

The Unit and Entry station details for the site are used to set-up the Wiegand outputs.

When a visitor calls a Unit from an entry station, the occupant of the unit can release the appropriate door by pressing the door lock release on their intercom handset. The interface then outputs the unit's number in Wiegand format, which releases the door at the entry station. The output can also be used to allow lift access to the appropriate floor.

The Unit numbers are set-up on the Door Access Code #2 tab (Figure 3.5 & 3.6)
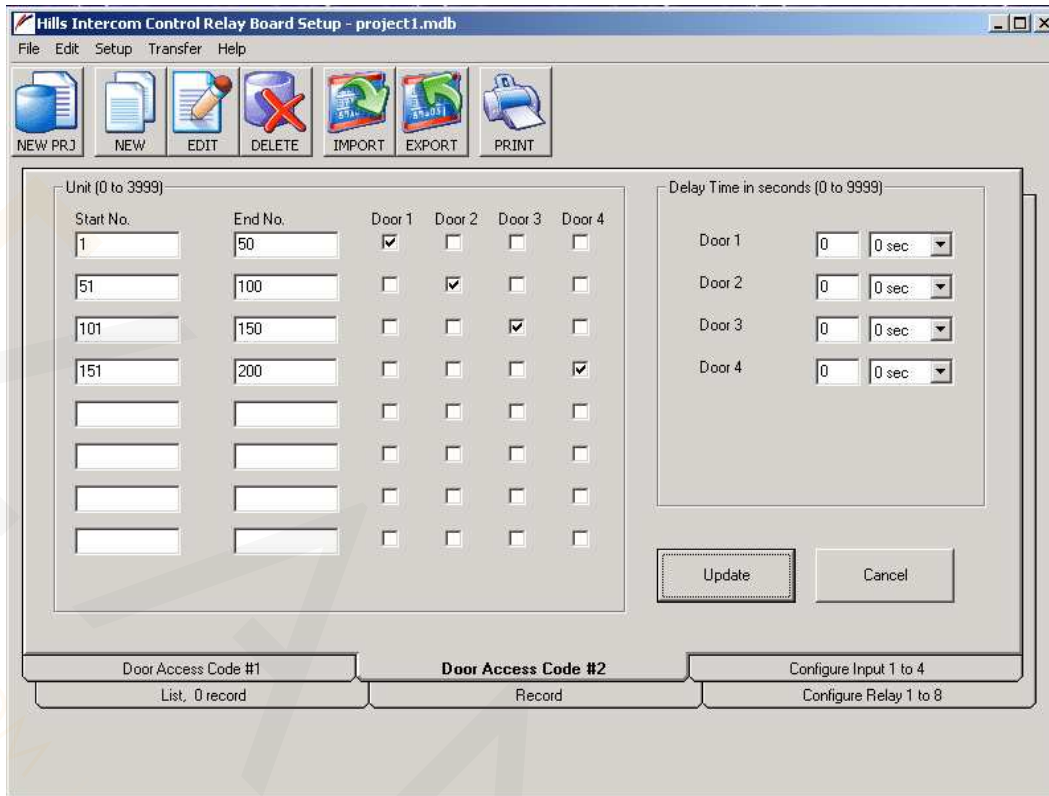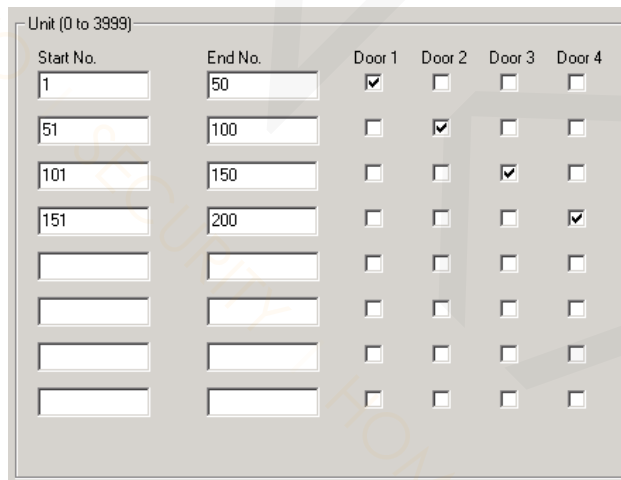
Figure 3.5

Figure 3.6

The Start No. and End No. refer to the numbers of units and to which Entrance Door that will need to operate. In the example above Units 1 to 50 will cause a Wiegand output with the equivalent unit number to be sent to the controller on Door 1

The units can be set-up to output to more than one door at a time.

Figure 3.7

In figure 3.7 the Wiegand outputs can be delayed. This causes the Wiegand output to be sent only after a set delay time. The delay can be set directly in the 1st column (up to 9999 seconds) or from the drop down list of preset delays.

An example use for this feature would be to delay the Wiegand output to a lift car reader to allow the lift to reach the ground floor before releasing access to a floor via the access control system.

It is important to note that the Update button is pressed before moving to another Tab or changes will be lost.

4. Relay Programming

4.1 Introduction

The relay outputs can be programmed to perform many different functions. This programming is referred to as a rule for the relay. Each interface can store up to 80 rules for controlling the 8 solid-state relays.

The relays function can be configured to one of the following.

Timed   Activates for the programmed time then resets.
               This can be from 2 to 9999 seconds

Toggle   Swaps state each time it is activated.

Delayed   Activates after the programmed time and remains active for the
               programmed time.
               Delay times can be 10, 30, 60, 90 or 120 seconds
               Active time can be from 2 to 9999 seconds

The relays can also be set as Inverted or Non-Inverted.

4.2 Relay Setup

The 8 relay functions are set-up on the Configure Relay 1 to 8 Tab (Figure 4.1)

Figure 4.1
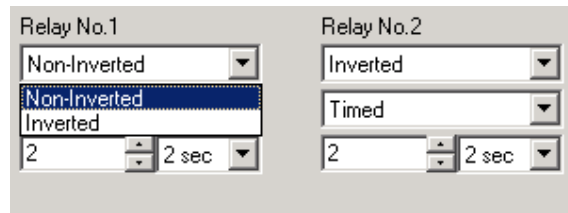
First select the state of the relay (Figure 4.2)

Figure 4.2
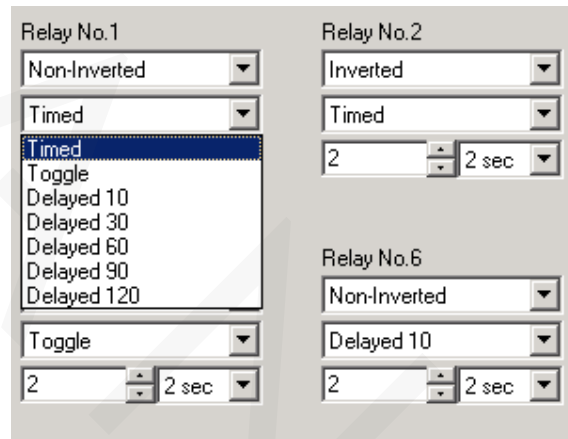
Second select the Function (Figure 4.3)

Figure 4.3

Third select the activation time (Figure 4.4)

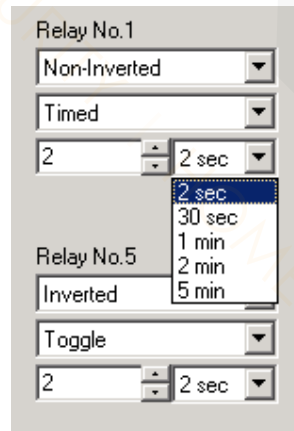Please note that the activation time can be manually entered in the range from 2 to 9999 seconds.

Figure 4.4

Examples of relay programming:

Relay 2 – Inverted – Timed – activated for 2 seconds

Relay 6 - Non-Inverted – Delayed 10 seconds -activated for 2 seconds

Relay 5 – Inverted – Toggle – activated for 2 seconds

5. Programming Rules

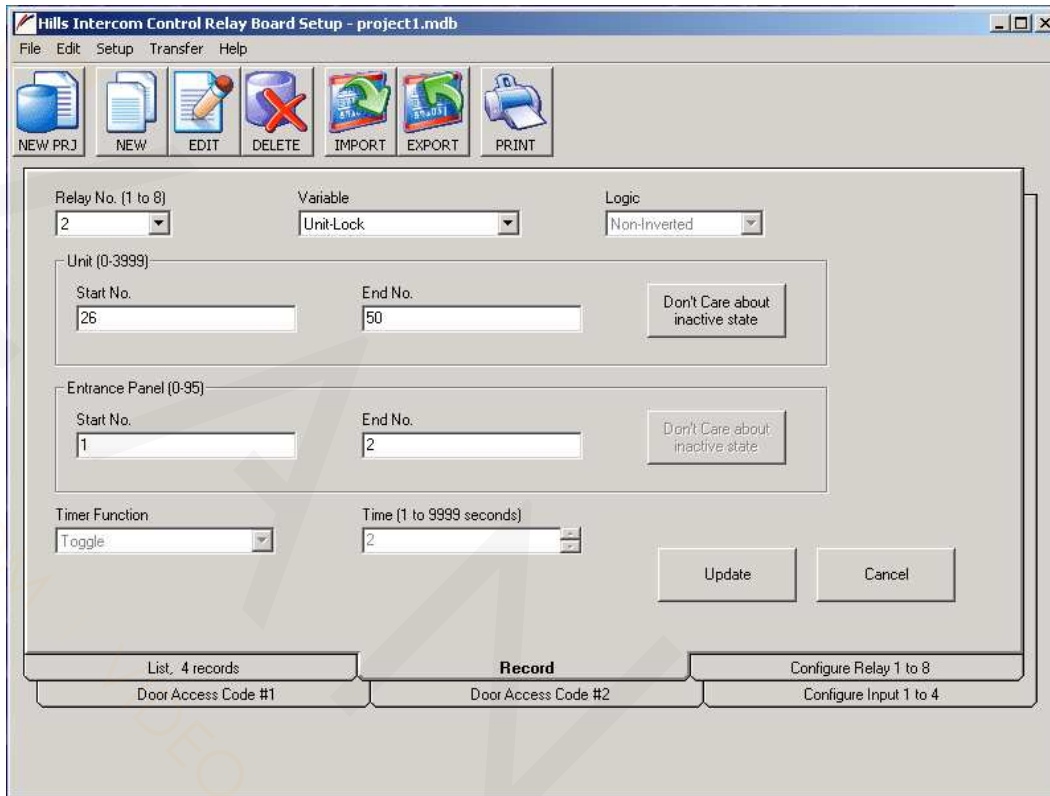The rules that the relays follow are programmed on the Records Tab (Figure 5.1)

Figure 5.1

To create a new rule click the NEW button on the menu (Figure 5.2)

Figure 5.2

This will take you to the Records Tab. (Figure 5.1)

5.1 Records

Start by selecting the relay number you wish to program from the drop down list. (Figure 5.3)

Figure 5.3

Next select the Variable. (Figure 5.4) This is the key or function that will trigger the relay.

The Variable options available are:

Unit-Lock	The Lock button on the Unit handset
Unit-Light	The Light button on the Unit handset
Entrance & Unit	When any call is made from an Entrance Panel to any unit handset

Figure 5.4

The Unit section of the Record Tab is used to assign this rule to a group of Units. Select the Starting Unit number and the End Unit number that can operate the relay with this rule. (Figure 5.5)

The Entry section of the Record Tab is used to assign this rule to an Entry station or a group of Entry Stations. Select the Starting Entry number and the End Entry number that can operate the relay with this rule. (Figure 5.5)

Figure 5.5

The Timer Function and Time items are for display only and show the programming of the relay selected.

Don't Care about inactive state buttons in both the Unit and Entry fields is used to allow relay control without a call in progress. This would allow the Occupant in a Unit or a Visitor at an entry station to trigger a relay when not in a call.

It is important to note that after any change to a rule the Update [Update] button is pressed to save the rule.

5.2 Rule List

As the rules are created they are added to the list of rules on the List tab (Figure 5.6)
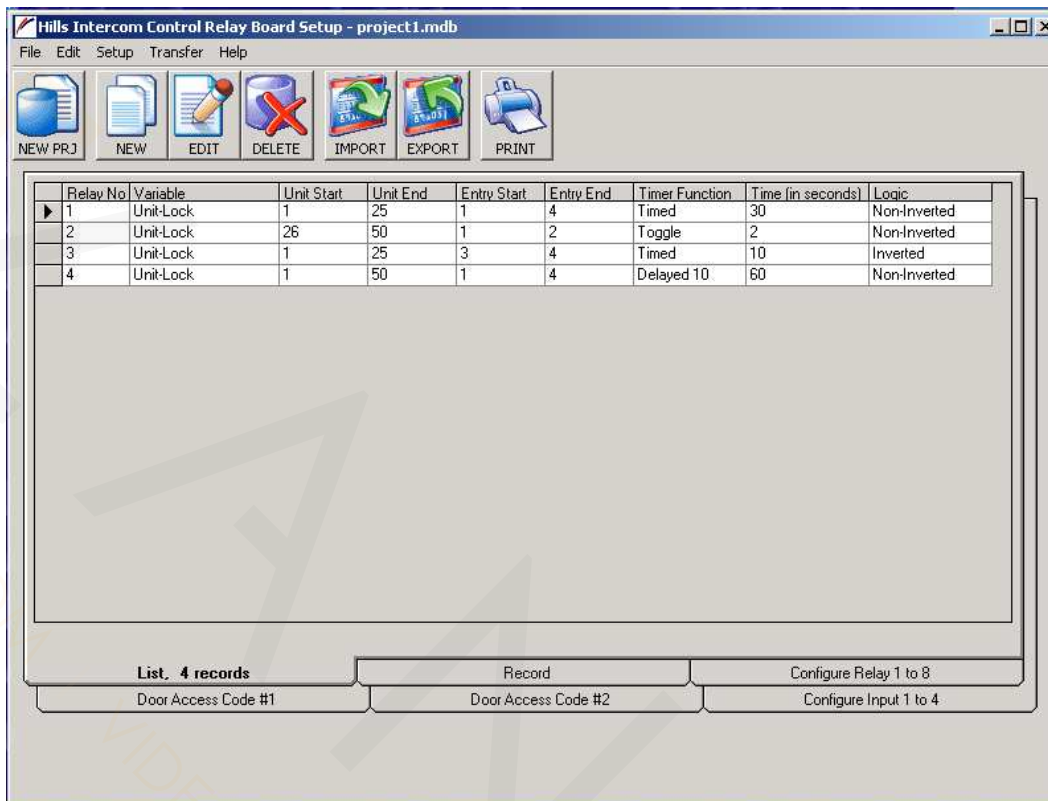

Figure 5.6

Here you will be able to see all the rules that have been created for the current project.

If any of the rules need to be edited click the left most column to highlight the rule and then click the EDIT button. This will take you to the Record tab with the current rule ready for editing.

To delete a rule highlight the rule in the rule list and click the DELETE button.

Examples of a programming rules: see figure 5.6

Relay 1 *will operate for 30 seconds when any Units from 1- 25 press the Unit-lock button during a call between Entrance panels 1 to 4.*

Relay 2 *will Toggle when any Units from 26 -50 press the Unit-lock button during a call between Entrance panels 1 or 2*

Relay 3 *will operate for 10 seconds when any Units from 1- 25 press the Unit-lock button during a call between Entrance panels 3 or 4. This output is Inverted*

Relay 4 *will operate when any Units from 1- 50 press the Unit-lock button during a call between Entrance panels 1 to 4. The relay output will be Delayed for 10 seconds before activating for 60 seconds.*

6. Input Programming

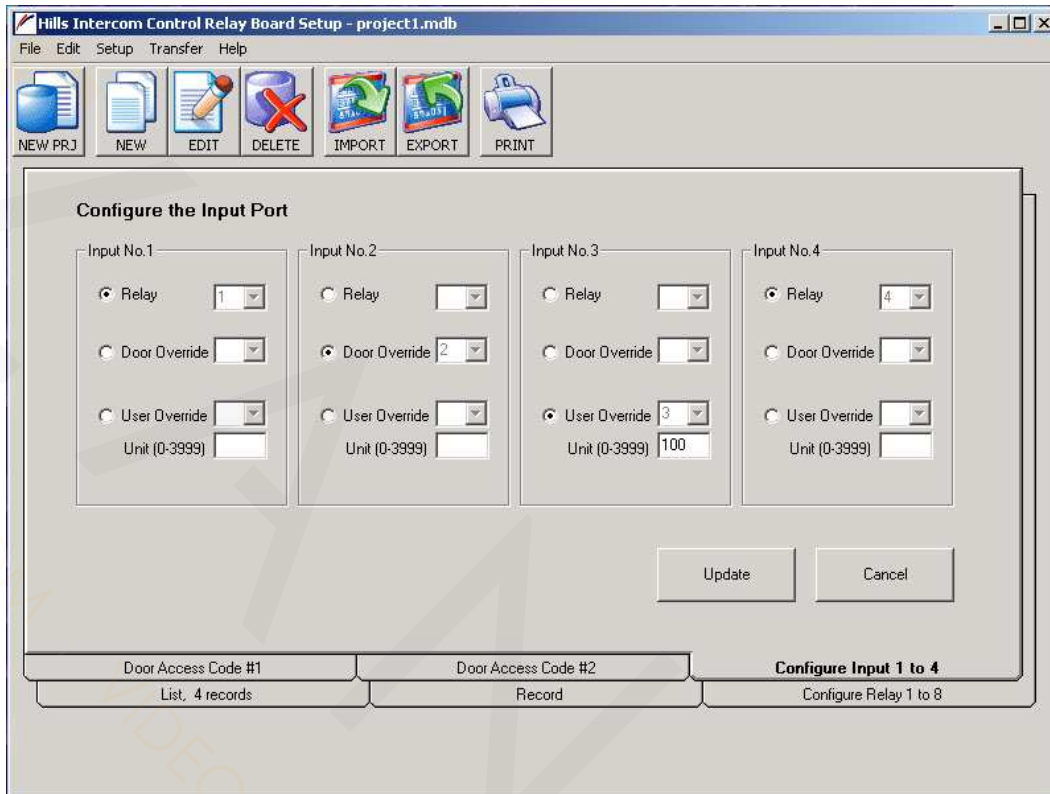The 4 inputs of the interface can be configured using the Configure Input 1 to 4 tab. (Figure 6.1 & 6.2)

Figure 6.1

They can be configured for three different functions.

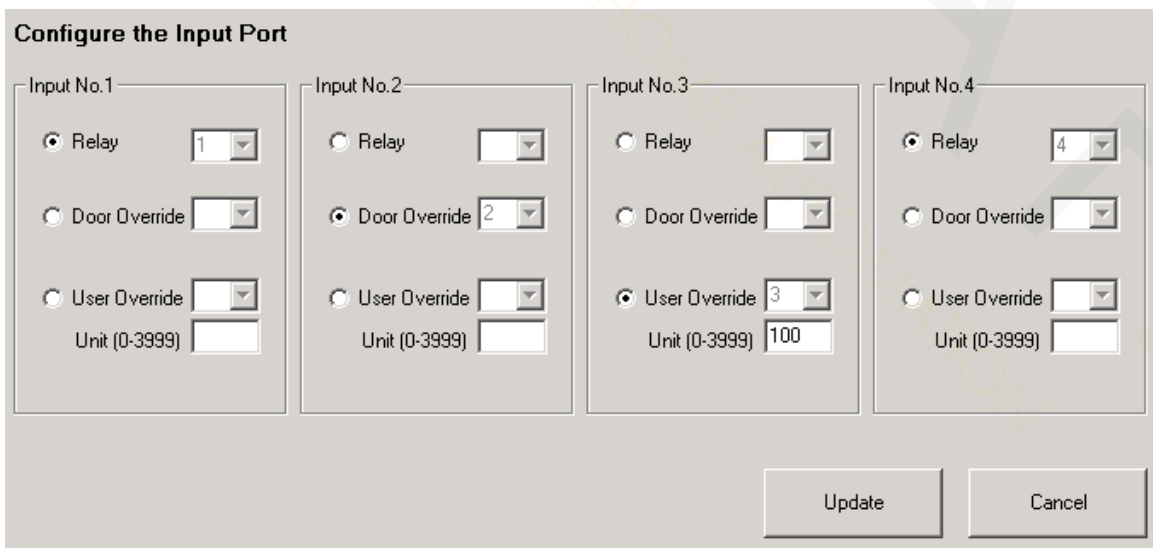|	
Relay	Triggers the corresponding relay as per its configuration
Door Override	Triggers the corresponding Wiegand output
User Override	Triggers the corresponding Wiegand output from a user.

Figure 6.2

7. Import/Export

The Import and Export buttons allow you to send the programming to and receive from the interface via the serial port and programming cable.

7.1 Export

With the Upload/Download cable connected to the interface and the PC, clicking the Export button will display the following prompt.
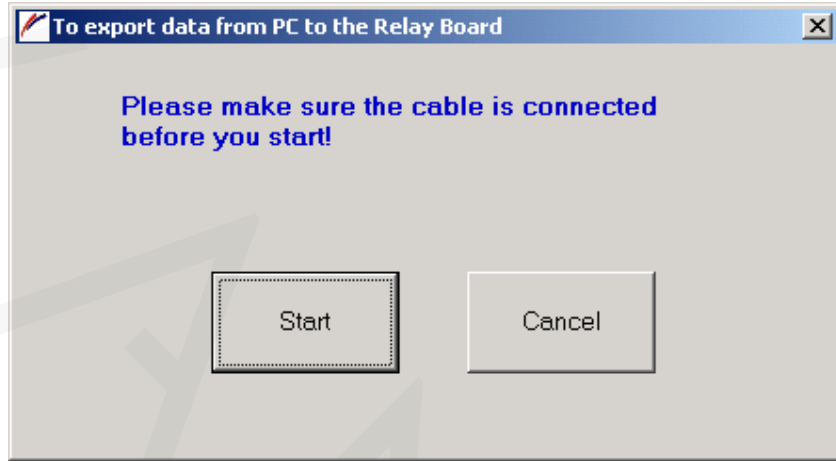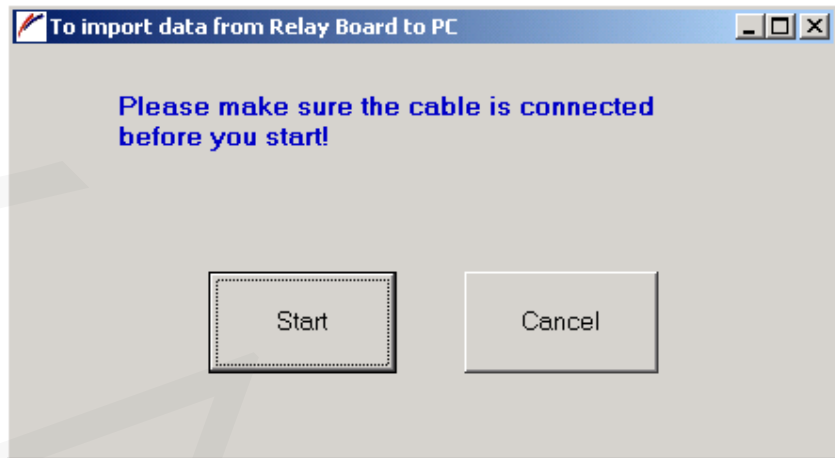

Figure 7.1

When the start button is clicked the programming is sent to the interface. If connected correctly the following prompt is displayed
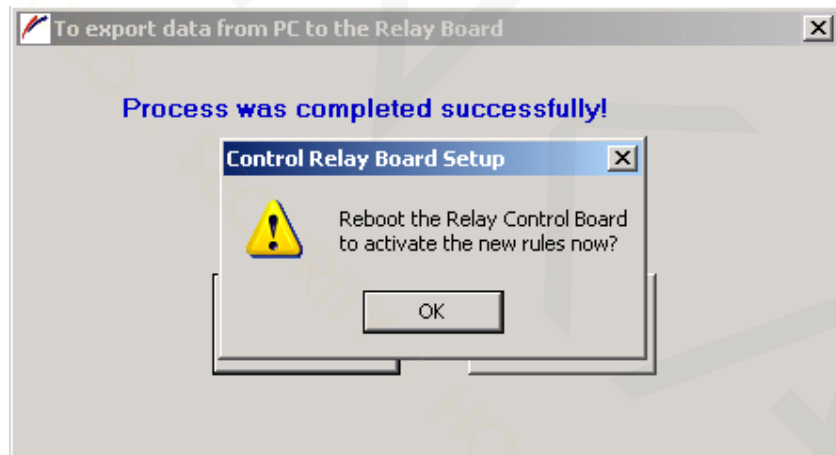
Figure 7.2

By disconnecting the programming cable from the interface the interface is rebooted automatically.

7.2 Import

With the Upload/Download cable connected to the interface and the PC, clicking the Import button will display the following prompt.

Figure 7.3

When the start button is clicked the programming is extracted from the interface. If connected correctly the following prompt is displayed
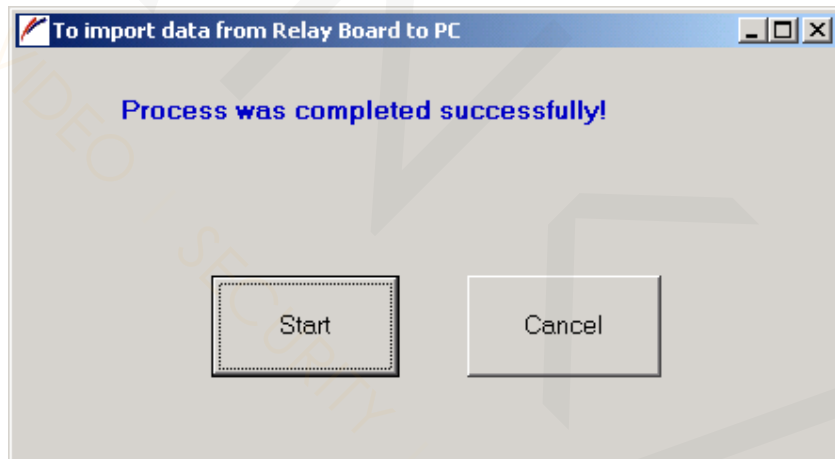

Figure 7.4

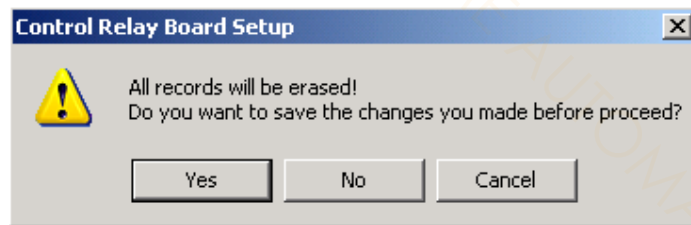If an existing project is open when trying to Import, the following prompt is displayed

Figure 7.5

Yes – will prompt you to save the current project in the computer (Figure 7.6)

No - will erase the current programming from the application and display Figure 7.3

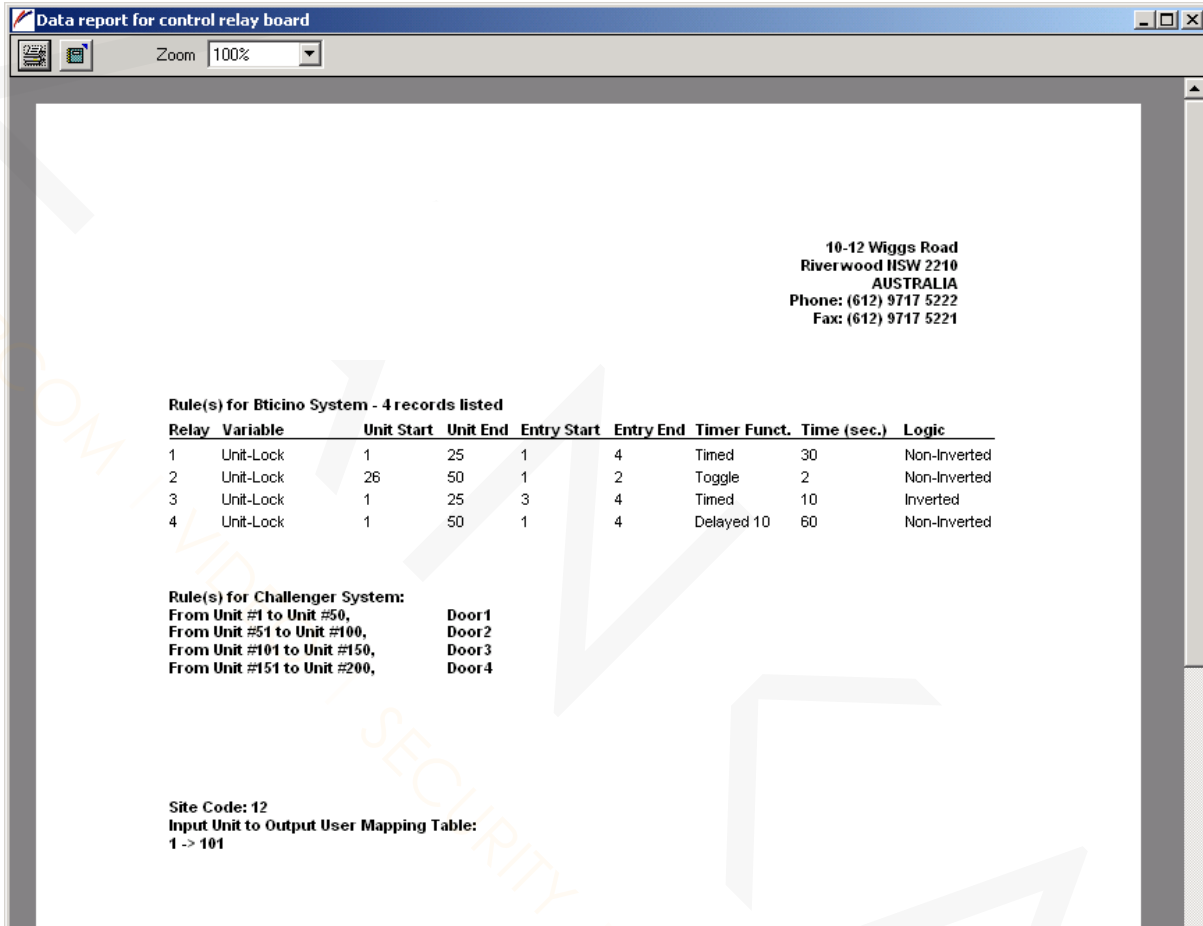Cancel – will cancel the Import process
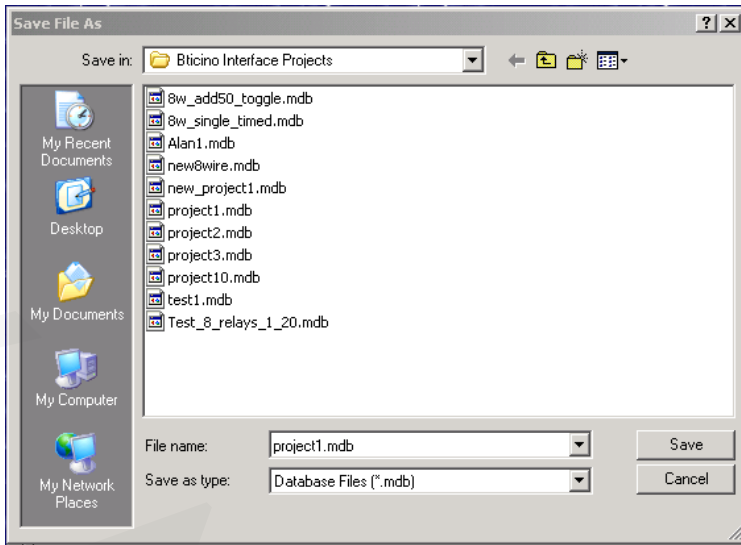
Figure 7.6

8. Printing

A summary of the programming and rules can be printed for reference.

Clicking the PRINT button ![PRINT] produces a summary of the programming (Figure 8.1)

Figure 8.1

9. Electrical Specifications

Power	8 Wire - 250mA Maximum
	2 Wire - 250mA Maximum
Outputs	4 x Wiegand 26bit
	8 x N/O Solid State Relay 12VDC 100mA per output
Inputs	4 x N/O ground trigger