

**CASI-RUSCO...Security Solutions for the 21<sup>st</sup> Century**

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**Smart Card  
Applications  
Programmer  
Version 1.0  
Operator's Guide**

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The information in this manual is revised periodically. Revisions will be provided to the user in the form of addenda.

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The customer accepts full maintenance responsibility. (A full scope of software and hardware maintenance contracts are available to the customer.)

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## **Purpose**

This manual provides instructions for installation of the *SMART CARD APPLICATIONS PROGRAMMER*, initial setup and configuration. Information for operating the system once it is installed is also included.

## **Who Should Read this Manual**

This manual is intended for system administrators who are responsible for the planning and implementation of the system design, and who perform system configuration and setup.

Operators using the system should read the chapters which relate to their duties.

The material in this manual has been prepared for persons responsible for, and familiar with the security needs of the customer facility.

## **Related Documentation**

- *MODELS 820/825 SMART CARD READER INSTALLATION GUIDE*  
This manual provides information for the system administrator to set up, configure, and manage the CASI-RUSCO Models 820 and 825 Smart Card Readers.

# Notational Standards

## Special Keys

Keyboard keys appear as graphics. For example,  denotes the key labeled “Enter” or “Return”. , , etc., indicate the function keys across the top of the keyboard.

Keys that display on the screen as push buttons appear in small caps, italics. For example, *QUIT, SAVE, VIEW, NEW, FIND, OK, CLOSE*.

## Commands

Examples of commands show the exact spacing and upper- or lower-case letter for you to type. For example:

```
rc.pperf -K
```

If an example ends with , type the command then press . For example:

```
rc.pperf -K 
```

## Typeface Standards

### Menu Titles

The titles of menus, submenus, forms, form boxes, picklists, and pop-ups appear in bold, italics. For example, the ***Site Config*** form, the ***Communications Options*** picklist.

## Push Buttons

The names of push-buttons on forms and picklists appear in small caps, italics. For example, *QUIT, SAVE, VIEW, NEW, FIND, OK, CLOSE*.

## Terminology

### Click

To “click” means to press and release a mouse button while the pointer is on a designated area of the screen in order to display a window or select an option. The press-and-release makes a clicking sound.

The term “double-click” means to press and release a mouse button twice in rapid succession. “Left-click” and “right-click” mean to click the button on the left or right side of the mouse.

### Select

The word “select” indicates that you choose an item from the current menu, submenu, form, or picklist displayed on the screen. Use the mouse or the cursor keys to select the item. For example:

Select ***Next 11 Digit Badge Number***, then select a ***P.I.N.***

The statement above tells you to select a certain submenu and then to select a certain item from that submenu. If you make the selections with a mouse, you will point to the main menu and click the left mouse button. When the submenu appear, you will point and click the desired item to select it.

If you make the selections with a keyboard, you will use the cursor keys instead of a mouse pointer, and the  key instead of the left mouse button.

## Press

The phrase “press the \_\_\_\_ button” means to use the mouse (or the keyboard) to “press” a designated button on the screen. To press a button with the mouse, point then click the left button. To press a button with the keyboard, use the  key and press  or .

## Command

The word “command” indicates a command which would be typed as specified.

## **Introduction**

The *SMART CARD APPLICATIONS PROGRAMMER* is designed to program badges used with the CASI-RUSCO Model 820/825 Smart Card Readers. This program allows the system administrator to easily control badge security by means of passwords, an Issuer Key and a Setup Card.

Your *SMART CARD APPLICATIONS PROGRAMMER* package includes:

- a GCR400 Reader and related hardware
- a Setup diskette to install the software on your PC

The *SMART CARD APPLICATIONS PROGRAMMER* supports operations in a Windows 3.x, 95 or NT environment where the PC is connected to the GCR400 Reader by means of an RS-232 cable. This allows the physical connection of the GCR400 Reader to the host PC.

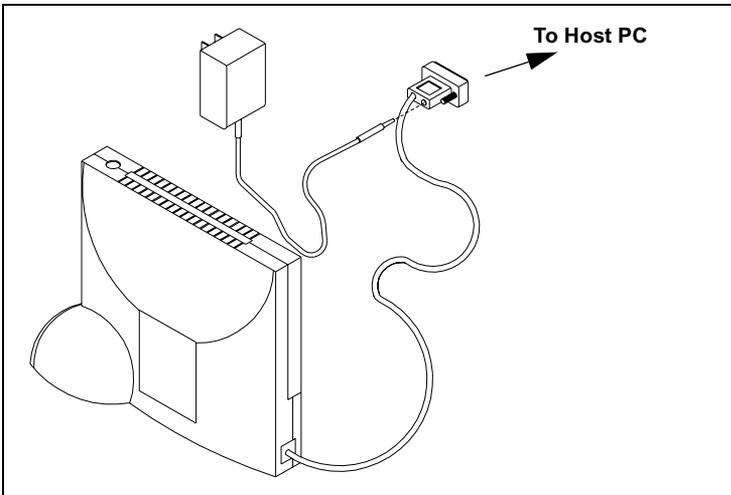
# Hardware Requirements

## For the Smart Card Programmer System:

- a Windows compatible PC
- a GCR400 Reader

Refer to Figure 1, below, for an overview of the hardware connections between the *SMART CARD APPLICATIONS PROGRAMMER* host PC and the GCR400 Reader.

**FIGURE 1: Overview of the Host PC and the GCR400 Reader**



# Software Requirements

- *SMART CARD APPLICATIONS PROGRAMMER* Model 82P Version 1.0
- Windows 3.x, Windows 95, or Windows NT operating system

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# *Installation and Removal*

## Installation

The *SMART CARD APPLICATIONS PROGRAMMER* package can be installed at the same time the Smart Card Reader is installed or any time thereafter. If installing the Programmer at the same time that the Smart Card Reader is being installed, follow the installation instructions in the *MODELS 820/825 SMART CARD READER INSTALLATION GUIDE* to install the reader and then refer to this document for Programmer installation. *SMART CARD APPLICATIONS PROGRAMMER* is supplied on a diskette.

## Installing Smart Card Applications Programmer on Windows 3.x

1. If you are not currently in Windows, type: **WIN**  
**Result:** The *Program Manager* window appears.
2. Insert the *SMART CARD APPLICATIONS PROGRAMMER Model 82P Disk 1 of 1* into drive A.
3. In *Program Manager*, select **File**, then **Run**.  
**Result:** The **Run** window appears.
4. In the **Command Line** box, type **a:\setup** and press **OK**.  
**Result:** The *Installation* window appears.

5. Follow the installation prompts. Accept the defaults or customize as desired.

**Result:** Files are copied from the diskette to your hard drive and the program is installed. A program group named *CASI-RUSCO Model 82P* will appear on your desktop.

## Installing Smart Card Applications Programmer on Windows 95/NT

To install the Smart Card Applications Programmer Software on a Windows 95 or NT operating system:

1. Insert the *SMART CARD APPLICATIONS PROGRAMMER Model 82P Disk 1 of 1* into drive A:

2. Click on *START*, then *Run*.

**Result:** The *Run* window appears.

3. In the *Open* box, type *a:\setup* and press *OK*.

**Result:** The *Installation* window appears.

4. Follow the installation prompts. Accept the defaults or customize as desired.

**Result:** Files are copied from the diskette to your hard drive and the program is installed. A program group named *CASI-RUSCO Model 82P* will appear under *Start/Programs*.

# Removal

## To Remove the Smart Card Applications Programmer Software:

1. From the *CASI-RUSCO Model 82P* Program group, select the *Uninstall* option.

**Result:** An *Open* window appears.

2. Verify that the `install.log` file is highlighted in this window. Click on *OK*.

**Result:** The *Select Uninstall Method* window appears.

3. Select *Automatic* for the default uninstall options and click *NEXT* to continue.

**Result:** The *Perform Uninstall* window appears.

4. Click *FINISH* to remove the program.

**NOTES**

# System Administrator

## Configuration and Setup

The *SMART CARD APPLICATIONS PROGRAMMER* system allows the System Administrator to manage and control the security of Smart Card badges. Prior to using the system, the following setup and configuration is required:

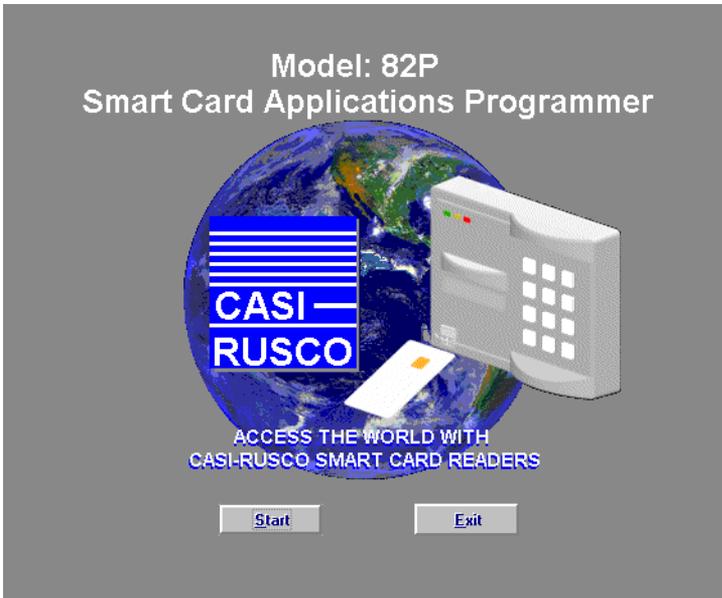
- Set up the System Administrator's Password
- Change the encrypted Console Password
- Create a Setup Card
- Change the Issuer Key
- Update the Master P.I.N.
- Change the Starting Badge Number

These items are detailed in the following sections.

## Getting Started

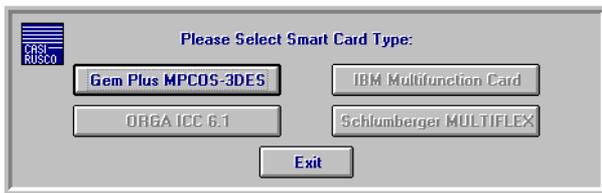
**To launch the Smart Card Application Programmer:**

1. Depending on the operating system you are using, select one of the following methods.
  - **Windows 3.x:** Double-click on the *Casi-Rusco Model 82P* icon on your desktop.
  - **Windows 95/NT:** Click on *START, Programs, Casi-Rusco Model 82P*, then *Sap*.



2. Press *START*.

**Result:** The selection window below appears.



3. Press *GEM PLUS MPCOS-3DES* to continue or *EXIT* to exit the program.

# Passwords

CASI-RUSCO designed the *SMART CARD APPLICATIONS PROGRAMMER* software to be as secure as the Models 820/825 Smart Card Readers. Security starts at the console; therefore, all passwords are stored on your hard drive as encrypted files using the United States Government Standard for Encryption (DES) along with the ABA's Standard for encryption (MAC). The System Administrator has the ability to change the console passwords.

## Console Password



### To enter the Console Password:

1. Enter the **Console Password** provided with your system. **CASI-SAP** is the default. All characters entered are echoed back in the form of an \* character to prevent anyone from seeing what you are typing.

**NOTE: All passwords are 1 - 8 digits. They are not case sensitive.**

2. Click *OK* or press the  key.

**Result:** If the password was wrong, you will be prompted to enter it again. All attempts (correct or incorrect) are recorded in a log file. If the password was correct, the following window will appear.



3. Press *SYSADMIN* to continue or *EXIT* to exit the program.

**Result:** If you elected to continue, the following screen will appear.



## System Administrator Password

To enter the System Administrator password:

1. Enter the **SysAdmin** password provided with your system. **sapit** is the default. All characters entered are echoed back in the form of an \* character to prevent anyone from seeing what you are typing.

**NOTE:** All passwords are 1 - 8 digits.

2. Click *OK* or press the  key.

**Result:** If the password was wrong, you will be prompted to enter it again. All attempts (correct or incorrect) are recorded in a log file. If the password was correct, the **System Administrator** window will appear.

**To change the System Administrator Password:**

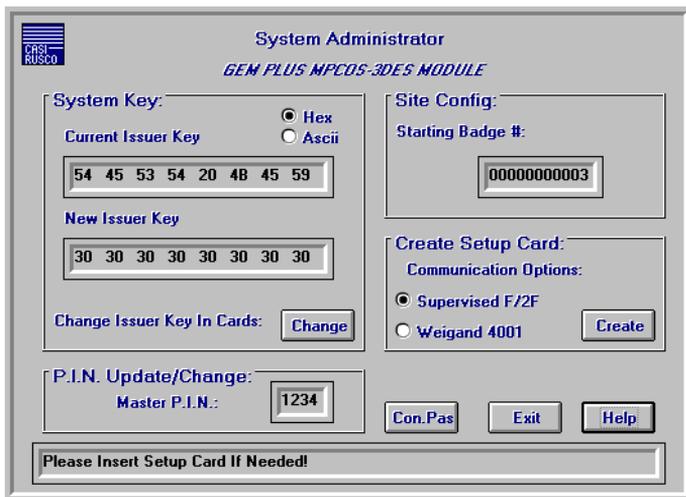
1. Type the default or current password.
2. Click *CHANGE PASSWORD*, then press  or click *OK*. You will be prompted for a **New Password**.



3. Enter your new password and press  or click *OK*.

**NOTE: All passwords are 1 - 8 digits.**

**Result:** The following screen will appear:



## Change the Encrypted Console Password

The System Administrator has the capability of changing the encrypted Console Password from the System Administrator screen shown on page 4.5

1. Access the System Administrator screen.

**NOTE: If this is the initial setup of the system, you will need to complete the section, “System Administrator Password” on page 4.4 prior to continuing.**

2. Click the *CON.PAS* button and the following window will display.



3. Type the default or current *Console Password*.
4. Click *CHANGE PASSWORD*, then press  or click *OK*. You will be prompted for a *New Password*.
5. Type in your new password and press  or click *OK*.

**NOTE: If you forget the Console Password once you change it, you must reinstall the program in order to restore the default password. Any existing data files will not be affected.**

# Create a Setup Card

The Smart Card Readers require a single Setup Card to be inserted at the time of installation. The Setup Card transports an encrypted key to the internal processor located inside the Reader(s). Once the encrypted key is installed, the processor will decrypt the encrypted key and check the validity of the Setup Card being used to update the Reader(s). If found to be an invalid Setup Card (the key does not match that of the reader), the transported key will be destroyed and the reader will go into an error mode. If the Setup Card validates, the now decrypted key is stored in a protected bank of EEPROM internal to the processor. If the reader is ever tampered with, the key will be destroyed, thus taking that reader out of service.

## To create a Setup Card:

1. Insert a blank GEM PLUS MPCOS-3DES Smart Card into the GCR400.
2. Click the *CHANGE* button. The Issuer key has now been changed on this Setup Card and is reflected in the **Current Issuer Key** box.
3. Select your **Communication** options and then click the *CREATE* button.
4. Remove the now programmed Setup Card from the GCR400 and store in a secure location.

**NOTE:** All badges created after this session should be created using the same Issuer Key that was just installed into the Setup Card. See “Change the Issuer Key” on page 4.8

# Change the Issuer Key

When GEM PLUS MPCOS-3DES Smart Cards are shipped from GEM PLUS, they carry an Issuer Key that was installed at GEM PLUS. This must be changed to match the Issuer Key in the Reader. The *SMART CARD APPLICATIONS PROGRAMMER* provides methods to change the Issuer Key or update the badges to match your existing Issuer Key.

The process described below must be performed for all badges when they are received from GEMPLUS. If you attempt to program a badge whose issuer key does not match that of the reader, you will receive an error message similar to the following:

**Warning! Key does not match issuer key.**

## To change the Issuer Key in Hex format:

1. Click **Hex** to display Hex format.
2. Position your mouse to the far left of the **New Issuer Key** display box and click.
3. Using the  key, delete the first two digits.
4. Enter two new digits.
5. Use the  key to move right to the next two digits and repeat steps 2 through 4 until finished.

## To change the Issuer Key in ASCII format:

1. Click **ASCII** to display in normal characters.
2. Position your mouse in the **New Issuer Key** display box and highlight the character(s) to be changed. Type the new information. This field is restricted to 8 numeric characters and cannot end with a space.

## Update the Master P.I.N.

The master P.I.N. should only be changed one time. This Personal Identification Number will be used by the *SMART CARD APPLICATIONS PROGRAMMER* to allow Security Officers to perform normal P.I.N. changes as well as to change the P.I.N. codes in badges that have been blocked.

### To change the P.I.N.:

1. Point your mouse to the far left of the **Master P.I.N.** display box and click.
2. Using the  key, delete all four numbers.
3. Enter your new **Master P.I.N.** consisting of four new numbers.
4. Click on the *EXIT* button to save your change.

**NOTE: The above field requires all four digits.**

**NOTE: All changes will be saved by clicking on the Exit button.**

# Change the Starting Badge Number

To change the Starting Badge Number:

1. Click in the **Starting Badge #**: display box.
2. Using the  key, delete all eleven digits.
3. Enter your new **Starting Badge #** consisting of eleven new numbers.

**NOTE: the above field requires all eleven digits.**

4. Press the *EXIT* button.

**NOTE: All changes will be saved by clicking on the Exit button.**

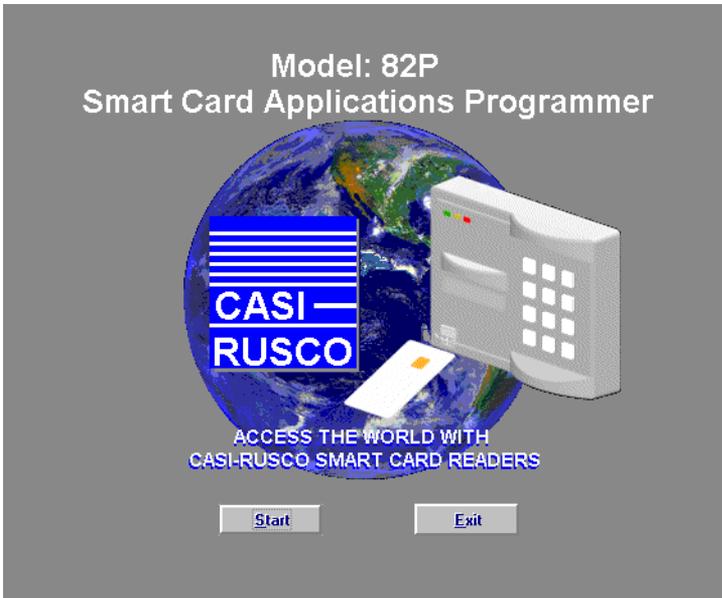
## Using the Smart Card Programmer

The *SMART CARD APPLICATIONS PROGRAMMER* system allows Security Personnel to program badges and Personal Identification Numbers (P.I.N.).

### Getting Started

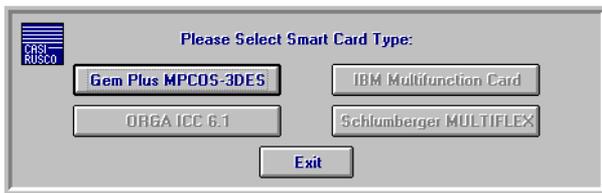
**To launch the Smart Card Application Programmer:**

1. Depending on the operating system you are using, select one of the following methods.
  - **Windows 3.x:** Double-click on the *Casi-Rusco Model 82P* icon on your desktop.
  - **Windows 95/NT:** Click on *START, Programs, Casi-Rusco Model 82P*, then *Sap*.



2. Press *START*.

**Result:** The selection window below appears.



3. Press *GEM PLUS MPCOS-3DES* to continue or *EXIT* to exit the program.

# Logging On

To enter the **Console Password**:



1. Enter the **Console Password** provided by your System Administrator. All characters entered are echoed back in the form of an \* character to prevent anyone from seeing what you are typing.

**NOTE: All passwords are 1 - 8 digits. They are not case-sensitive.**

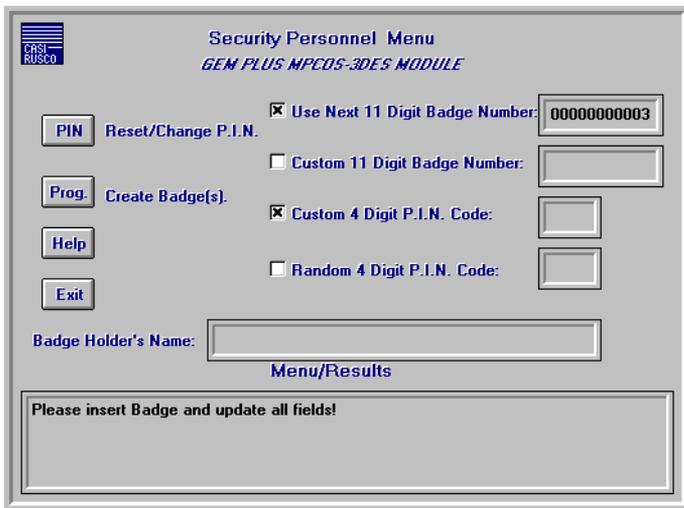
2. Click *OK* or press the  key.

**Result:** If the password was wrong, you will be prompted to enter it again. All attempts (correct or incorrect) are recorded in a log file. If the password was correct, the following window will appear.



3. Press *SECPERSONNEL* to continue or *EXIT* to exit the program.

**Result:** If you elected to continue, the following screen will appear.



## Programming a New Badge

Programming a new badge requires a badge that has an Issuer Key chosen by your System Administrator already programmed into it.

**To create a new badge:**

1. Insert a badge into the GCR400.
2. Select either *Next 11 Digit Badge Number* or *Custom 11 Digit Badge Number*.
  - If you selected *Next 11 Digit Badge Number*, proceed with the next step.
  - If you selected *Custom 11 Digit Badge Number*, click in the box on the right. Enter an 11 digit number for the new badge number.

**NOTE:** The Custom 11 digit Badge Number field requires exactly 11 digits in the range of (0-9).

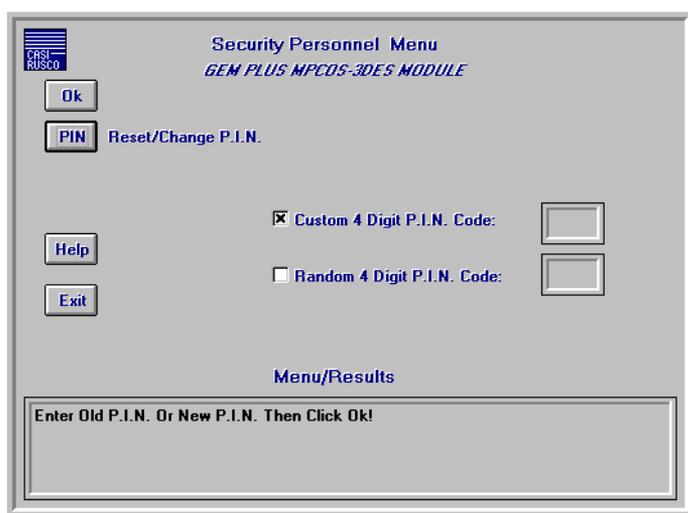
3. Select either **Custom 4 Digit P.I.N.** or **Random 4 Digit P.I.N.**
  - If you selected **Custom 4 Digit P.I.N.**, click in the box on the right. Enter a 4 digit number for the new P.I.N.  
**NOTE: The custom P.I.N. field requires exactly 4 digits in the range of (0-9).**
  - If you selected **Random 4 Digit P.I.N.**, a 4 digit P.I.N. will appear in the display box.
4. Type the badge holder's name in the **Badge Holder's Name** display box.
5. Click the **PROG** button. The results will be displayed in the **Menu/Results** display box in the lower section of your window.  
**NOTE: Badges can only be programmed once.**

## Resetting/Changing a P.I.N.

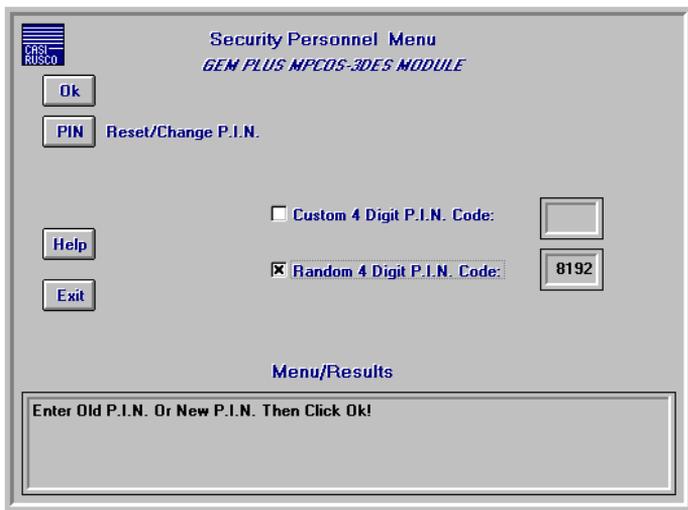
This feature is used by Security Personnel to change the P.I.N. or un-block a badge that has been blocked by the Model 825 Reader. A new P.I.N. number may be required when an unauthorized person has gained access to the number. A badge can be blocked when multiple access attempts have been made using an incorrect P.I.N.. After verifying the badgeholder's access rights, to unblock the badge you may either reset the old P.I.N. number or change it to a new number.

### To reset or change a P.I.N.:

1. Insert the badge into the GCR400 and click the **PIN** button.  
**Result:** The following screen appears:



2. To reset the original P.I.N. number, select **Custom 4 Digit P.I.N.**, click in the box on the right and enter the original 4 digit P.I.N. number.
3. To change the P.I.N. to a new number, choose one of the following methods:
  - If you select **Custom 4 digit P.I.N. Code**, click in the box on the right. Enter a 4 digit number for the new P.I.N.
  - If you select **Random 4 Digit P.I.N. Code**, a 4 digit P.I.N. will appear in the **Random 4 Digit** display box.



4. Click the *OK* button located in the upper left of your window. You will see the results in the ***Menu/Results*** display box located at the bottom of the window.
5. Once the P.I.N. has been changed, remove the badge from the GCR400.

## Exiting the Program

Click on *EXIT* to exit the program.

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