This is Your Software Security Access Key:

DO NOT LOSE IT !

This security device must be plugged into the notebook computer's USB port or the spare USB port on your interface box whenever the FREEDOM Tool Software is to be run.

List of Trademarks

Windows is a trademark / product of Microsoft Corporation.
Microsoft is a registered trademark.
DMC-I is a registered trademark of Thyssen Elevator Systems, Inc.
WORLD electronics, the WORLD electronics' logo, FREEDOM Tool, and FREEDOMWare are registered trademarks of WORLD electronics Sales and Service, Inc.

Introduction:

The FREEDOM Tool is a sophisticated software tool which allows the operator to service various elevators and elevator control systems. The software allows the operator to simultaneously view independent operations within the elevator system by opening windows to those systems / operations of interest. The selected windows may then be left open during the maintenance / repair session and accessed when desired.

This User's Guide and Reference, part number 7502.9028, has been written to specifically target the Dover DMC-I elevator control system. All references to "**FREEDOM Tool®**" or "**FREEDOMWare®**" throughout the manual implies that it pertains solely to the Dover DMC-I Software Module.

FREEDOM Tool Features:

The FREEDOM Tool is a Graphical User Interface (GUI) and provides all the functions necessary to service the Dover DMC-I elevator system. The software runs under Microsoft's Windows operating system and provides the following features:

- A Graphical User Interface which makes it easy to access various printed circuit board modules comprising the Dover DMC-I elevator system to be diagnosed.
- System adjustment parameters for the elevator system being diagnosed are presented in terms that are the industry standards within the elevator industry.
- Operating information pertinent to a particular elevator site may be "Saved" or "Restored" at any time through the use of the "File" command within the Main selection window.

Minimum Hardware and Software Requirements:

The software is provided as a package by WORLD electronics and is installed on a PC running with Microsoft Windows based Operating systems which have the following characteristics:

- A Pentium or equivalent microprocessor.
- Windows 98, Windows XP/2000, or Windows Vista Operating System.
- CD-ROM Drive
- Mouse, Trackball, or other pointing device.
- 1 USB (Universal Serial Bus) Port

The FREEDOMWare is not capable of being executed without a sophisticated **security key** that is to be connected to the USB port of the computer or the spare USB port on the interface box at the time of the FREEDOM Tool execution.

A WORLD electronics "Dover DMC-I USB Interface" (7502.9032) communications box is required. This interface box provides a signal level conversion between the computer and the Dover DMC-I elevator system which allows them to communicate with one another.

How to contact WORLD electronics:

If you are having any problems operating the FREEDOM Tool, feel free to contact us at the following location. We value you as a customer and welcome any comments concerning the use of the FREEDOM Tool.

WORLD electronics
3000 Kutztown Road
Reading, PA 19605-2617

Phone: 1-800-523-0427
Phone: (610) 939-9800
Fax: (610) 939-9895

E-mail:

Elevator Sales:
ElevatorSales@world-electronics.com

Service:
Service@world-electronics.com

FREEDOM Tool:
fwhelp@world-electronics.com

When calling WORLD electronics for assistance, have your product serial number, the model computer being used, operating system type, and the error description ready.

Package Contents (Hardware Components):

DMC-I USB Interface Box (7502.9032):

The DMC-I USB Interface Box provides the communication interface between the DMC-I smart PCB's and the Notebook Computer on which the FREEDOMWare is loaded. Without this device, the USB DMC-I FREEDOMWare module will not work.

Figure 1

The DMC-I USB Interface Box as shown in Figure 1 is comprised of a black box with a 25 pin male D-shell connector on one end marked **Elevator Connection**. On the other end of the interface box are two(2) USB Ports labeled **USB to PC** and **Security Key**. Looking at the label found on the Interface Box, several things can be determined. Among these are: 1) the name of the Interface Box (**FREEDOM Tool Interface for Dover DMC-I Products**), 2) connection point for the elevator system, 3) connection point for the Security Key, and 4) connection point for the Notebook Computer. The Interface Box may be plugged into the elevator system at any time, but the connection to the Notebook Computer must be made before the software is to be run.

NOTE: A one(1)-time installation procedure must be followed on each Notebook PC using the USB Interface Box in order for the interface and security key to function properly in conjunction with the software. This installation procedure is described in detail in the section titled **Installing the USB Device Drivers** on Page 13.

Information on connecting to the elevator system:

The connector which interconnects the FREEDOM Tool with the DMC-I elevator system is physically located in four specific locales. They are as follows:

A. In the machine room inside the control panel there resides a 25 pin D connector with the legend **SINGLE**.

B. Inside the car behind the control panel there resides a 25 pin D connector with the legend **SINGLE**.

C. On top of the car there resides a 25 pin D connector on the top of the Selector box. This connector has no particular legend. Depending on the model of the elevator system the connector may or may not be visible.

D. On top of the car there resides a 25 pin D connector on the front side of the Door Operator. This connector has no particular legend.

Security Key (6015.0014):

Figure 2

The FREEDOMWare can be loaded on any computer, but only one (1) instance of the program can be run at any single time. To ensure this, WORLD electronics protects itself and its FREEDOMWare by utilizing a sophisticated security device that must be plugged into a Notebook Computer USB port or the USB port on the interface box labeled **Security Key** prior to operating the FREEDOMWare (Figure 2). If the security key is plugged into the USB Interface Box, then the Interface Box must be plugged into the USB port of the Notebook PC. This security key is unique to every FREEDOM Tool and must be plugged into the Notebook PC while the FREEDOMWare is running. The security key is not to be confused with the communications interface box. The communications interface box is easily identifiable by its label located on its face.

WARNING! - It is extremely important that this security key is not lost. The replacement value of this device is equal to the dollar value of the FREEDOM Tool software module(s) purchased from WORLD electronics. This cost is in thousands of dollars. Please take the steps necessary to safeguard yourself against loss of the security device.

Note: All security keys are pre-programmed with a 45 day expiration date. Please contact WORLD electronics after payment is made in order to get a "renew code". This will eliminate the expiration date and allow unlimited use of your new FREEDOM Tool.

Installation CD (6015.0002):

All software related to the operation of the FREEOM Tool is located on the FREEDOMWare Installation CD. To access the installation program located on the CD-ROM, simply insert the FREEDOMWare Installation CD into the Notebook PC's CD-ROM Drive.

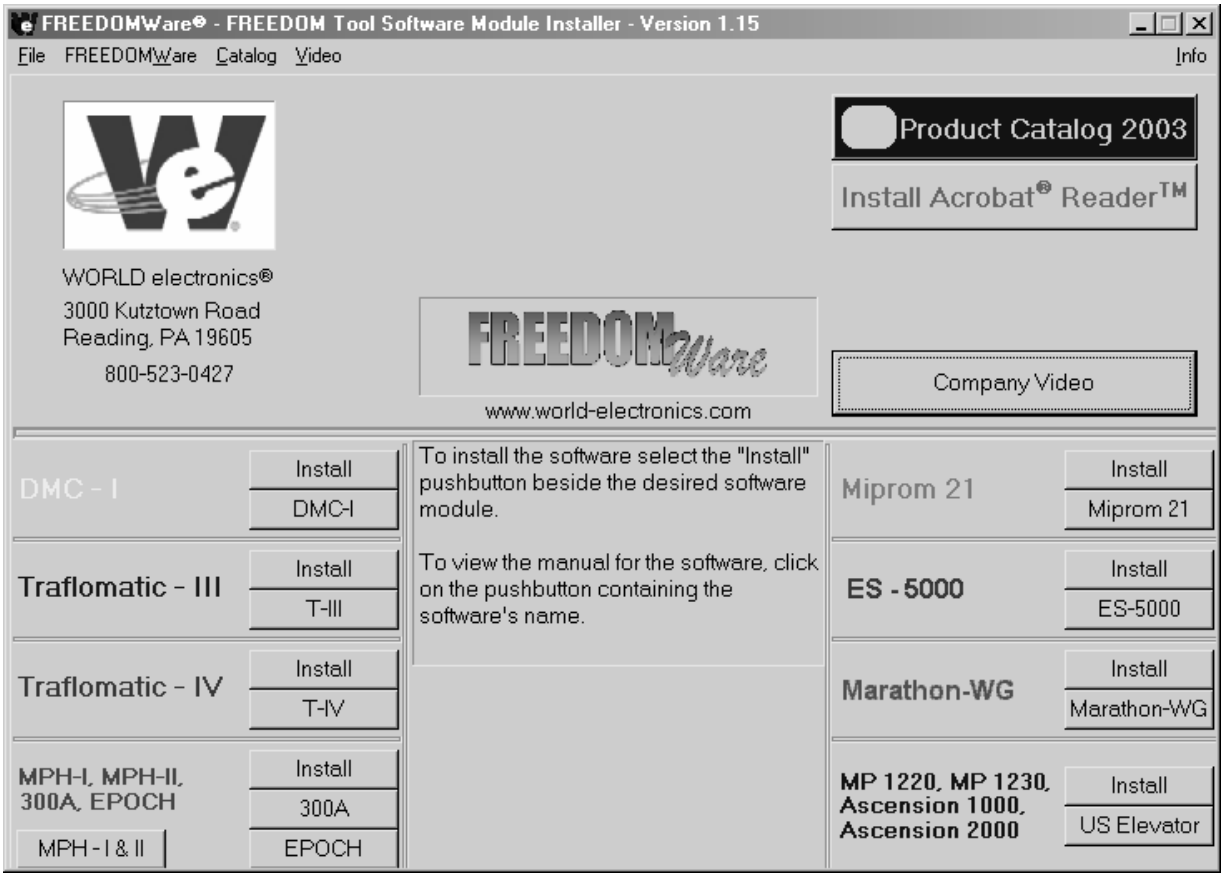

Figure 3

Upon insertion the installation program should launch allowing the user access to the installation routines and reference manuals for all available FREEDOMWare Modules (Figure3). Please refer to the section labeled **Installing the USB DMC-I Software Module** for instructions on installing the USB DMC-I Software Module.

Installing the USB DMC-I Software Module:

IMPORTANT: DO NOT PLUG THE DMC-I INTERFACE OR SECURITY KEY INTO THE NOTEBOOK COMPUTER UNTIL STEP 8 OF THIS INSTALLATION IS REACHED. STEP 8 WILL GIVE DETAILS ON PROPERLY CONNECTING THE HARDWARE DEVICES AND PROPERLY INSTALLING THEIR RESPECTIVE HARDWARE DRIVERS!

The installation procedure for the USB DMC-I Software Module is described as follows:

1. Insert the FREEDOMWare Installation CD into the Notebook PC's CD-ROM Drive. After approximately 10 seconds a window will appear titled **FREEDOMWare – FREEDOM Tool Software Module Installer**. Please refer to Figure 4.

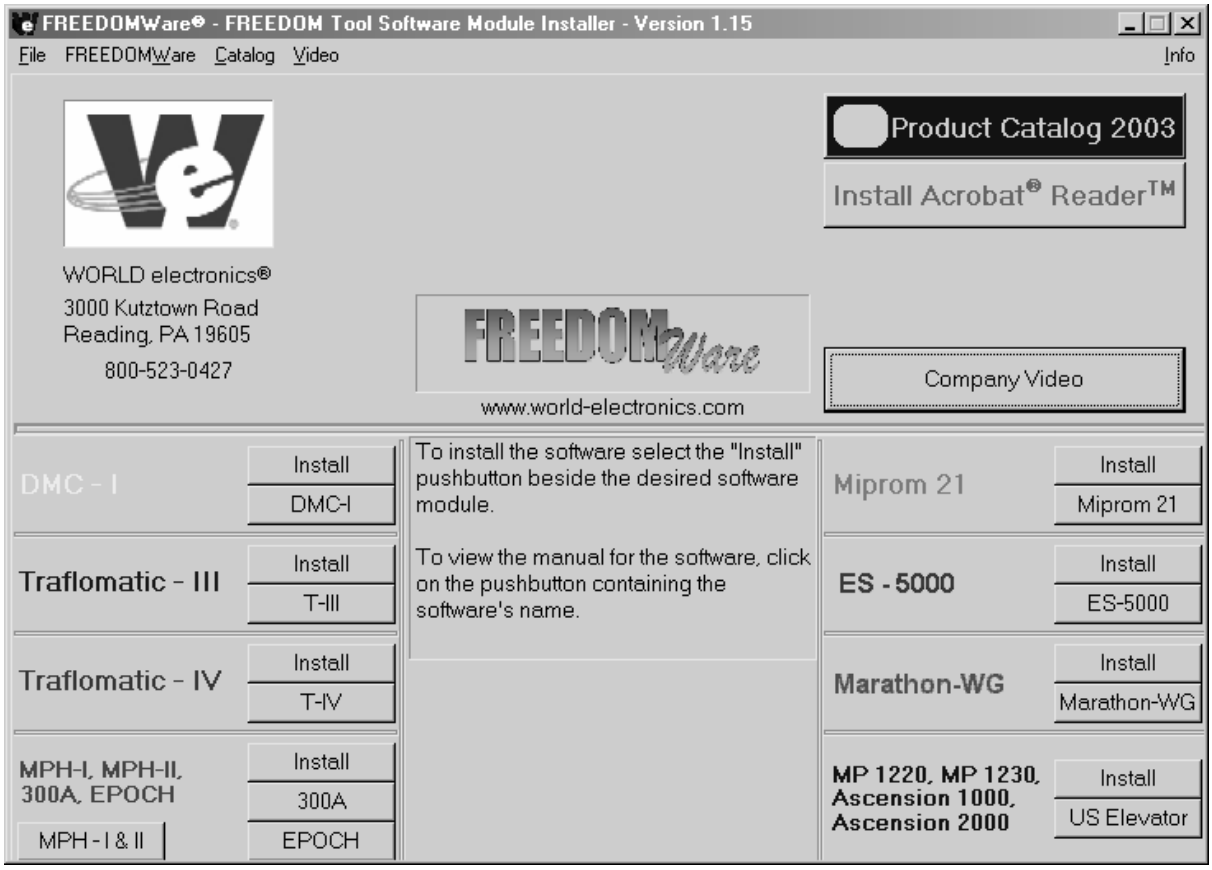

Figure 4

If this window does not appear please do the following:

a) Select **Start**.
b) Select **Run**.
c) Type the following into the field: **d:\startup.exe**
(Note: substitute "d:" with the Notebook PC's designation for the CD-ROM Drive)
d. Click **OK** with the PC's pointing device and the installation program will run.

2. After selecting the **Install** pushbutton associated with the DMC-I section of the FREEDOMWare Installer, the Install Shield Wizard will run showing a window similar to the one shown in Figure 5. To continue with the setup of the DMC-I software module simply click the **Next** pushbutton with the PC's pointing device.

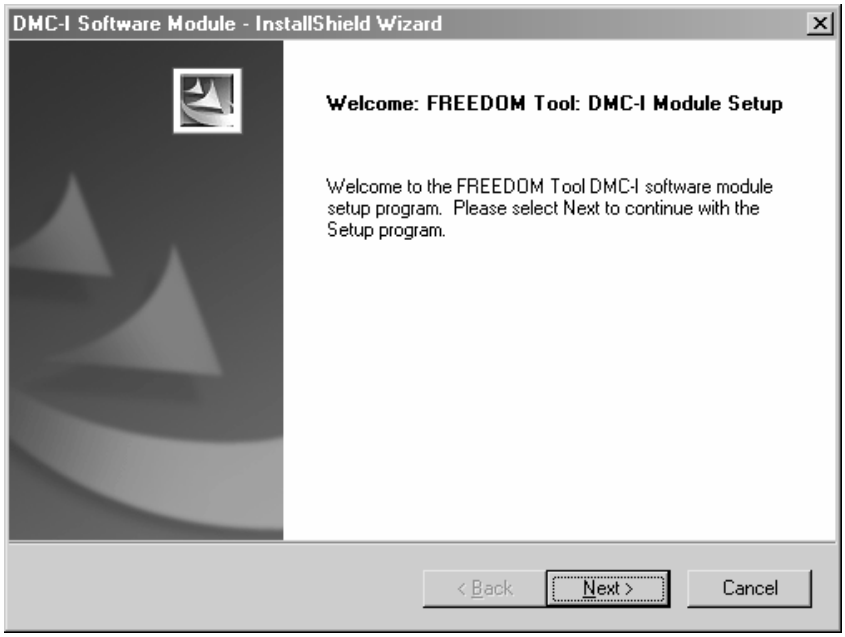

Figure 5

3. After selecting **Next**, a **Registration Info** window will appear as in Figure 6. In this window the user will need to fill in the fields beside **User Name:**, **Company Name:**, and **Serial Number:**. The Serial Number can be obtained from a label located on the DMC-I Module's Security Key. A second location where the serial number can be found is the side of the DMC-I Software Module's Product Box.

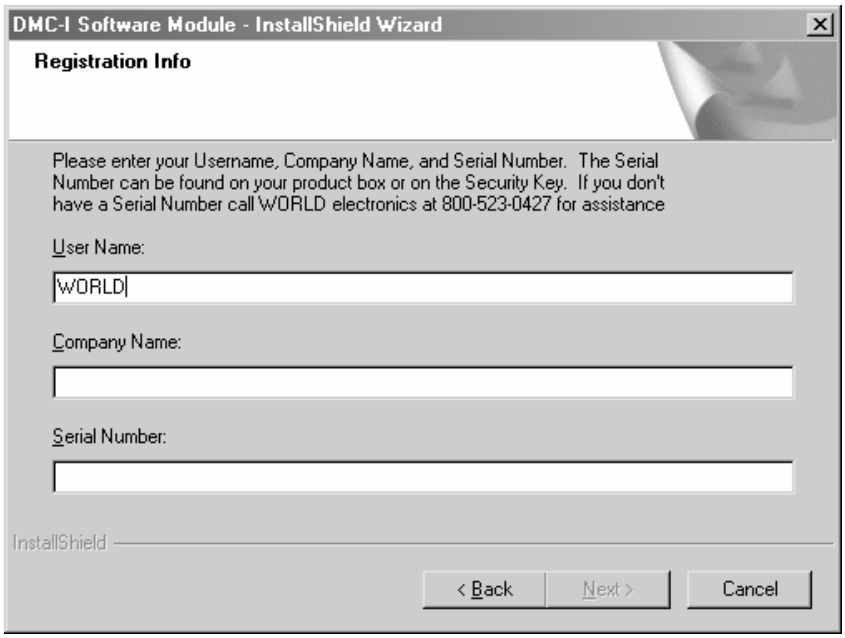

Figure 6

4. After entering all the information into the 3 separate fields, the **Next** pushbutton will appear allowing the installation to continue (Refer to Figure 7). Select **Next** to continue with the installation.

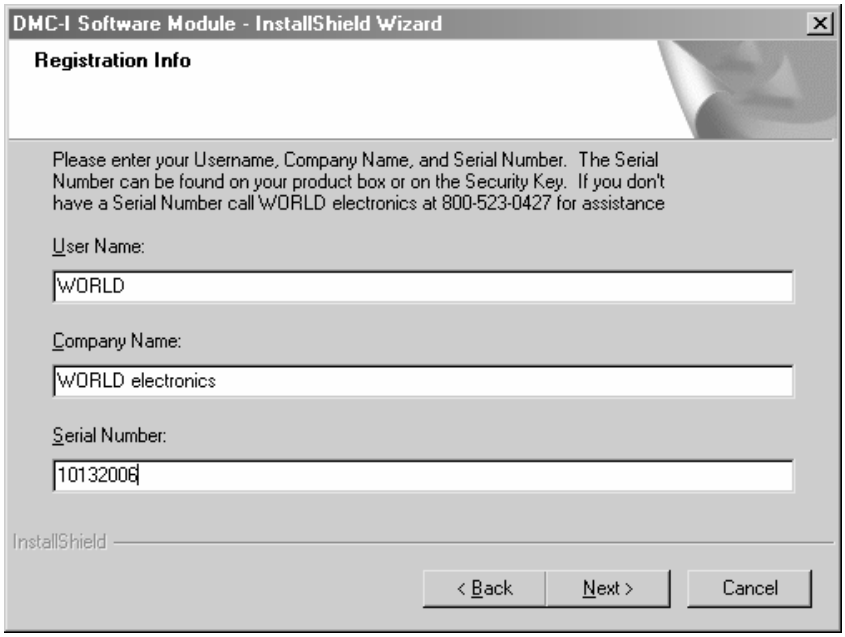

Figure 7

5. The **Ready to Install the Program** window will now appear as in Figure 8. This window informs the user that the installation is ready to begin and instructs the user to select the Install pushbutton to begin the software installation process. At this time select the **Install** pushbutton with the PC's pointing device.

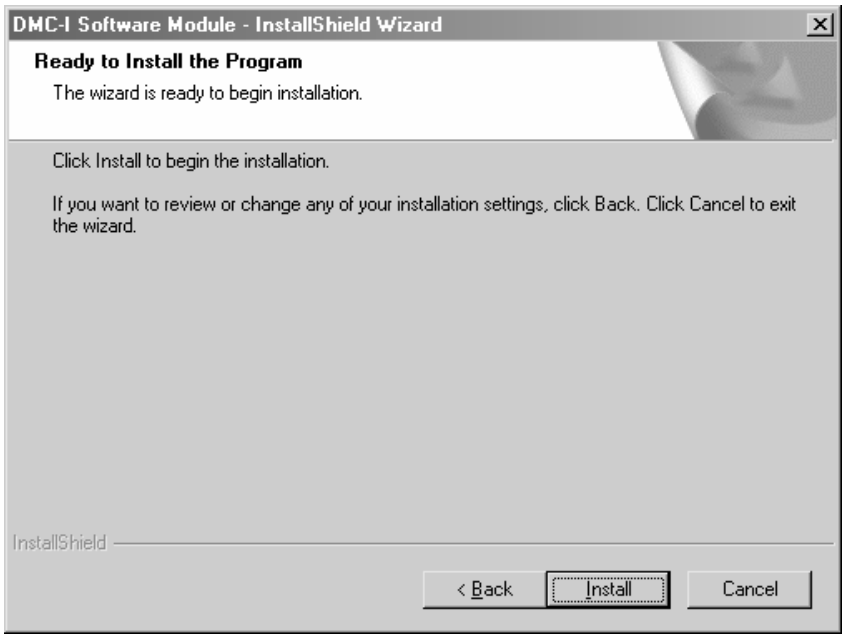

Figure 8

6. The Setup Status window will appear (Figure 9) showing the user the status of the installation procedure. Immediately upon completion of copying the FREEDOM Tool software, the Installation program will begin installing the necessary files for the Security Key Device. Upon the completion of the Security Key Software Installation a window similar to Figure 10 will appear. This window informs

the user that the **Az-Tech Device Drivers Setup** is complete and the user should select Finish to complete the installation. At this time select the **Finish** pushbutton on the screen to complete the **Az-Tech Device Driver Setup** and continue with the FREEDOMWare Installation.

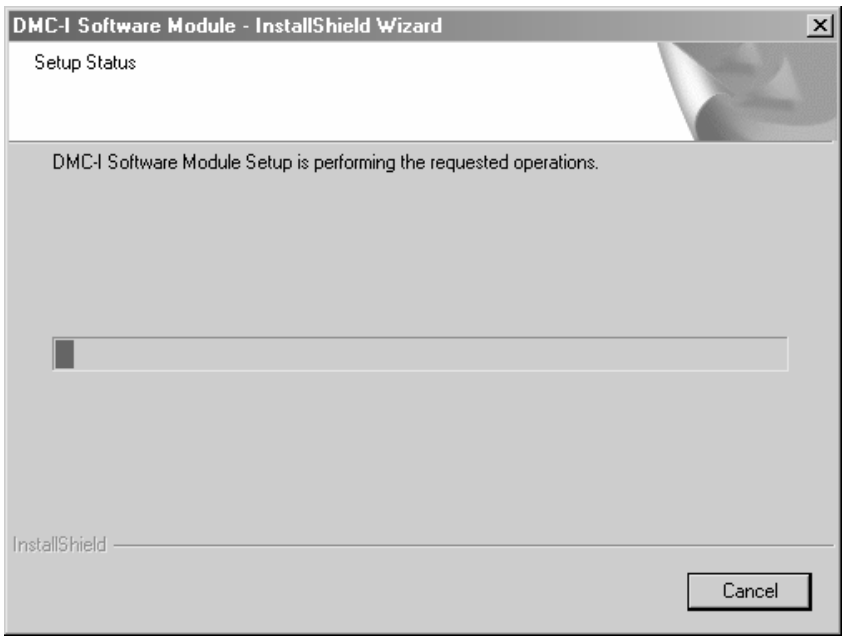

Figure 9

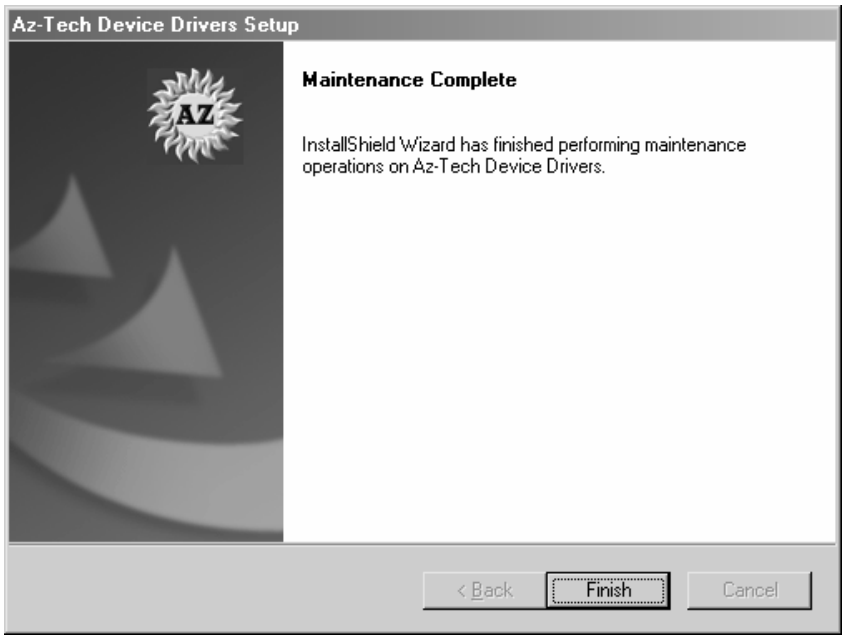

Figure 10

7. After a brief delay another window will appear(Figure 11) informing the user that the FREEDOMWare installation is complete and instructs the user to once again select the Finish pushbutton to complete the FREEDOMWare installation.

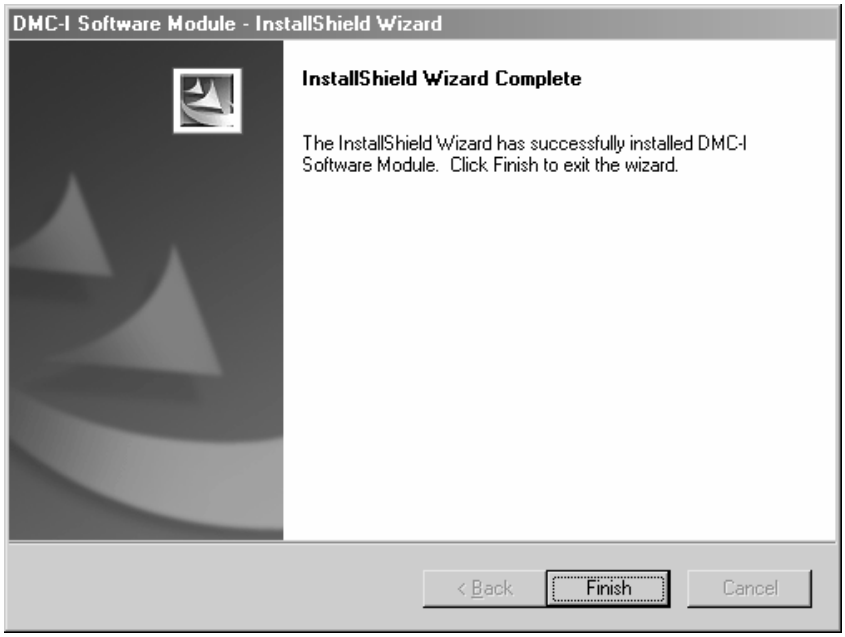

Figure 11

Installing the USB Device Drivers

1. AT THIS TIME PLUG THE USB DMC-I INTERFACE BOX INTO THE USB PORT ON THE NOTEBOOK PC. ***DO NOT PLUG THE USB SECURITY KEY INTO ANY PORT (INCLUDING THE ONE LOCATED ON THE USB INTERFACE BOX) AT THIS TIME.***

2. A **Found New Hardware Wizard** window should appear**. See Figure 12. In this window click, one time, on the circle beside **No, not this time**. The Circle should have a Black Dot in its center. Click the Next pushbutton to continue.

**NOTE: On some operating systems, this operation will complete automatically without user interaction. In this case a popup bubble will appear near the right side of the taskbar saying that your hardware has been successfully installed.

Figure 12

3. The window shown in Figure 13 should appear. In this window, click one time on the circle beside **Install from a list or specific location (Advanced)** so that it has a black dot in its center. After completing this task, select **Next** to continue with the Driver Installation.

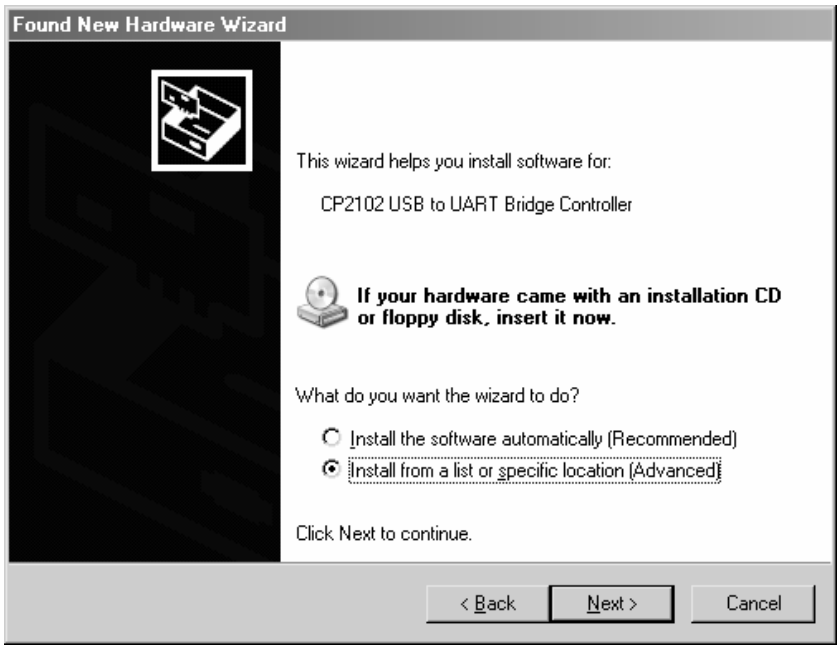

Figure 13

4. After selecting list or specific location, the New Hardware Wizard window will appear as seen in Figure 14. In Figure 14, the user must make sure the following items are selected with a black dot or check mark: **Search for the best driver in these locations**, **Include this location in the search:**. When **Include this location in the search:** is checked the pushbutton labeled **Browse** should be enabled. At this time select the Browse pushbutton with the PC's pointing device.

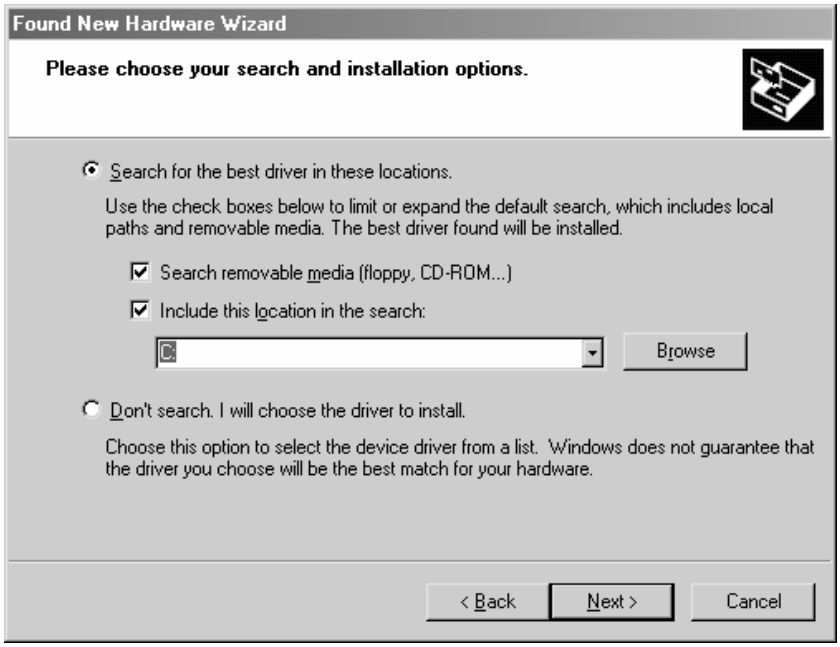

Figure 14

5. When the Browse pushbutton is selected, a **Browse for Folder** will appear as in Figure 15. Do the following in this window:

   a) Click on **My Computer**.
   b) Click on **Local Disk (C:)**.
   c) Click on **Nellie**.
   d) Click on **SiLabs**.
   e) Click on **MCU**.
   f) Click on **Cp210x**.
   g) Click on **WIN**.
   h) Click on **OK** pushbutton.

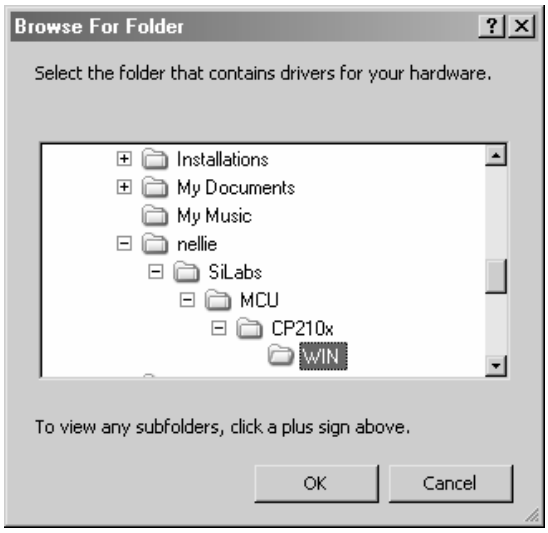

Figure 15

6. After the **OK** pushbutton is selected in the **Browse For Folder** window, the input focus will once again be upon the **Found New Hardware Wizard** window requesting the user to choose the search and installation options. Looking at the field underneath **Include this location in the search:** should be the directory path: **C:\nellie\SiLabs\MCU\CP210x\WIN**. Refer to Figure 16. To continue, press the **Next** pushbutton found at the bottom of this window.

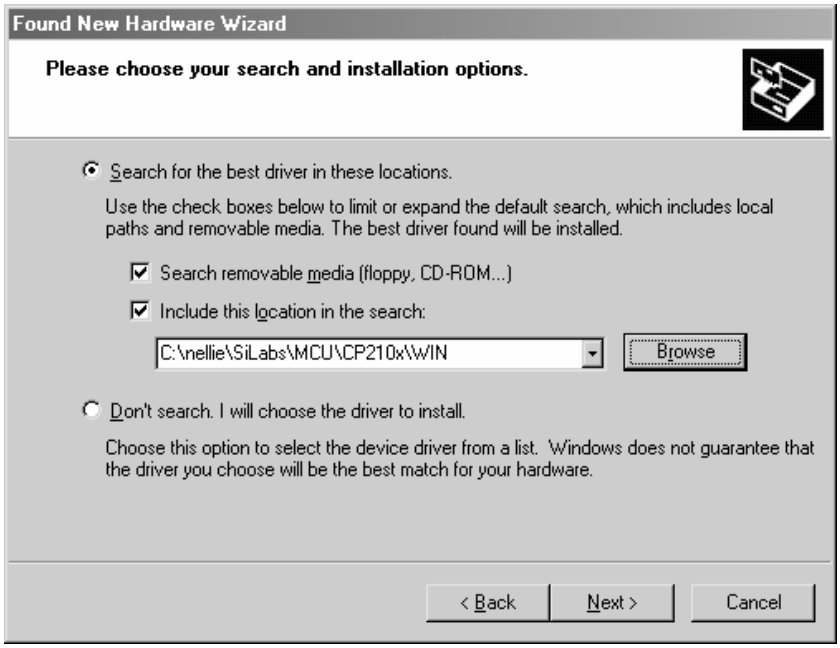

Figure 16

7. The Wizard will look for the necessary drivers for the CP2102 USB to UART Bridge Controller and Install them (See Figure 17). When the installation is complete and successful the **Completing the Found New Hardware Wizard** will appear (Figure 18) showing the user the installation status. Click the **Finish** pushbutton to complete the installation.

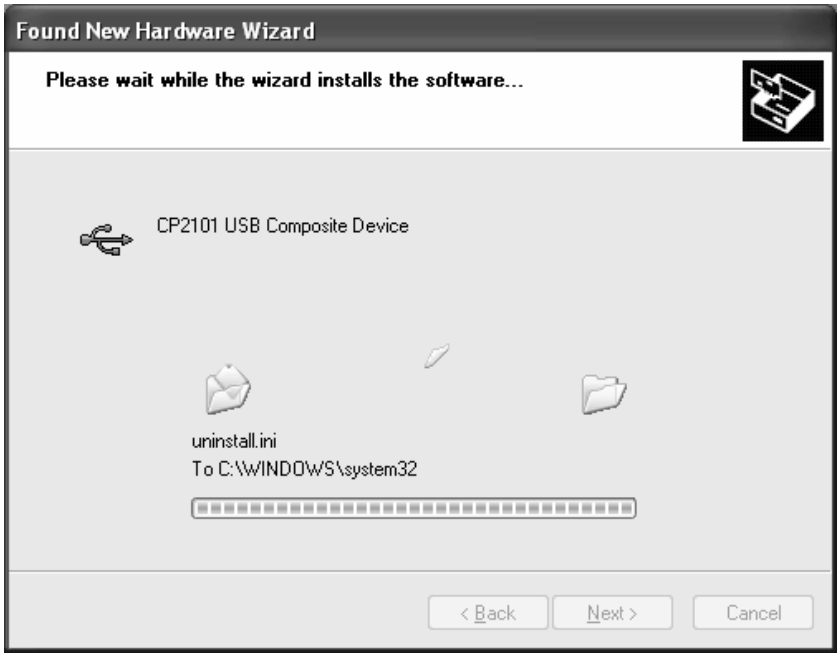

Figure 17

Figure 18

8. Shortly after selecting the **Finish** pushbutton, a second **Found New Hardware Wizard** should appear. Refer to Figure 19. It is important that this Wizard is completed in order to completely install the USB Interface Box. If this second part of the USB Interface Box driver installation is not followed, the FREEDOM Tool USB DMC-I Software Module WILL NOT WORK. As before, click one time in the circle beside **No, not this time**. When the circle beside **No, not this time** is selected, press the **Next** pushbutton to continue with the Found New Hardware Wizard.

Figure 19

9. After selecting Next in the Windows represented in Figure 19, the Window will update as shown in Figure 20. In this window the user should select the circle beside the text **Install from a list or specific location (Advanced)**. As commanded at the bottom of the window, select the **Next** pushbutton to continue with the **Found New Hardware Wizard**.

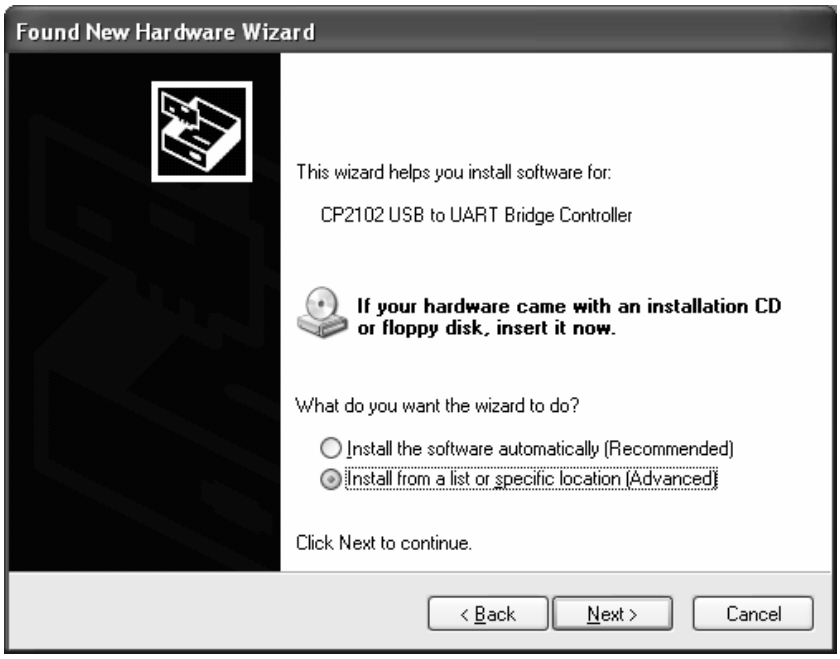

Figure 20

10. As it did in the first section of the USB Interface Driver Installation the window now updates allowing the user to select where the driver files will come from. Refer to Figure 21. The field underneath **Include this location in the search:** should now show the path **C:\nellie\SiLabs\MCU\CP210x\WIN.** If it does,

continue by selecting the **Next** pushbutton. If the path is not located in the text field beneath **Include this location in the search:** please refer to Step 5 of this installation procedure in order to get that path displayed. Select Next to continue with the Found New Hardware Wizard.

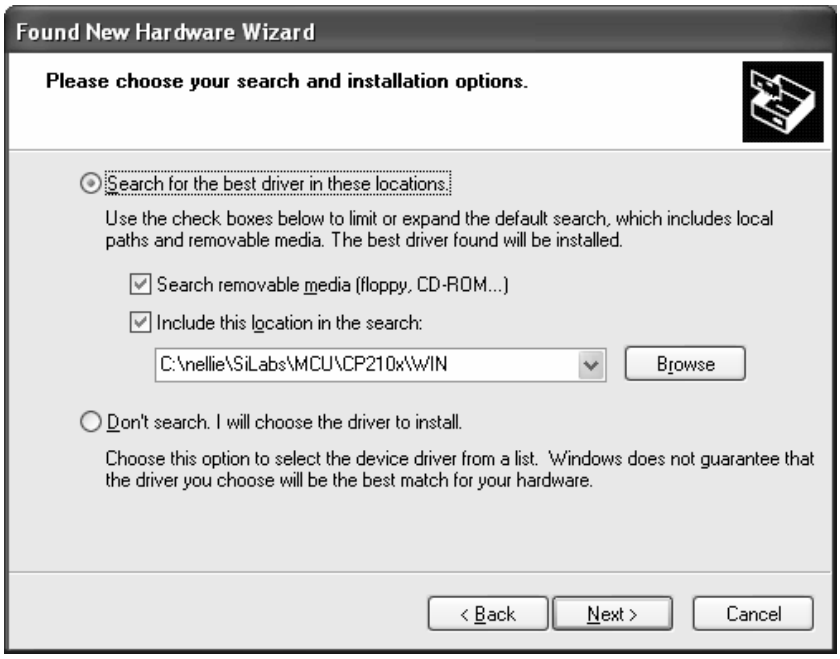

Figure 21

11. Upon selecting Next, the Found New Hardware wizard will continue with the installation of the remaining drivers for the DMC-I USB Interface box (Figure 22). Upon completion of the driver installation, the window will update similar to the one shown in Figure 23. The window in Figure 23 informs the user that the driver installation was successful and that the Finish pushbutton should be pressed to complete the Found New Hardware Wizard Installation. At this time, select Finish to complete the DMC-I USB Interface Box installation.

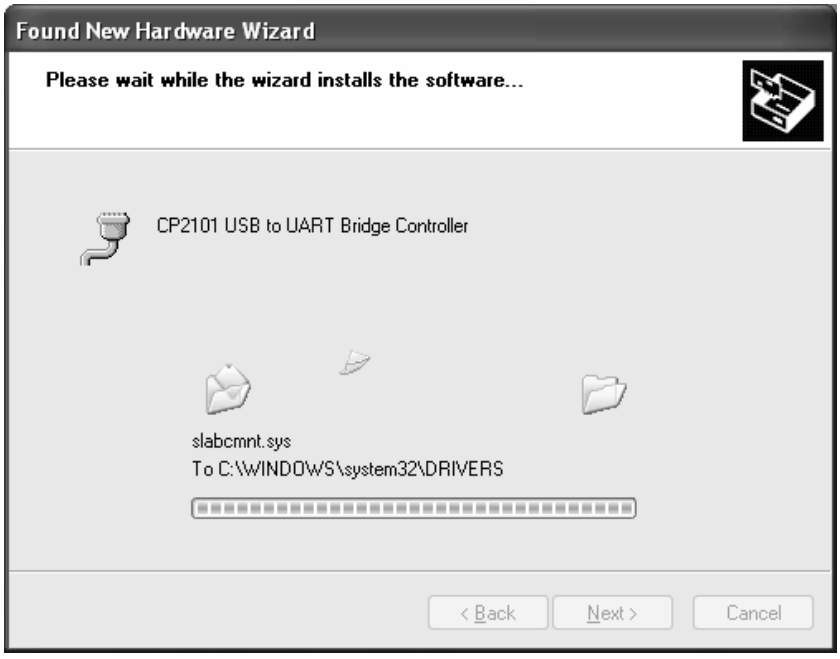

Figure 22

Figure 23

12. **AT THIS TIME PLUG THE USB SECURITY KEY INTO THE USB PORT ON THE USB INTERFACE BOX.**

13. Shortly after connecting the USB Security Key for the first time, a **Found New Hardware Wizard** will appear. Figure 24. **See note. The user should click on the circle beside **No, not this time** so that a Black Dot appears in the circle. Once this has been selected the user should select the **Next** pushbutton with the PC's pointing device in order to continue the Security Key Setup.

**NOTE: On some operating systems, the following operations may occur automatically without any user intervention. When completed, a popup bubble will appear on the right side of the taskbar stating that Hardware has been installed successfully.

Figure 24

14. The next window in the Security Key Setup informs the user that the wizard will help install the necessary software for USB KEY. Refer to Figure 25. In this window make sure the circle beside **Install the software automatically (Recommended)** has a black dot. With the Black Dot in place in the desired location, select the **Next** pushbutton to continue with the Security Key Installation.

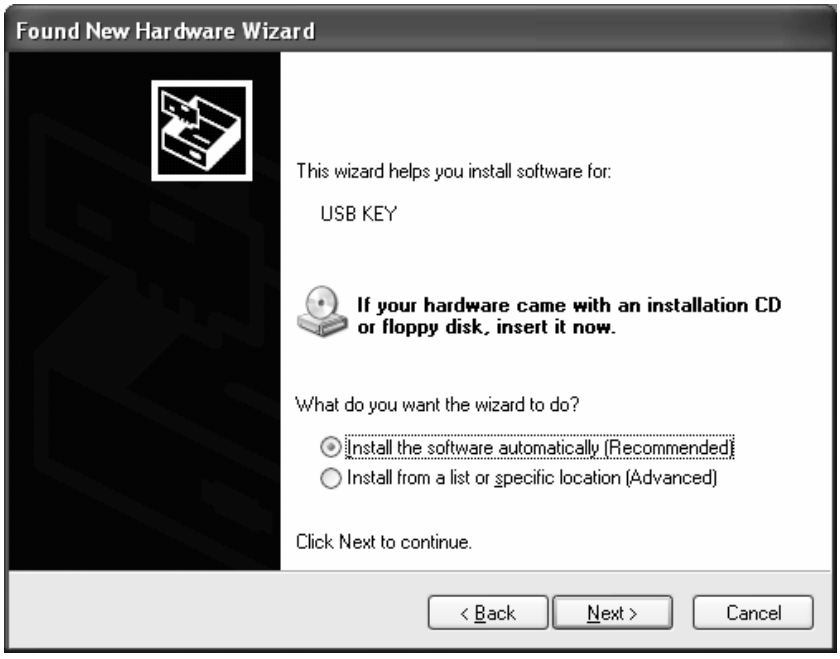

Figure 25

15. The installation will continue with installing the drivers for the security. While this installation is proceeding, a window will pop up notifying the user that the software being installed for the USB KEY **has not passed Windows Logo testing to verify its compatibility with Windows XP**. Refer to Figure 26. This window gives the user the options of **Continue Anyway** or **STOP Installation**. At this time, the user MUST select the pushbutton labeled **Continue Anyway** in order to successfully install the drivers for the USB Security Key.

Figure 26

16. After selecting Continue Anyway, the installation will continue with the USB Key Driver Installation by copying and updating the necessary files. A window similar to Figure 27 appears showing this installation progress. When the copying is completed a window similar to Figure 28 appears showing that the Installation was complete. At this time select the Finish push button to complete the USB Key Driver Installation.

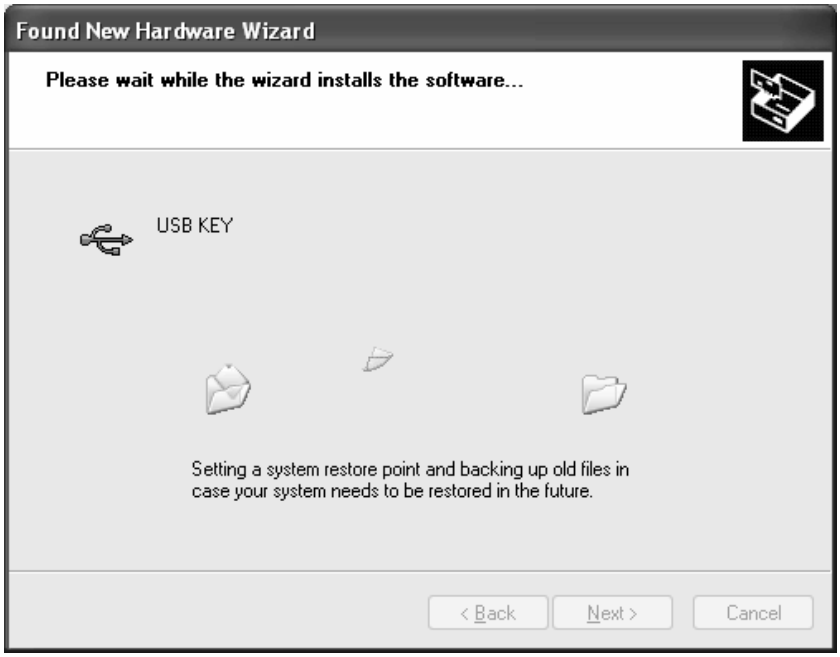

Figure 27

Figure 28

Executing the FREEDOM Tool Shell Program (USB Version):

The start up procedure of the WORLD electronics' FREEDOM Tool is described as follows:

1. Make sure the security key is installed on the USB port of the computer or the spare USB port located on the interface box. If the security key is plugged into the USB port located on the DMC-I USB Interface Box, then make sure the interface box is plugged into the USB port on the Notebook PC.

2. From the Microsoft Windows Desktop Screen select the **FREEDOM Tool** Icon by using the pointing device to position the cursor directly over the **FREEDOM Tool** Icon and double clicking the pointing device button. Refer to Figure 29.

Figure 29

3. Double clicking the **FREEDOM** Tool Icon will run the main FREEDOM Tool Application software. This software allows the user to select the various FREEDOMWare module that WORLD electronics has available. Refer to Figure 30.

Figure 30

NOTE: Only installed FREEDOMWare software will run. If the module selected is not installed a window will appear as in Figure 31 informing the user that the Module is not installed and to contact WORLD electronics. If this window appears and the software was purchased from WORLD electronics, then contact a member of WORLD electronics' technical support staff. If the software was not purchased, it can be purchased by contacting WORLD electronics' Sales Staff. The contact information on both of these departments can be found on Page 5 of this manual.

Figure 31

4. In order to run the USB DMC-I Software Module the user would need to select **Dover** from the menu. Refer to Figure 32. After Dover is selected the user is presented with choices of **USB, Serial Port, DMC File Utility, Traflomatic III, Traflomatic IV**.

Figure 32

5. The next item to be selected in order to run the USB DMC-I Software Module is the menu choice USB. In the USB category there is only one(1) software listed. Refer to Figure 33.

Figure 33

This software is the USB DMC-I Module. In order to run the USB DMC-I Module, position the Notebook PC's pointing device over top of the choice **USB DMC-I Module** and click one time. If the module is installed, the software will begin running at this time.

Executing the FREEDOM Tool Shell Program:

(Serial Port – RS 232) Windows 95, 98 and Me ONLY!:

The start up procedure of the WORLD electronics' FREEDOM Tool is described as follows:

1. From a power down condition, make sure the security key is installed on the parallel port of the computer.

2. Turn on the computer and allow the Windows operating system to become operational. From the Desktop either double click with the pointing device on the **FREEDOM Tool** icon, or select the **Start** Menu button then **FREEDOM Tool Folder** and then **FREEDOM Tool**. Refer to Figure 34.

Figure 34

3. The **FREEDOM Tool** window will be displayed as revealed in Figure 35.

Figure 35

4. Position the cursor over **Dover** and single click the pointing device button to display the Dover elevator system menu selections, shown in Figure 36.

Figure 36

5. In order to run the RS232 (Serial Port) version of the software, the user must be running the software on

an older Microsoft Windows OS such as Windows 95, Windows 98, or Windows Me and the PC must have at least one(1) Serial and Parallel(Printer) port. If these requirements are met, then the user can continue by selecting **Serial Port** from the drop down portion of the **Dover** menu selection. Doing this will provide another menu selection as viewed in Figure 37.

Figure 37

6. The FREDOM Tool Software Module Menu window, as shown in Figure 37 gives the user the choices of **DMC-I - 675A__** and **DMC I -675D/E__**. Position the cursor over the version desired and single click with the pointing device button. The DMC-I 675 version of software may be determined by examining the EPROM integrated circuits physically located on the Car Logic Controller (CLC) printed circuit board as referenced by the silk-screened legends “U26" / “M4", “U27" / “M3", “U28" / “M2", “U29" / “M1". If the EPROM has label 675A## use the **DMC I - 675A••**. Otherwise if the EPROM has the label 675D## or 675E## please use the **DMC I - 675D/E••**.

The DMC-I Software Module (Serial Port and USB Versions):

1. When the selected DMC software module begins to run, a window similar to the one seen in Figure 38 will appear. Figure 38 allows the users to choose the serial port used on their notebook computer. If the notebook computer being used has a serial port designated as **COM 1**, the user would select the pushbutton **COM 1** and then select **OK**. The pushbutton labeled COM 1 would now be in a pressed state. In the event the notebook computer assigns its serial port the value **COM 2**, the user would move the pointing device arrow over the **COM 2** button and click once with the mouse button. It is important to note that the USB software will pre-select the assigned serial port if the DMC-I USB Interface box is plugged into the USB port of the Notebook PC prior to running the FREEDOM Tool Software. Upon clicking **OK** the window will close, and the software will set up the notebook computer’s serial port for the assignment selected. When the serial port is set up correctly the **About: Security Key Information** window will be displayed.

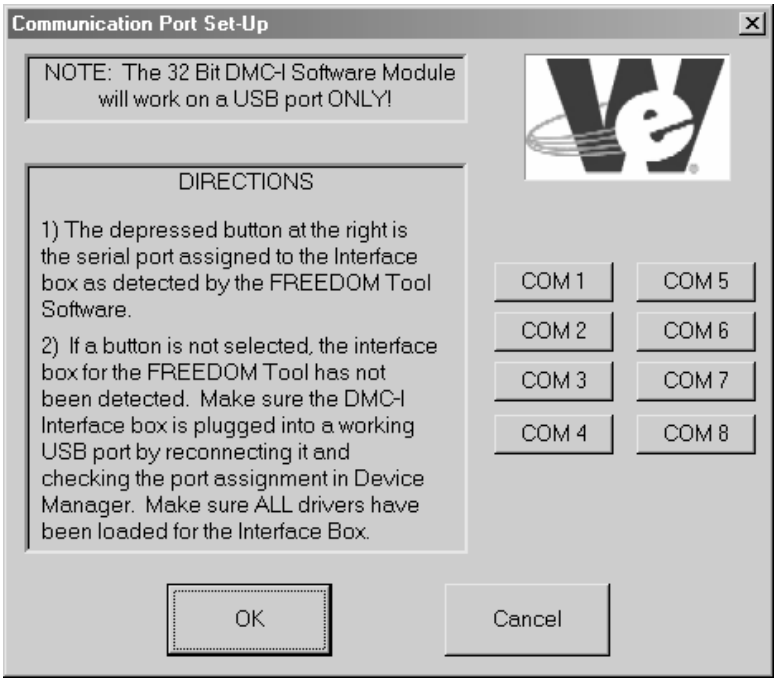

Figure 38

2. The **About: Security Key Information** window will be displayed as in Figure 39, if the correct security key has been determined to be installed. A successful access to the security key is indicated by a green box surrounding the picture of the security key device along with the designation **PASSED** located in the field **Security Key Check:**. Other information contained within this window is: contact information for contacting WORLD electronics technical support, revision information on the current software, and a final instruction to connect the interface box to the elevator. In order to continue using the USB DMC-I software module position the cursor over the **OK** and single click with the pointing device button. When **OK** is selected, the main window of the USB DMC-I Software Module will open.

Information on connecting to the elevator system:

The connector which interconnects the FREEDOM Tool with the DMC-I elevator system is physically located in four specific locales. They are as follows:

A. In the machine room inside the control panel there resides a 25 pin D connector with the legend **SINGLE**.

B. Inside the car behind the control panel there resides a 25 pin D connector with the legend **SINGLE**.

C. On top of the car there resides a 25 pin D connector on the top of the Selector box. This connector has no particular legend. Depending on the model of the elevator system the connector may or may not be visible.

D. On top of the car there resides a 25 pin D connector on the front side of the Door Operator. This connector has no particular legend.

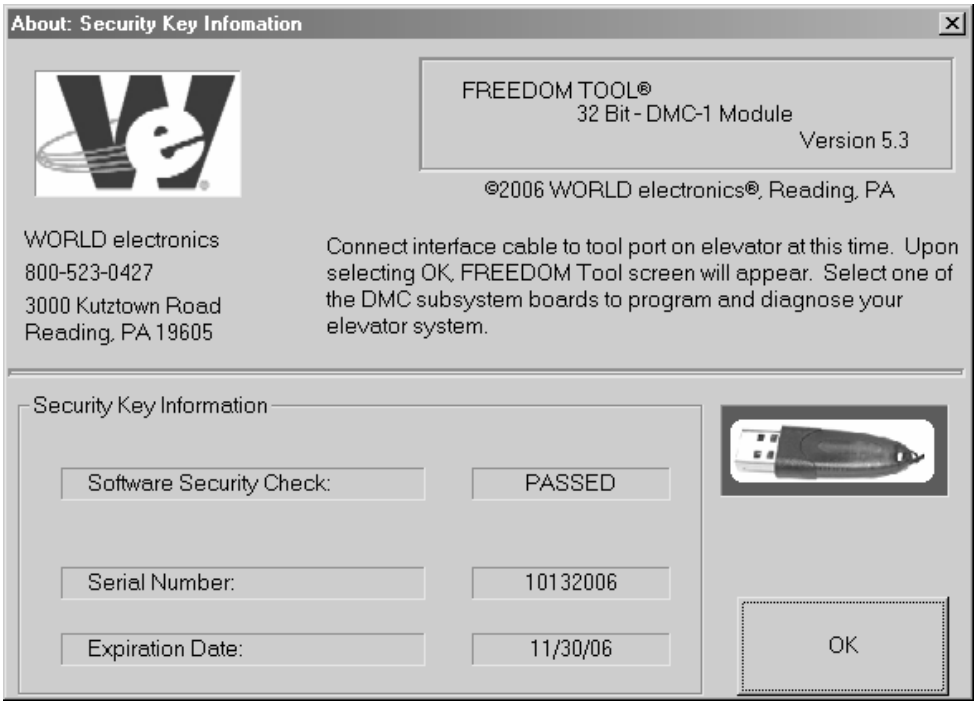

Figure 39

In the event that the security key has not been installed or there is a problem with the installed key, the **About: Security Key Information** window will open showing a picture of the security key with a red box around it. The text of this window will tell the user a security key error has been detected and it will show the actual error number in the field labeled **AUTHORIZATION ERROR:**. Refer to Figure 40. To close this window, the user must position the cursor over the **OK** and single click with the pointing device button. This causes the FREEDOM Tool software to terminate execution and return to the Windows Desktop.

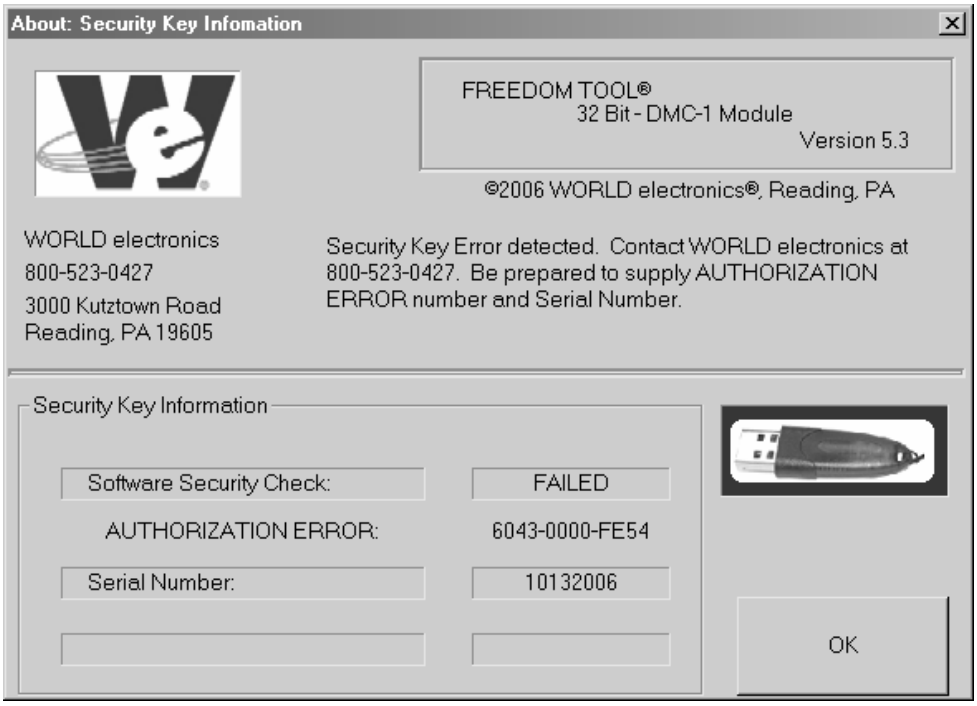

Figure 40

3. The **Main** window is displayed as shown in Figure 41. Select one of the logic board systems from the **Select** Menu. The logic board subsystems in the DMC-I system are the **Car Logic**, **Selector**, **Front Door**, and **Rear Door**.

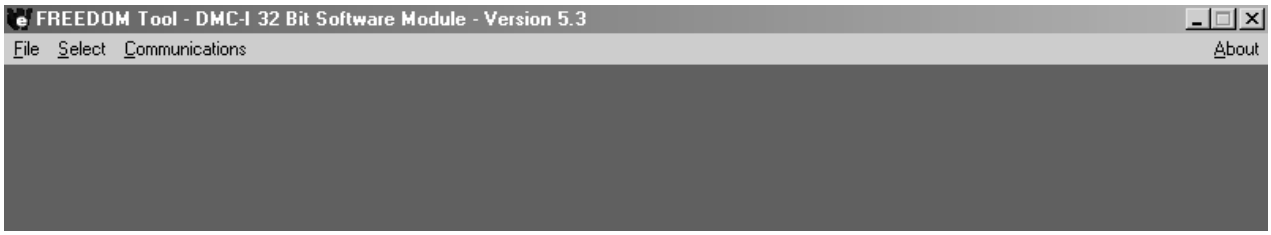

Figure 41

General Description:

The Dover DMC-I Elevator System consists of up to four printed circuit board subsystems. These are as follows:

- **Car Logic Controller (CLC)**
- Selector
- Front Door
- Rear Door

To select any one of the four software modules, position the cursor over the **Select** menu option within the **Main** window and single click the pointing device button. The window will be updated to appear as in Figure 42. Moving the cursor over the desired subsystem and single clicking the pointing device will open that particular module window. The order in which the modules are selected is not important. It is advisable to select and open

the window pertaining to the **Car Logic Controller** (CLC) subsystem first, because of the fact that the **Car Logic Controller**, **CLC**, maintains all of the system information locally (resident in memory on the printed circuit board), as well as information indicative of failures.

Figure 42

Car Logic Controller Window:

Figure 43 is the Car Logic Controller (CLC) window, which can be obtained as described above. Within the Car Logic Controller (CLC) window there are five informational windows: These are described as follows:

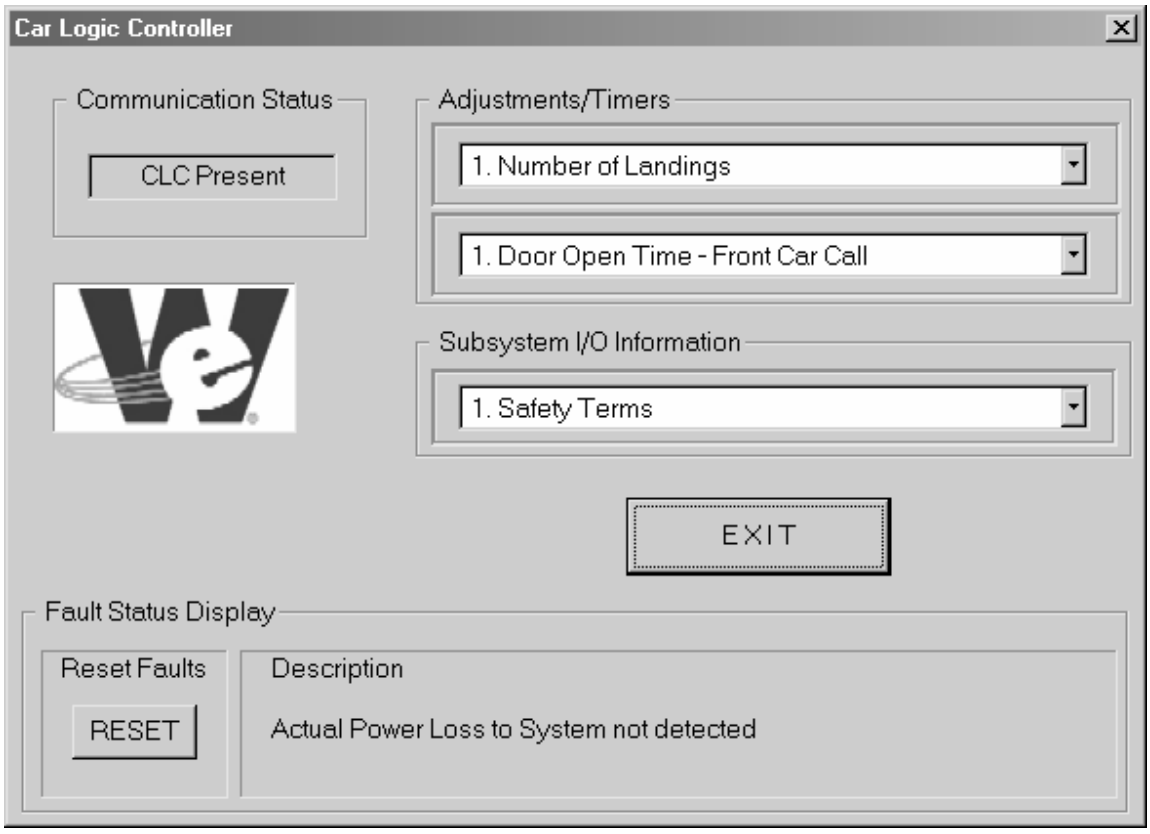

Figure 43

- **Communications Status:**

  This window indicates the presence or absence as determined by the communications status between the FREEDOM Tool and the Car Logic Controller (CLC). **CLC Present** will be displayed whenever the

FREEDOM Tool and the Car Logic Controller (CLC) are communicating. In the event that communications cannot be established or is broken, the message displayed in the window will be **CLC Absent**.

- **Landing: (Removed from USB Version)**

  This window indicates the landing at which the elevator is level with or the landing at which the elevator will be level with, if the elevator car is in motion.

- **Adjustments/Timers:**

  This window displays two combo boxes which give the user the ability to select one of several adjustments or one of several timers associated with the Car Logic Controller (CLC). The upper combo box will drop down a partial listing of adjustments when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by utilizing the vertical scroll bar, typical of Windows programs, to reveal the full list of selections and clicking once with the pointing device button while the cursor positioned on the desired option. Refer to Figure 44.

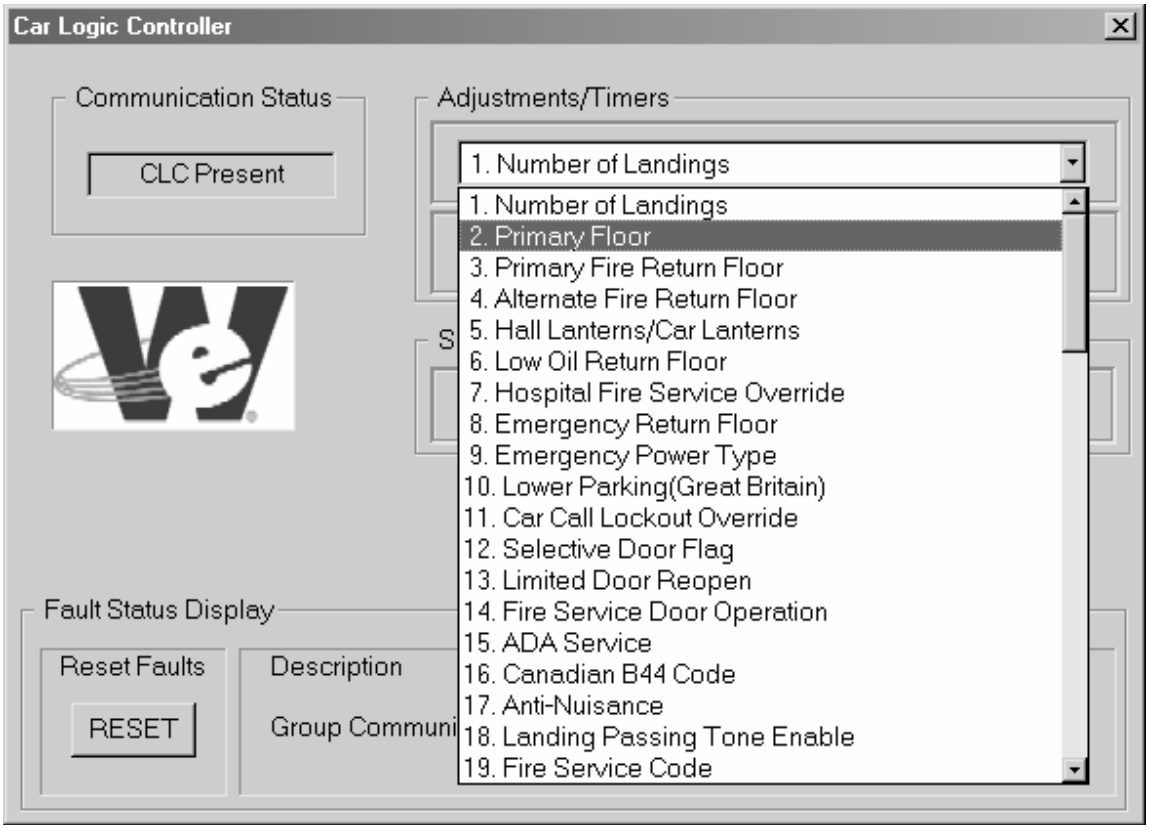

Figure 44

The lower combo box will drop down a full listing of timers. Vertical scrolling is not required since all of the available selections are capable of being displayed in their entirety. A selection can be made by clicking once with the pointing device button while the cursor is positioned on the desired option. Refer to Figure 45.

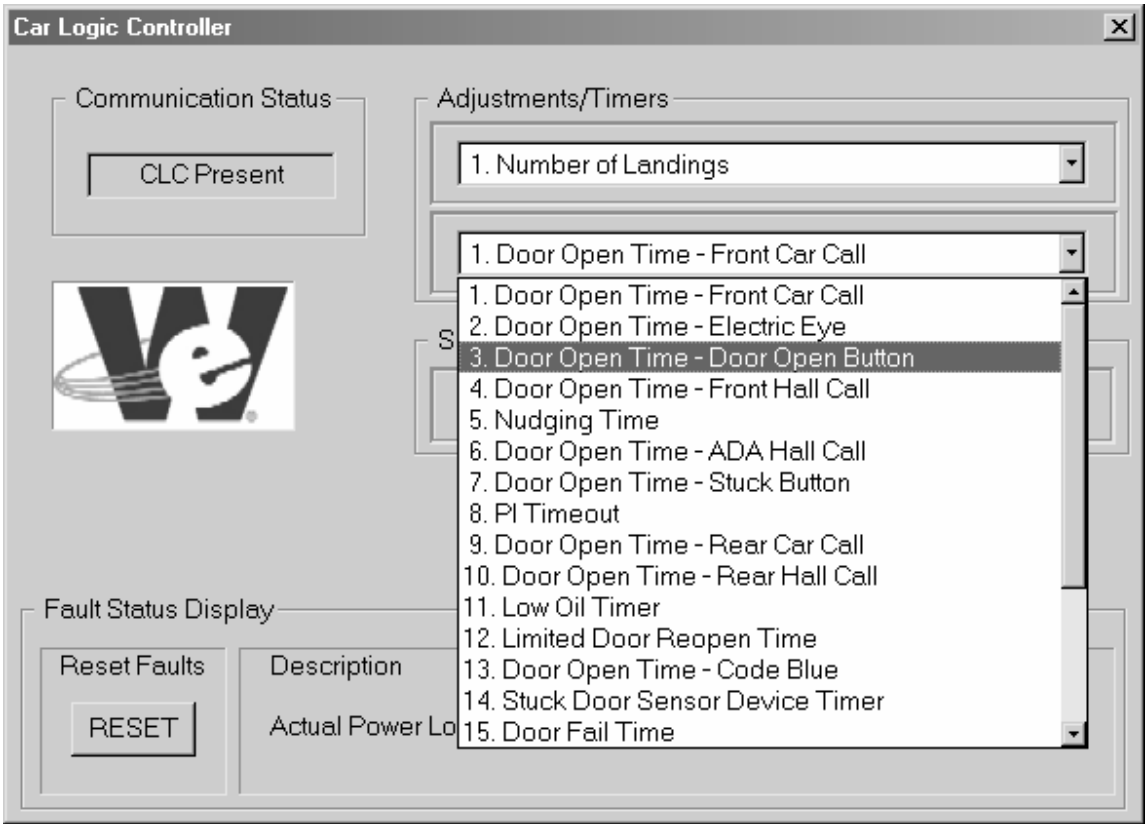

Figure 45

- **Subsystem I/O Information:**

  This window displays a combo box, which gives the user the ability to select one of several I/O ports in order to examine the port data contents associated with the Car Logic Controller (CLC). This combo box will drop down a partial listing of selections when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by utilizing the vertical scroll bar to reveal the full list of selections and clicking once with the pointing device button while the cursor positioned on the desired option. Refer to Figure 46.

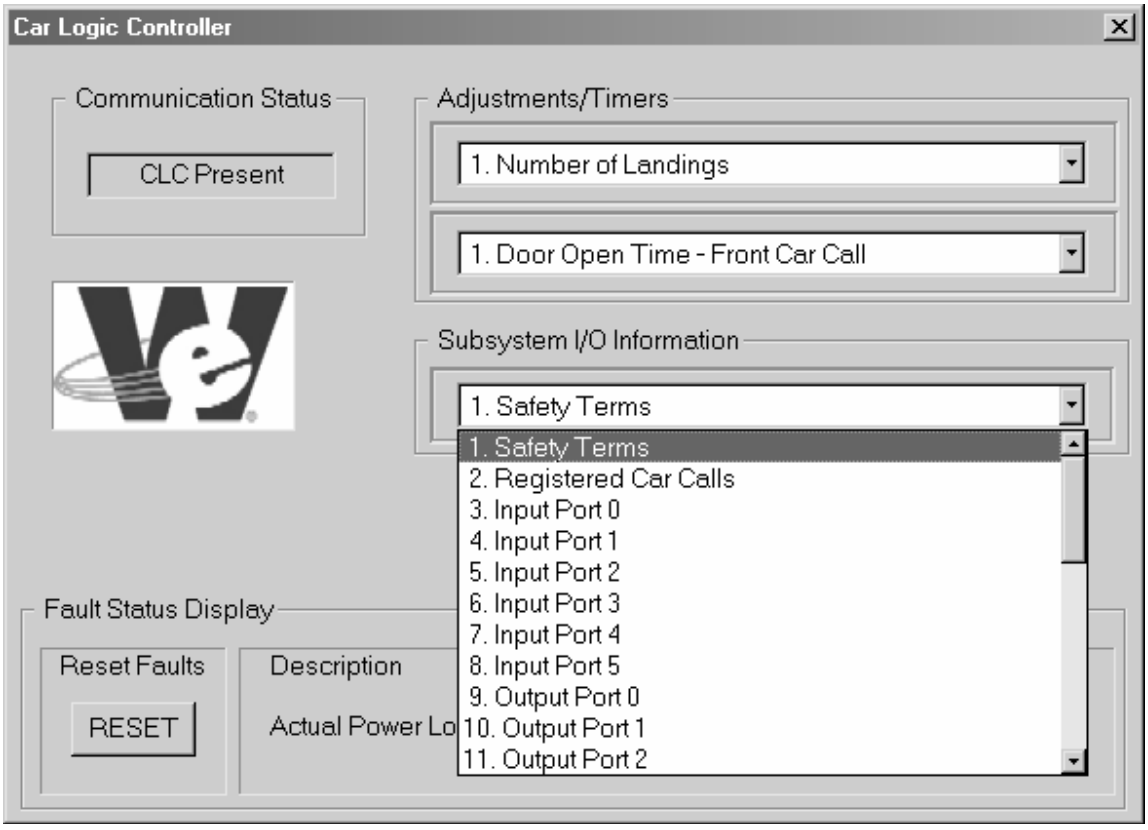

Figure 46

- **Fault Status Display:**

  This window displays the fault status associated with the Car Logic Controller (CLC) under the **Description** legend relative to the order in which faults are received at the FREEDOM Tool from the CLC module. There is a limit of twenty-five faults that can be displayed, due to the maximum size of the CLC's fault history list resident at the CLC. The **Description** window will be updated approximately every 3.5 seconds and continually cycle through the recognized faults. Positioning the cursor over the **RESET** button under **Reset Faults** and clicking once with the pointing device will reset any repaired fault causing only the current faults to be displayed. In the event that no fault condition exists the **Description** window will display **No Faults Detected**.

As discussed, in the Adjustment/Timers and Subsystem I/O Information sections, the drop down options can be selected by utilizing the vertical scroll bar to reveal the full list of selections and clicking once with the pointing device button while the cursor is positioned on the desired menu option. A window associated with the option selected will be displayed with this window being consistent with all other Adjustment/Timers selections and Subsystem I/O selections. However, though consistency exists the Adjustment/Timers and Subsystem I/O Information are treated as different entities.

Adjustment / Timers <u>Adjustment</u> Window:

Referring to Adjustment/Timers and using the **1. Number of Landings** selection as an example and referring to Figure 47 it is evident that there are three small windows that display information, seven function selections possible, and a function specific **DEFINITIONS** display section.

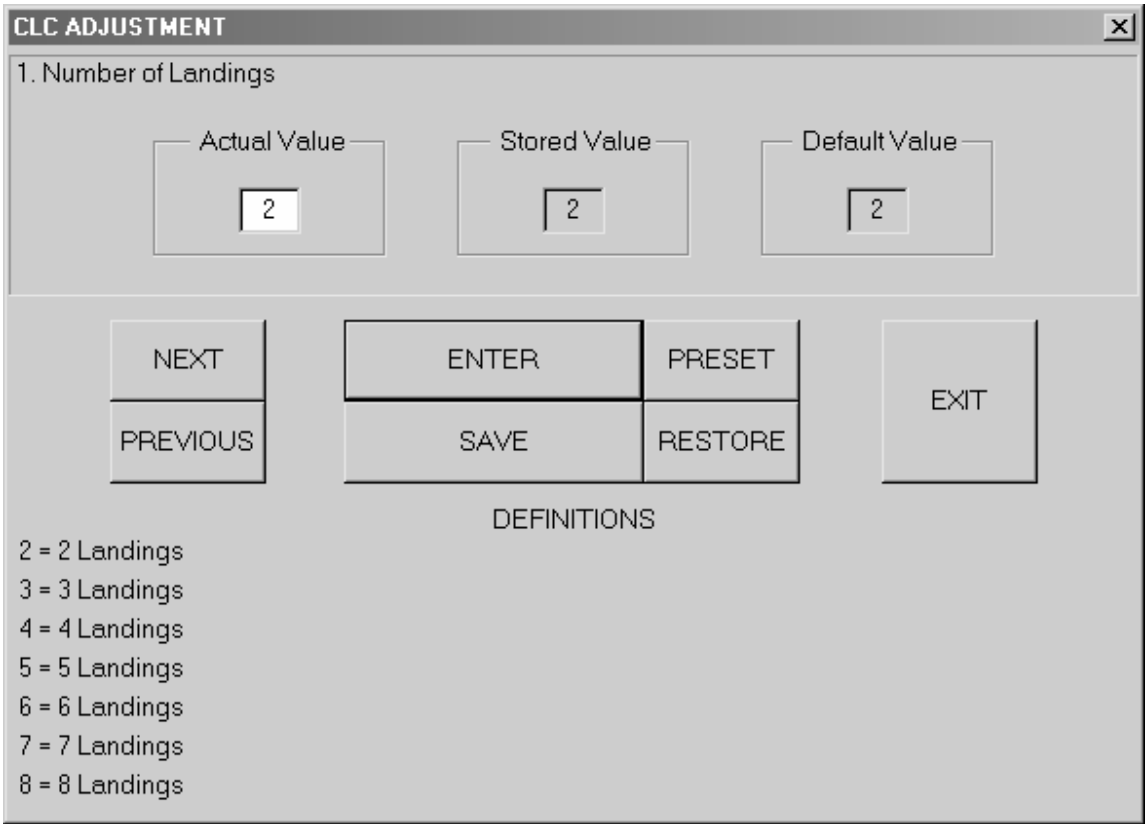

Figure 47

The three small windows display information retrieved from the Car Logic Controller (CLC) via the communications interface. Due to the communications handshake protocol there is a period of latency of a second or two until the display can be updated.

The three information windows are labeled and described as follows:

- **Actual Value:**

  This is the value, which is utilized by the elevator system as an operational value and is not retained by the elevator system if power is lost. This value may be altered to a value within the range of those outlined in the **DEFINITIONS** section of the respective window, as established by the elevator system manufacturer.

- **Stored Value:**

  This is the value which the Car Logic Controller (CLC) utilizes as the operational value or Actual Value in the event of a power loss. This value is stored in battery backed memory (RAM) on the CLC printed circuit board module. The **Stored Value** cannot be manually changed within the **Stored Value** window. In case of an AC power loss and available battery power, the **Stored Values** become the **Actual Values** on the next power up sequence.

- **Default Value:**

  This value has been established by Dover Corporation / Elevator Division at the time the elevator was built. This value is “read only” and cannot be changed. In case of an AC power loss coupled with no battery power, the **Default Values** become the Stored and Actual Values on the next power up sequence.

The seven function selection buttons are labeled and described as follows:

- **Enter:**

  The **Actual Value** can be edited by positioning the cursor within the **Actual Value** window and clicking once with the pointing device. Utilizing the PC keyboard numeric, backspace, and delete keys a different value can be entered into the window. In order to allow the elevator system to recognize the updated **Actual Value**, position the cursor over the **ENTER** button and click once with the pointing device.

- **Save:**

  If it is desired that the **Stored Value** be updated, whereby the **Stored Value** is replaced with the **Actual Value**, position the cursor over the **SAVE** button and click once with the pointing device.

- **Restore:**

  The function of the **RESTORE** button is to update the **Actual Value** with the **Stored Value**. Simply position the cursor over the **RESTORE** button and click once with the pointing device.

- **Preset:**

  Positioning the cursor over the **PRESET** button and clicking once with the pointing device will cause the **Actual Value** to be replaced with the **Default Value**.

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

Subsystem I/O Information Display Window:

Subsystem I/O Information is displayed to the CRT much differently than the Adjustment/Timers. This stands to reason since the Adjustments/Timers data contains an Actual, Stored, and Default data for each specific parameter while the **Subsystem I/O Information** is a continuous snapshot of the specific selection. The **Subsystem I/O Information** is accessed in a manner identical to the Adjustment/Timers described above. Referring to **Subsystem I/O Information** and using the “1. Safety Terms” selection as an example and referring to Figure 48, there are three display information windows and three function buttons within the overall window.

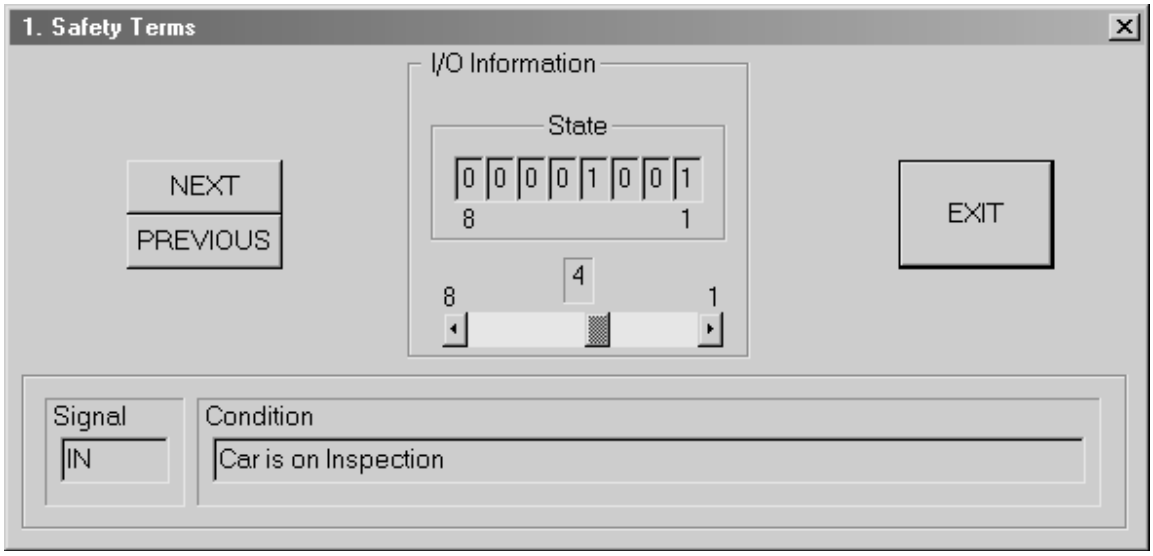

Figure 48

The three Subsystem I/O Information windows are labeled and described as follows:

- **I/O Information:**

  This window displays the individual bit patterns of the selection, in a bytewide (8 bits) format, for I/O information within the elevator control system. The horizontal scroll bar allows the user to walk through the individual bits and monitor the status of each of the eight bits as can be realized in the Signal and Condition windows.

- **Condition:**

  The Condition window reveals an English translation and a description of the bit status of the signal being monitored via the I/O Information window as the user monitors a specific bit utilizing the horizontal scroll bar.

- **Signal:**

  The Signal window displays an acronym or term known to those within the industry which describes the function of the specific bit being monitored. An “active low” logic signal is represented by an asterisk(*) appended to the Signal name within the Signal window.

The three function buttons are labeled and described as follows:

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

Once again, the Dover DMC-I Elevator System consists of up to four printed circuit board subsystems. These are as follows:

- Car Logic Controller (CLC)
- **Selector**
- Front Door
- Rear Door

To select any one of the four subsystems position the cursor over the **Select** menu option within the Main window and single click the pointing device button. Moving the cursor over the desired subsystem and single clicking the pointing device will open that particular module window. The order in which the subsystems are selected is not important.

Selector Window:

Within the **Selector** window, shown in Figure 49, there are five informational windows: These are labeled and described as follows:

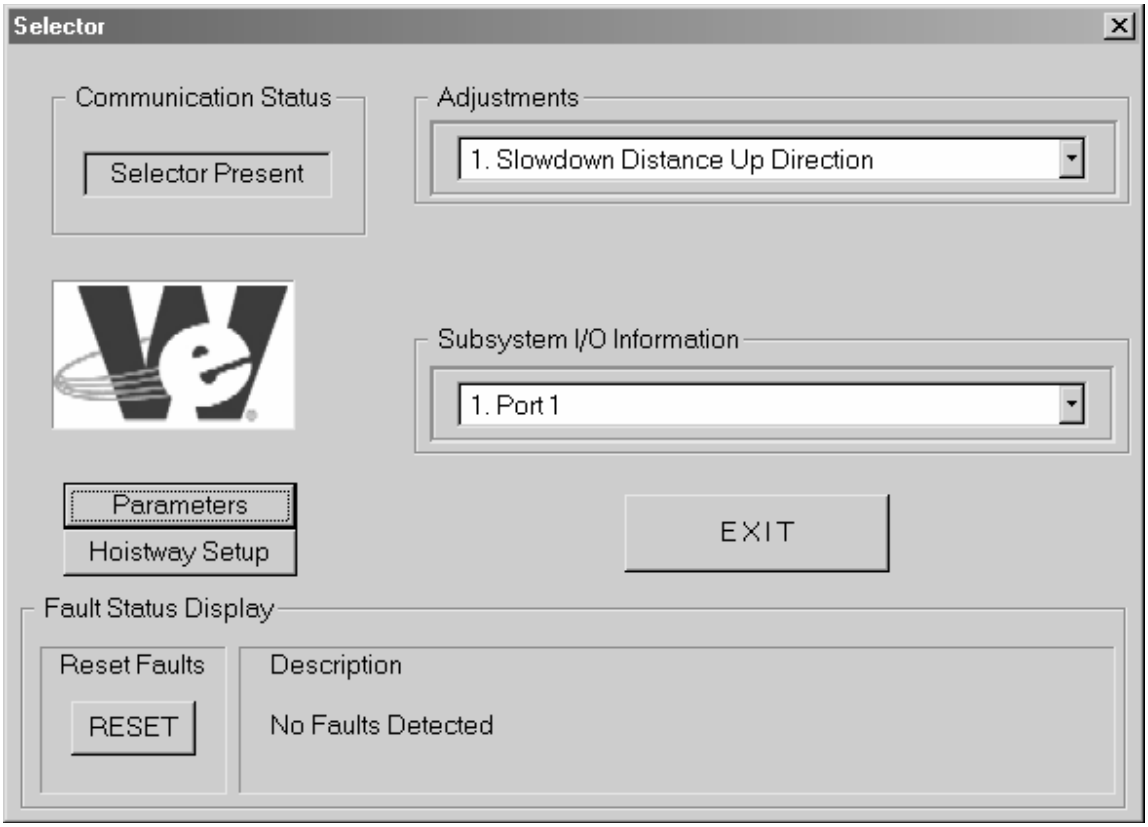

Figure 49

- **Communications Status:**

  This window indicates the Selector printed circuit board presence or absence as determined by the ability of the FREEDOM Tool to recognize valid communications traffic between the Car Logic Controller (CLC) module and the Selector module. **Selector Present** will be displayed whenever the Selector and The Car Logic Controller (CLC) are communicating. In the event that communications cannot be established or is broken, the message displayed in the window will be **Selector Absent**.

- **Landing: (Removed from USB Version)**

  This window indicates the landing at which the elevator is level with or the landing at which the elevator will be level with, if the elevator car is in motion.

- **Adjustments:**

  This window displays a combo box, which gives the user the ability to select one of two

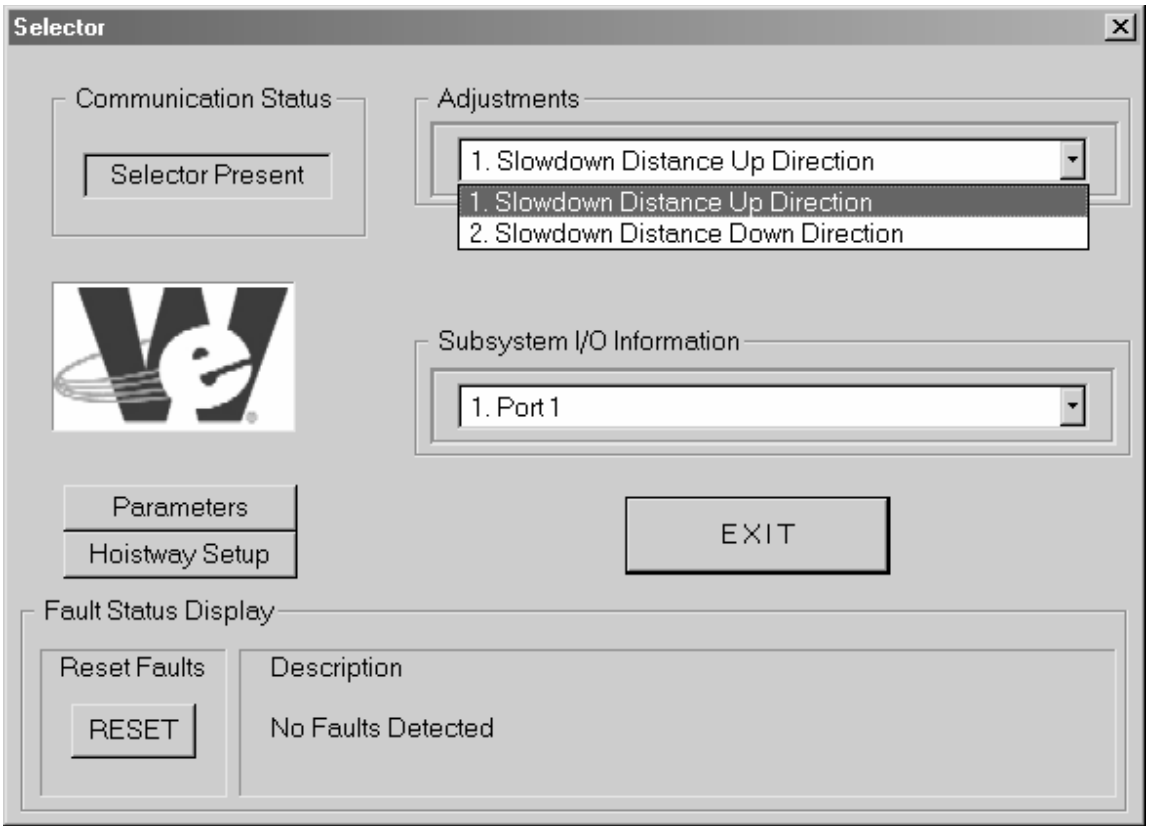

Figure 50

  adjustments associated with the Selector. The combo box will drop down a partial listing of adjustments when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by clicking once with the pointing device button while the cursor is positioned on the desired option. Refer to Figure 50.

- **Subsystem I/O Information:**

  This window displays a combo box, which gives the user the ability to select one of several I/O ports in order to examine the port data contents associated with the Selector. This combo box will drop down a list of options when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by

clicking once with the pointing device button while the cursor is positioned on the desired option. Refer to Figure 51.

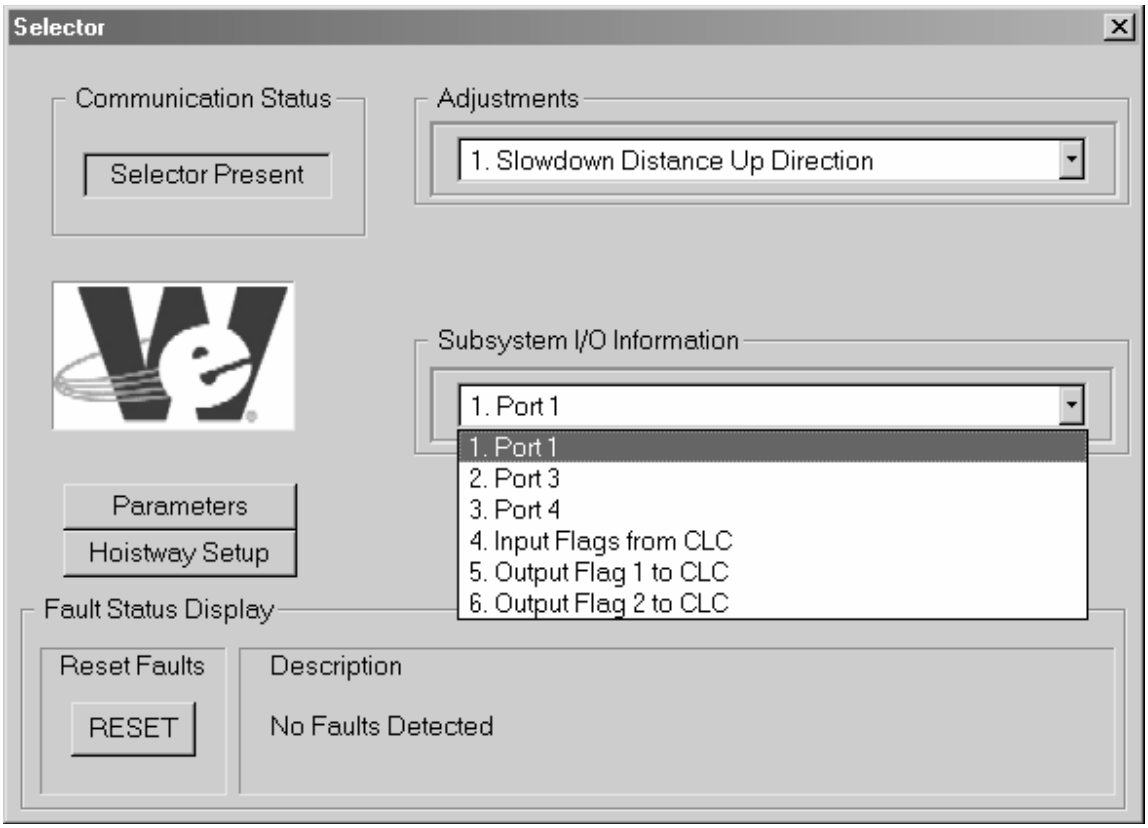

Figure 51

- **Fault Status Display:**

  This window displays the fault status associated with the Selector under the **Description** legend relative to the order in which faults are received at the FREEDOM Tool from the Selector module. A limit of three faults being displayed is due to the elevator system Selector fault allocation. The **Description** window will be updated approximately every 3 seconds and continually cycle through the recognized faults. Positioning the cursor over the **RESET** button under **Reset Faults** and clicking once with the pointing device will reset any repaired fault. In the event that no fault condition exists, the **Description** window will display **No Faults Detected**.

As discussed in the Adjustments and Subsystem I/O Information sections the drop down options can be selected by clicking once with the pointing device button while positioning the cursor on the desired menu option. A window associated with the option selected will be displayed with the data manipulation within the window being consistent with all other selections within the Adjustments and Subsystem I/O Information window. However, though consistency exists the Adjustments and Subsystem I/O Information are treated as different entities.

Selector Adjustment Window:

Referring to Adjustments and using the **1. Slowdown Distance Up Direction** selection as an example and referring to Figure 52 it is evident that there are three small windows that display information, seven function

selections possible, and a function specific **DEFINITIONS** display section.

The three small windows display information retrieved from the Car Logic Controller (CLC) via the communications interface. Due to the communications handshake protocol there is a period of latency of a second or two until the display can be updated.

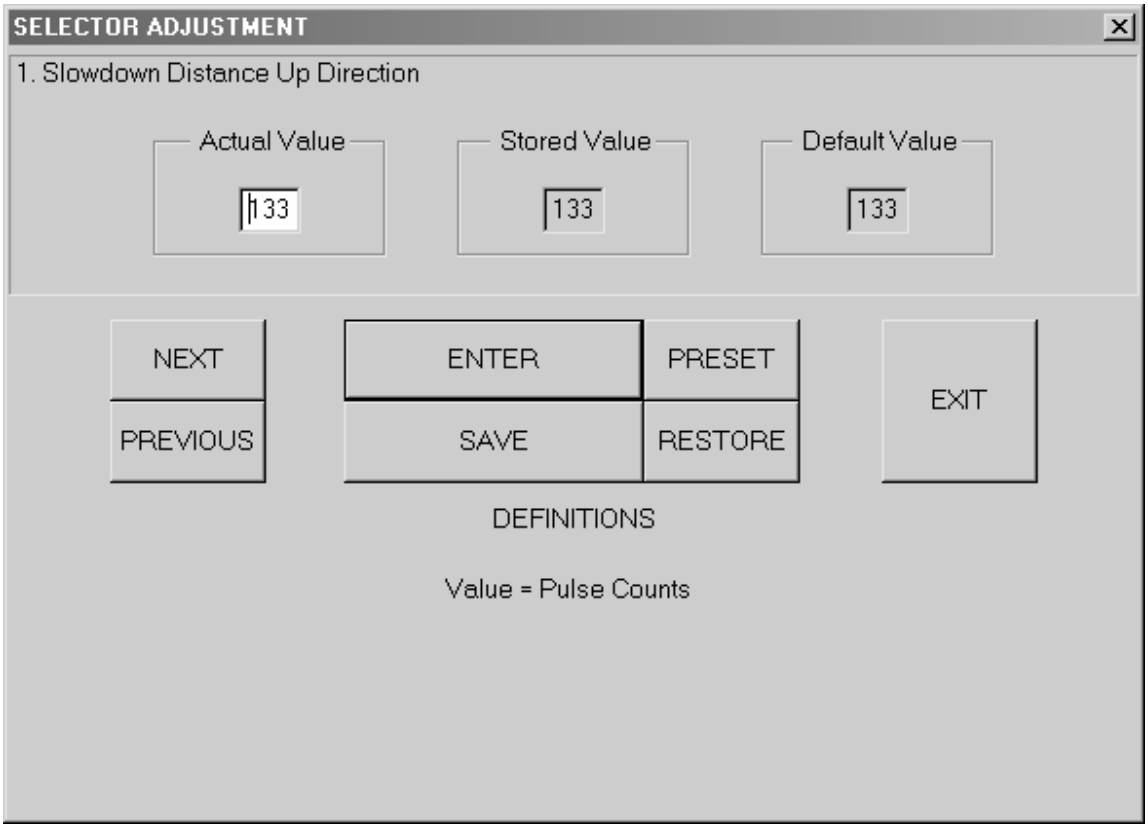

Figure 52

The three information windows are labeled and described as follows:

- **Actual Value:**

  This is the value, which is utilized by the elevator system as an operational value and is not retained by the elevator system if power is lost. This value may be altered to a value within the range of those outlined in the **DEFINITIONS** section of the respective window, as established by the elevator system manufacturer.

- **Stored Value:**

  This is the value which the Car Logic Controller (CLC) utilizes as the operational value or Actual Value in the event of a power loss. This value is stored in battery backed memory (RAM) on the CLC printed circuit board module. The Stored Value cannot be manually changed within the Stored Value window. In the event of an AC power loss and available battery power the Stored Values become the Actual Values on the next power up sequence.

- **Default Value:**

  This value has been established by Dover Corporation / Elevator Division at the time the elevator was built. This value is “read only” and cannot be changed. In the event of an AC power loss coupled with

no battery power then the Default Values become the Stored and Actual Values on the next power up sequence.

The seven function selection buttons are labeled and described as follows:

- **Enter:**

  The Actual Value can be edited by positioning the cursor within the Actual Value window and clicking once with the pointing device. Utilizing the PC keyboard numeric, backspace, and delete keys a different value can be entered into the window. In order to allow the elevator system to recognize of the updated Actual value position the cursor over the **ENTER** button and click once with the pointing device.

- **Save:**

  If it is desired that the **Stored Value** be updated, whereby the **Stored Value** is replaced with the **Actual Value**, position the cursor over the **SAVE** button and click once with the pointing device.

- **Restore:**

  The function of the **RESTORE** button is to update the Actual Value with the Stored Value. Simply position the cursor over the **RESTORE** button and click once with the pointing device.

- **Preset:**

  Positioning the cursor over the **PRESET** button and clicking once with the pointing device will cause the Actual Value to be replaced with the Default Value.

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

Selector Subsystem I/O Information Display Window:

Subsystem I/O Information is displayed to the CRT much differently than the Adjustments. This stands to reason since the Adjustments data contains an Actual, Stored, and Default data for each specific parameter while the **Subsystem I/O Information** is a continuous snapshot of the specific option. The **Subsystem I/O Information** is accessed in a manner identical to the Adjustments described above. Referring to Subsystem I/O Information and using the **1. Port 1** selection as an example and referring to Figure 53. There are three display information windows and three function buttons within the overall window.

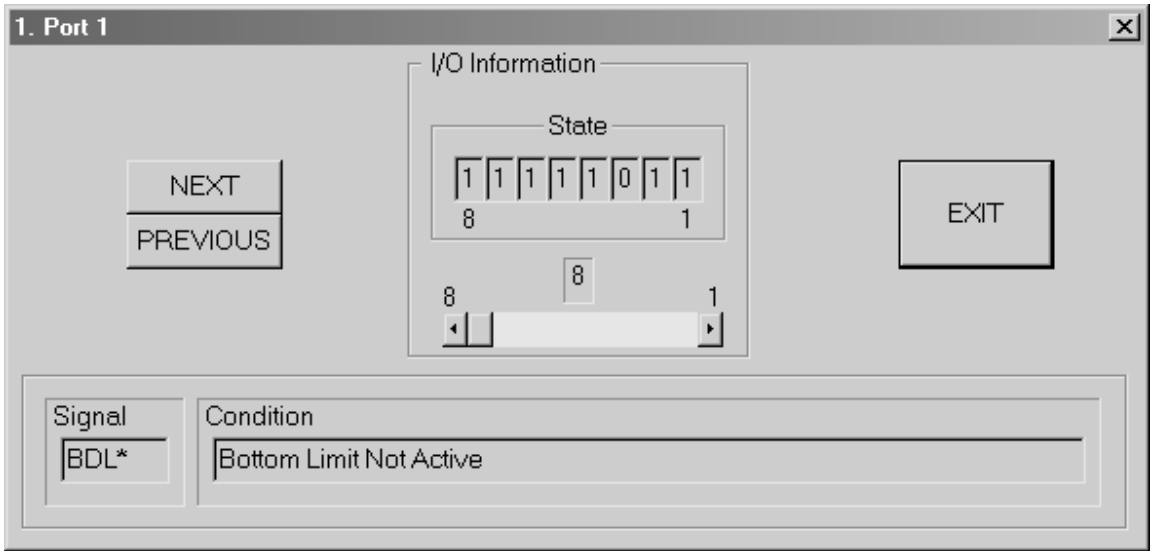

Figure 53

The three Subsystem I/O Information windows are labeled and described as follows:

- **I/O Information:**

  This window displays the individual bit patterns of the selection, in a bytewide (8 bits) format, for I/O information within the elevator control system. The horizontal scroll bar allow the user to walk through the individual bits and monitor the status of each of the eight bits as can be realized in the Signal and Condition windows.

- **Condition:**

  The Condition window reveals an English translation and a description of the bit status of the signal being monitored via the I/O Information window as the user monitors a specific bit utilizing the horizontal scroll bar.

- **Signal:**

  The Signal window displays an acronym or term known to those within the industry which describes the function of the specific bit being monitored. An “active low” logic signal is represented by an asterisk(*) appended to the Signal name within the Signal window.

The three function buttons are labeled and described as follows:

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

The main Selector window also consists of two pushbuttons labeled **Parameters** and **Hoistway Setup**.

Hoistway Setup:

The **Hoistway Setup** procedure is described as follows:

1. The **Hoistway Setup** operation is initialized by positioning the cursor in the proximity of the **Hoistway Setup** button and clicking one time with the pointing device. This will open the **Hoistway Setup** window shown in Figure 54. This operation is generally executed due to one of the following: the time of installation of the elevator, when one of the hoistway magnets are relocated, when the terminal limit switches are moved, when power has been lost to the elevator system, or when replacing a CLC printed circuit board. In the event that the Selector module is deemed absent, an error message will occur within the window indicating such status.

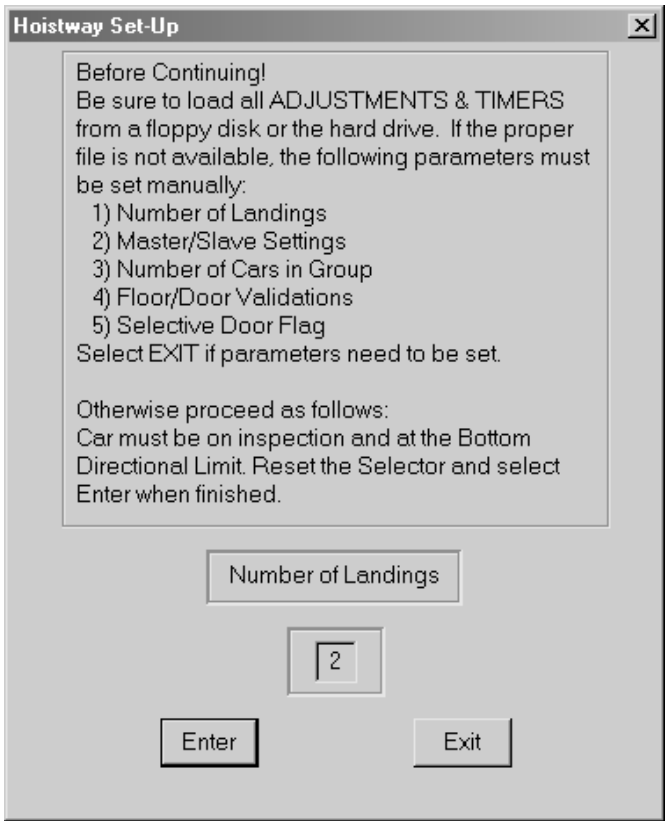

Figure 54

If the Selector module is present and the user initiates a **Hoistway Setup**, the **Hoistway Setup** window will appear as in Figure 54 and prompt the user to comply with specific system requirements. The user is prompted to respond if all the information displayed in window is correct including the number of landings which is shown in a small window within the **Hoistway Setup** window. If the user concurs with the correctness of the information displayed within the window and desires to continue with the Hoistway Setup function, then the ENTER function must be enabled. This is done by

positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the **Hoistway Setup** then position the cursor on the **EXIT** button and click once with the pointing device.

2. A second **Hoistway Setup** window replaces the first **Hoistway Setup** window and prompts the user that the Selector Parameters and the Hoistway Parameter table will be cleared on enabling the ENTER function. Do this by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the **Hoistway Setup** then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 55

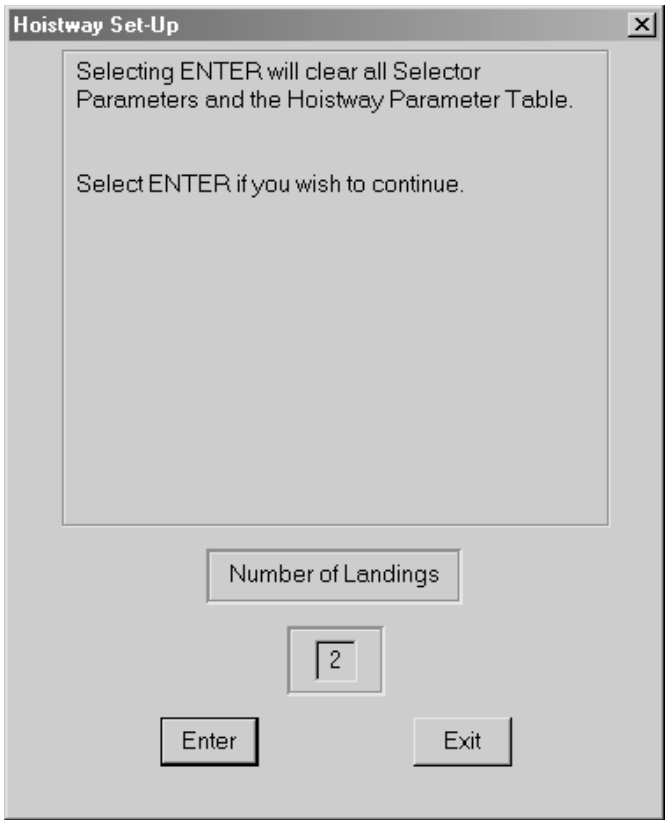

Figure 55

3. A third **Hoistway Setup** window replaces the second **Hoistway Setup** window and prompts the user that the Selector Parameters have been reset, that the Selector is ready and to continue enable the ENTER function. This can be done by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the **Hoistway Setup** then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 56.

   It is important to realize that performing an EXIT function at this point will require that the user perform a **Hoistway Setup** prior to attempting to operate the elevator due to the Selector parameters having been reset.

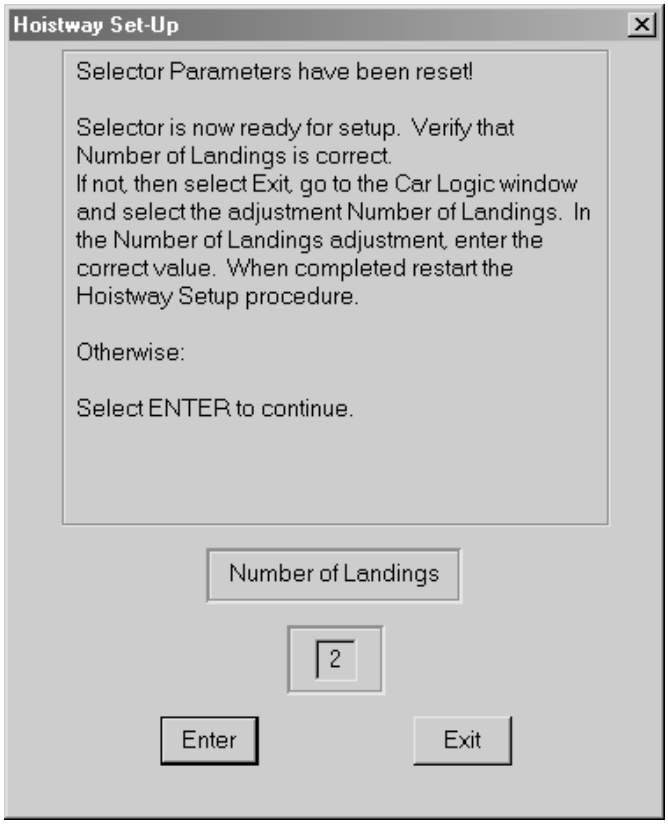

Figure 56

4. A fourth **Hoistway Setup** window replaces the third **Hoistway Setup** window and prompts the user *to* run the car up on inspection, from the Bottom Directional Limit to the Top Directional Limit and to enable the ENTER function when finished. When the car has reached the top limit, position the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the **Hoistway Setup** then position the cursor on the **EXIT** button and click once with the pointing device Refer to Figure 57.

   The **Hoistway Setup** procedure should be repeated in the event that the car motion is interrupted prior to the car reaching the top limit.

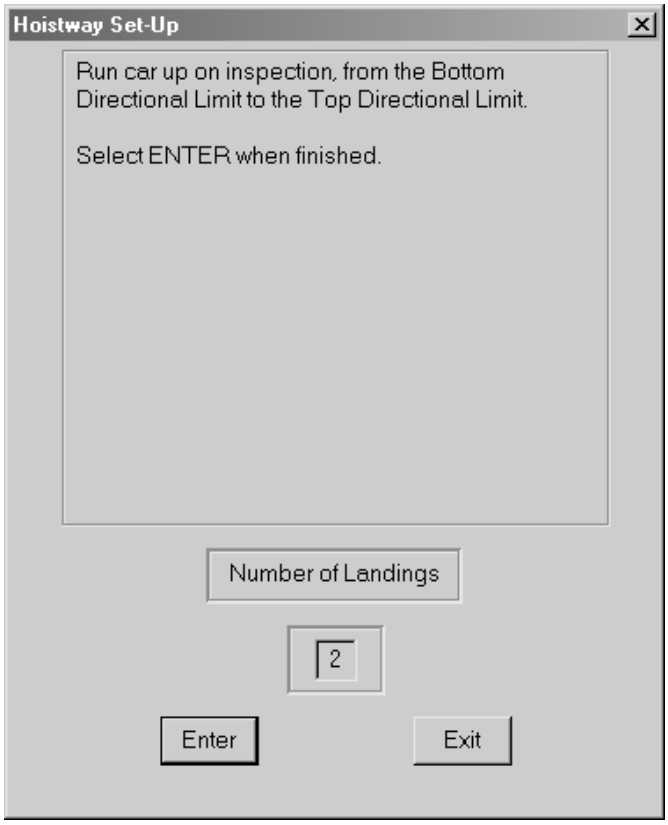

Figure 57

5. A fifth **Hoistway Setup** window replaces the fourth **Hoistway Setup** window and prompts the user *to* save pulse counts on enabling the ENTER function. This is accomplished by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the **Hoistway Setup** then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 58.

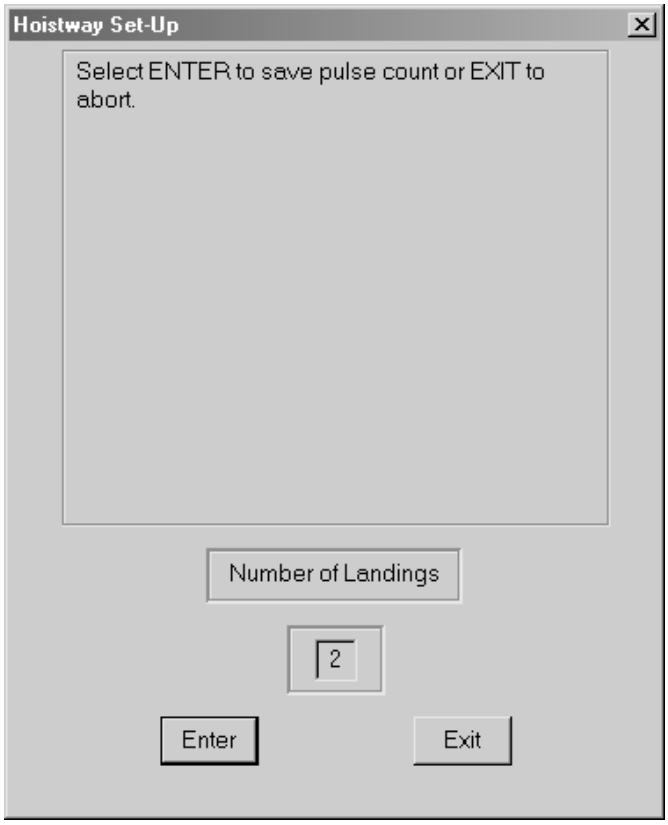

Figure 58

To summarize, the steps required to perform a **Hoistway Setup** are as follows:

1. Acknowledge the number of landings via the **ENTER** function.
2. Acknowledge the clearing of Selector parameters & the Hoistway Parameter Table via the **ENTER** function.
3. A second acknowledgment on the number of landings via the **ENTER** function is required to perform the actual Hoistway Setup operation.
4. After running the car on inspection from the Bottom Directional Limit to the Top Directional Limit select the **ENTER** function when finished.
5. An **ENTER** function is required to save the pulse counts, complete the **Hoistway Setup** operation, and return to the main Selector window.

Selector Parameters:

The **Selector Parameters** procedure is described as follows:

1. If the Selector module is present and the user positions the cursor on the **Parameters** pushbutton and clicks once with the pointing device the **Selector Parameters** window will be displayed as shown in Figure 59. The user is then prompted to enter the number of landings. This number is to be placed into the small window within the **Selector Parameters** window. This is done by single clicking on the window to the right of the initially displayed zero. To continue the user enters the number of landings and enables the ENTER function by positioning the cursor on the **ENTER** button and clicking once

with the pointing device. If it is not desirable to continue, but desirable to exit **Parameters** then position the cursor on the **EXIT** button and click once with the pointing device.

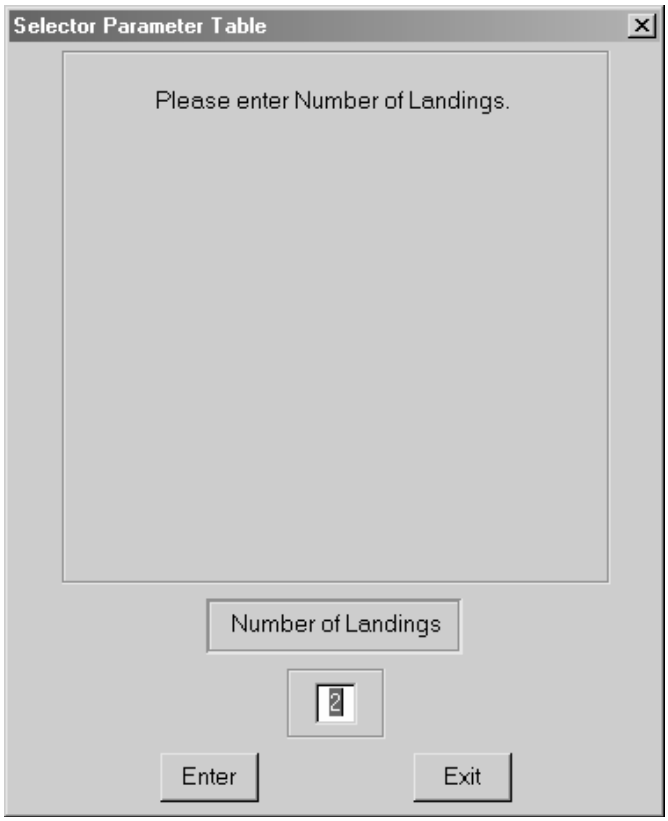

Figure 59

2. Continuing with **Parameters** causes a new message to appear within the **Selector Parameters** window, shown in Figure 60. The FREEDOM Tool is in the process of retrieving the Hoistway pulse counts from the Car Logic Controller (CLC). Once the FREEDOM Tool has received the pulse counts from the Car Logic Controller the window is updated with the pulse counts per each landing. The numbers that are displayed are the pulse counts that have been determined by a Hoistway Setup procedure. These are shown in Figure 61. To exit the **Parameters** window position the cursor on the **EXIT** button and click once with the pointing device. Single clicking on the **ENTER** button will perform a retrieval of the Hoistway pulse counts from the Car Logic Controller (CLC) as previously stated.

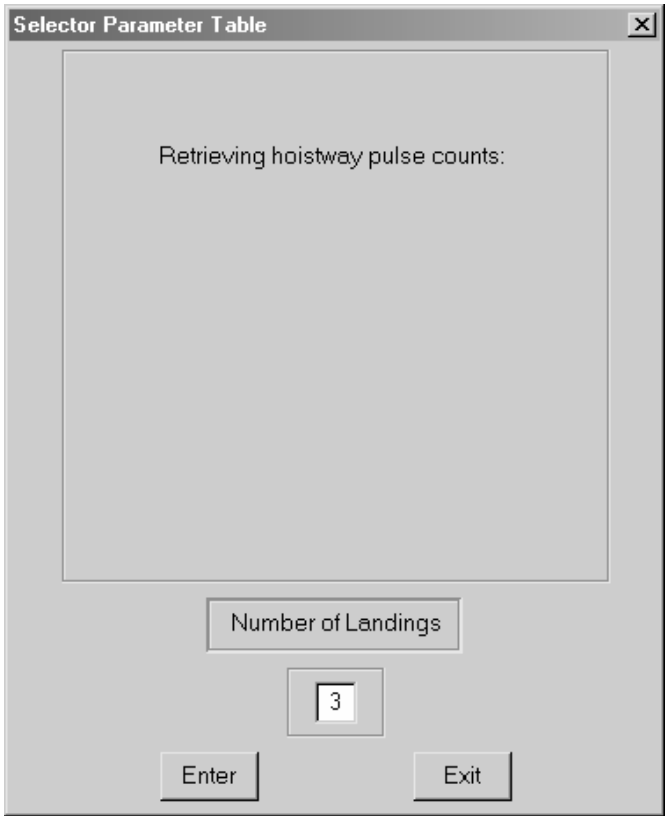
Selector Parameter Table
Retrieving hoistway pulse counts:
Number of Landings
3
Enter
Exit

Figure 60

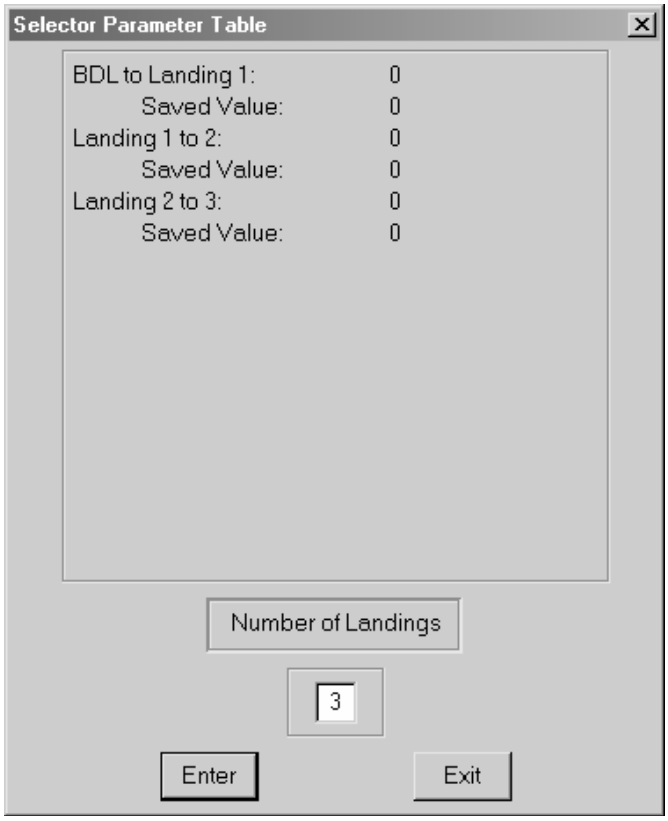

Figure 61

Once again the Dover DMC-I Elevator System consists of up to four printed circuit board subsystems. These are as follows:

- Car Logic Controller (CLC)
- Selector
- **Front Door**
- **Rear Door**

Important: All information concerning the Front Door is valid for the Rear Door as well.

To select any one of the four DMC-I subsystems, position the cursor over the **Select** menu option within the **Main** window and single click the pointing device button. Moving the cursor over the desired software module and single clicking the pointing device will open that particular subsystem window. The order in which the modules are selected is not important.

Front and Rear Door Windows:

Within the Door window, Front or Rear, shown in Figure 62, there are five informational windows: These are labeled and described as follows:

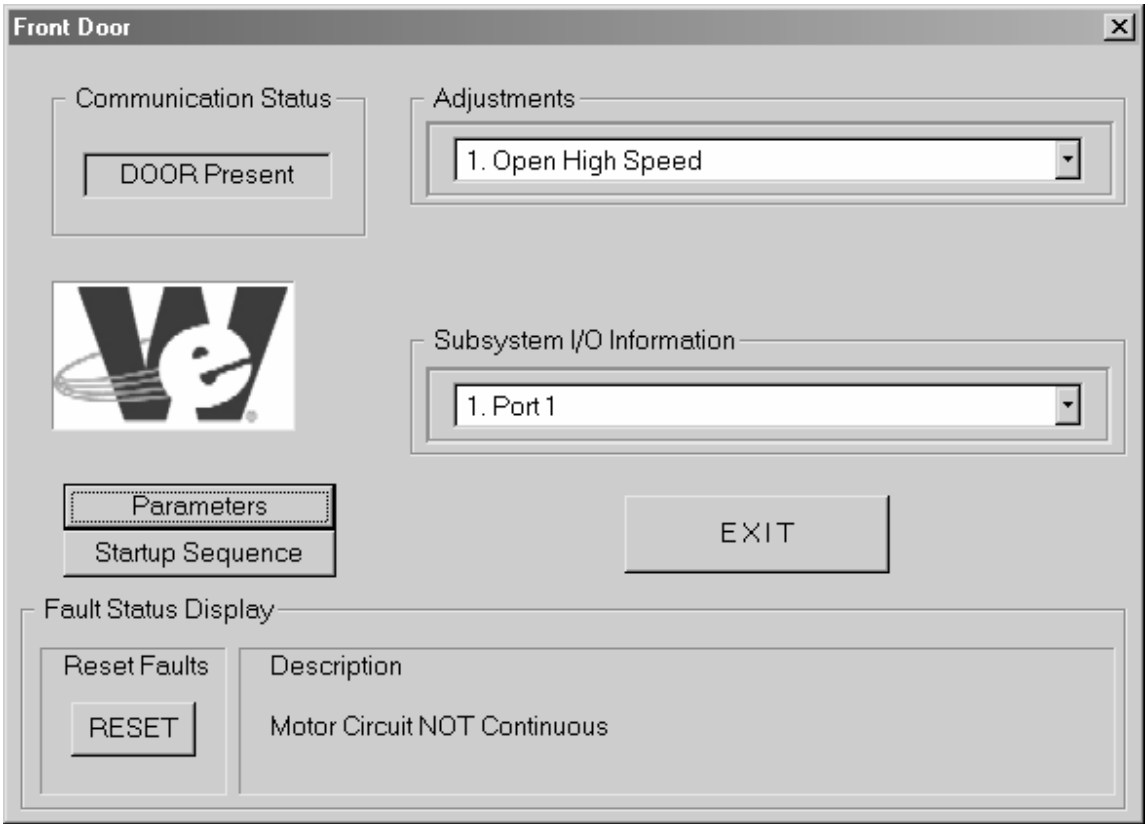

Figure 62

- **Communications Status:**

  This window indicates the presence or absence as determined by the ability of the FREEDOM Tool to recognize valid communications traffic between the Car Logic Controller (CLC) module and the Door module(s). **Door Present** will be displayed whenever the Door and the Car Logic Controller (CLC) are communicating. In the event that communications cannot be established or is broken the message displayed in the window will be **Front Door Absent** or **Rear Door Absent**, where appropriate.

- **Landing: (Removed from USB Version)**

  This window indicates the landing at which the elevator is level with or the landing at which the elevator will be level with, if the elevator car is in motion.

- **Adjustments:**

  This window displays a combo box which gives the user the ability to select one of several adjustments associated with the Door. The combo box will drop down a partial listing of adjustments when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by clicking once with the pointing device button while the cursor is positioned on the desired option. Refer to Figure 63.

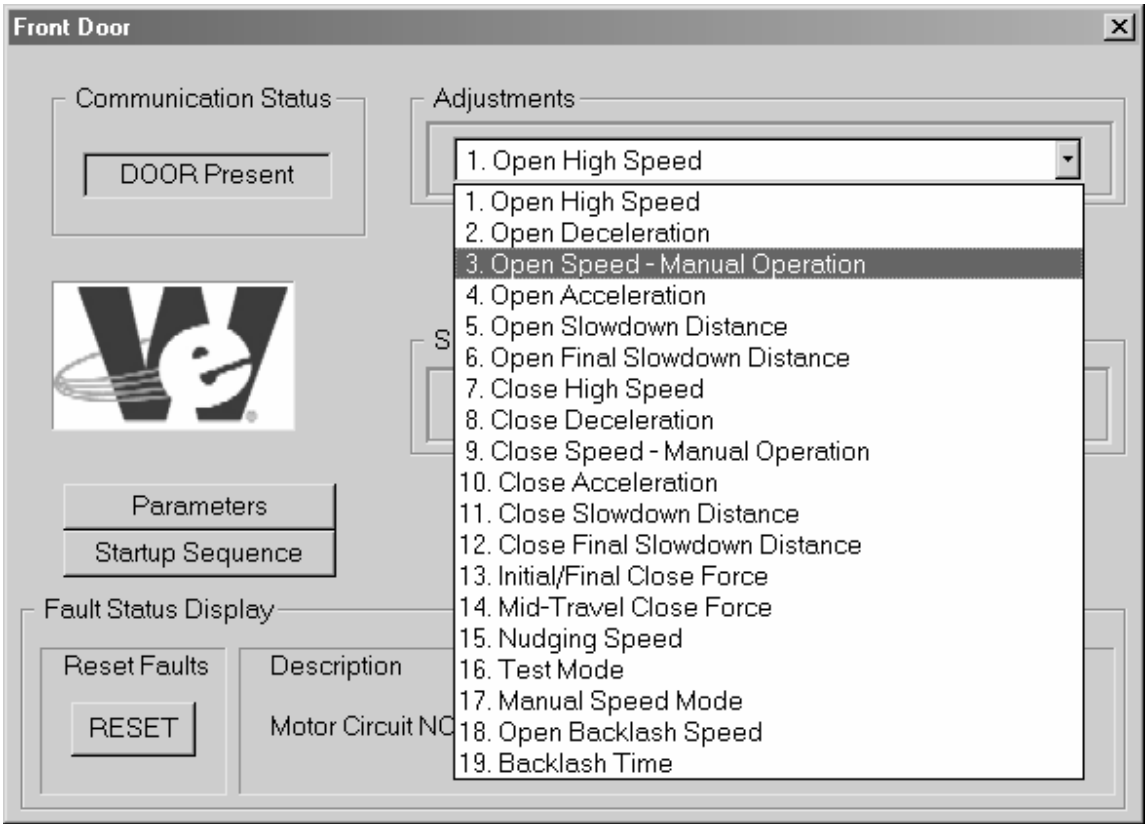

Figure 63

- **Subsystem I/O Information:**

  This window displays a combo box, which gives the user the ability to select one of several I/O ports in order to examine the port data contents associated with the Door. This combo box will drop down a list of options when the cursor is positioned within the combo box or positioned on the down arrow symbol and a single click of the pointing device is performed. The drop down options can be selected by clicking once with the pointing device button while the cursor is positioned on the desired option. Refer to Figure 64.

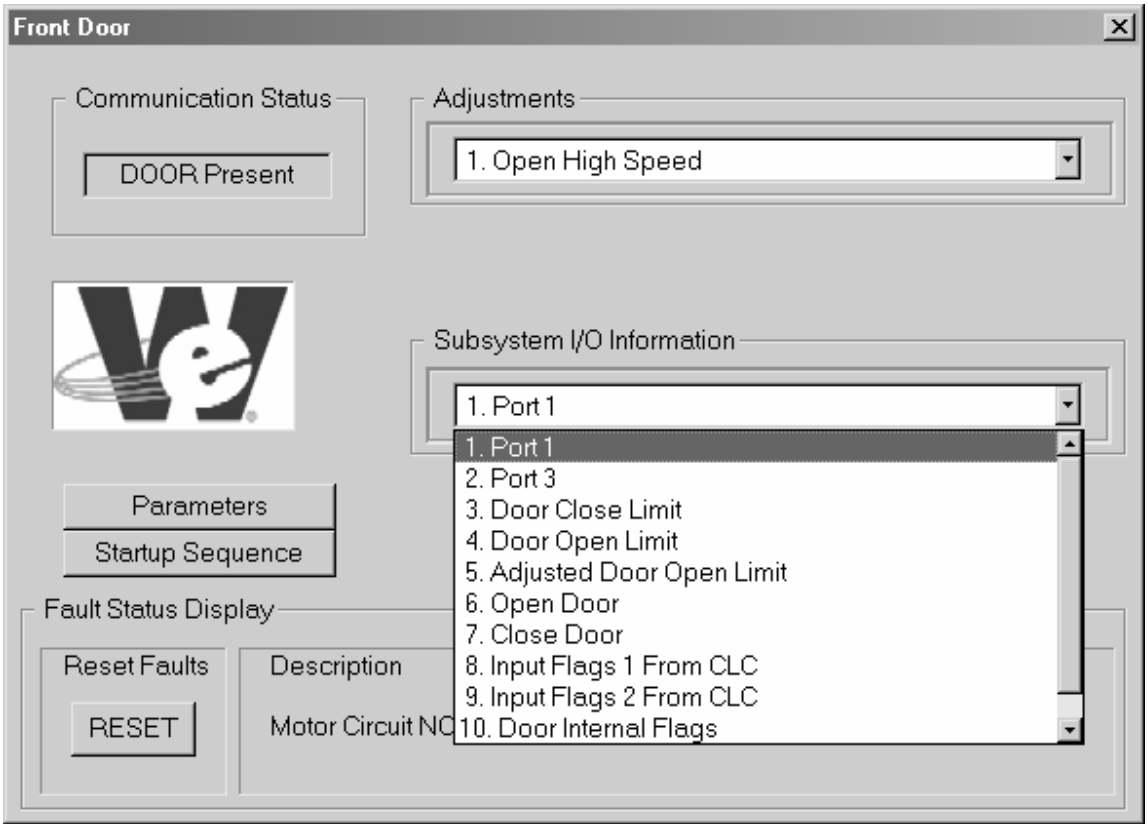

Figure 64

- **Fault Status Display:**

  This window displays the fault status associated with the particular Door module under consideration below the **Description** legend relative to the order in which faults are received at the FREEDOM Tool from the Door module. A limit of three faults being displayed is due to the elevator system door fault allocation. The **Description** window will be updated approximately every 3.5 seconds and continually cycle through the recognized faults. Positioning the cursor over the **RESET** button under **Reset Faults** and clicking once with the pointing device will reset any repaired fault. In the event that no fault condition exists, the **Description** window will display **No Faults Detected**.

As discussed in the Adjustments and Subsystem I/O Information sections the drop down menu options can be selected by clicking once with the pointing device button while positioning cursor on the desired option. A window associated with the option selected will be displayed with the data manipulation within the window being consistent with all other selections within the Adjustments and Subsystem I/O Information window. However, though consistency exists the Adjustments and Subsystem I/O Information are treated as different entities.

Door Adjustment Window:

Referring to Adjustments and using the **1. Door Open High Speed** selection as an example and referring to Figure 65 it is evident that there are three small windows that display information, seven function selections possible, and a function specific “DEFINITIONS” display section.

The three small windows display information retrieved from the Car Logic Controller (CLC) via the communications interface. Due to the communications handshake protocol there is a period of latency of a

second or two until the display can be updated.

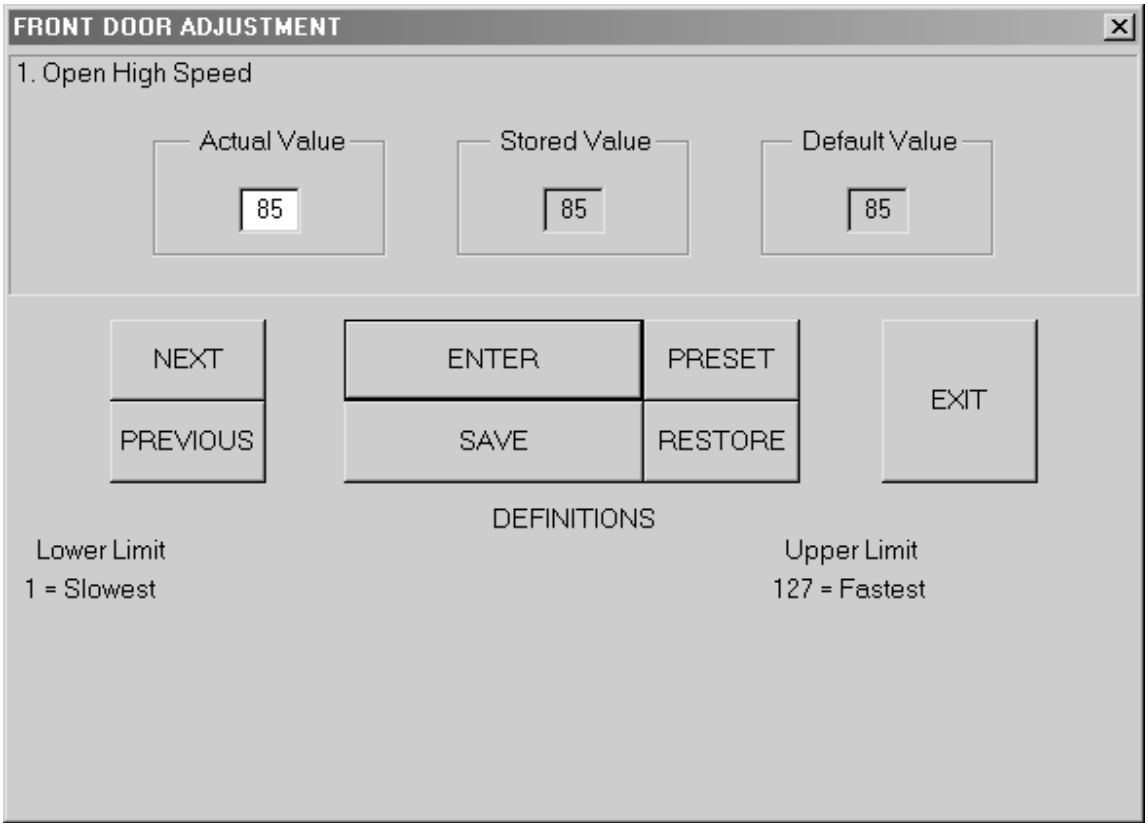

Figure 65

The three information windows are labeled and described as follows:

- **Actual Value:**

  This is the value, which is utilized by the elevator system as an operational value and is not retained by the elevator system if power is lost. This value may be altered to a value within the range of those outlined in the **DEFINITIONS** section of the respective window, as established by the elevator system manufacturer.

- **Stored Value:**

  This is the value which the Car Logic Controller (CLC) utilizes as the operational value or Actual Value in the event of a power loss. This value is stored in battery backed memory (RAM) on the CLC printed circuit board module. The Stored Value cannot be manually changed within the Stored Value window. In the event of an AC power loss and available battery power the Stored Values become the Actual Values on the next power up sequence.

- **Default Value:**

  This value has been established by Dover Corporation / Elevator Division at the time the elevator was built. This value is “read only” and cannot be changed. In the event of an AC power loss coupled with no battery power then the Default Values become the Stored and Actual Values on the next power up sequence.

The seven function selection buttons are labeled and described as follows:

- **Enter:**

  The Actual Value can be edited by positioning the cursor within the Actual Value window and clicking once with the pointing device. Utilizing the PC keyboard numeric, backspace, and delete keys a different value can be entered into the window. In order to allow the elevator system to recognize the updated Actual value position the cursor over the **ENTER** button and click once with the pointing device.

- **Save:**

  If it is desired that the **Stored Value** be updated, whereby the **Stored Value** is replaced with the **Actual Value**, position the cursor over the **SAVE** button and click once with the pointing device.

- **Restore:**

  The function of the **RESTORE** button is to update the Actual Value with the Stored Value. Simply position the cursor over the **RESTORE** button and click once with the pointing device.

- **Preset:**

  Positioning the cursor over the **PRESET** button and clicking once with the pointing device will cause the Actual Value to be replaced with the Default Value.

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

Door Subsystem I/O Information Display Window:

Subsystem I/O Information is displayed to the CRT much differently than the Adjustments. This stands to reason since the Adjustments data contains an Actual, Stored, and Default data for each specific parameter while the Subsystem I/O Information is a continuous snapshot of the specific selection. The Subsystem I/O Information is accessed in a manner identical to the Adjustments described above. Referring to Subsystem I/O Information and using the **1. Port 1** selection as an example and referring to Figure 66. There are three display information windows and three function buttons within the overall window.

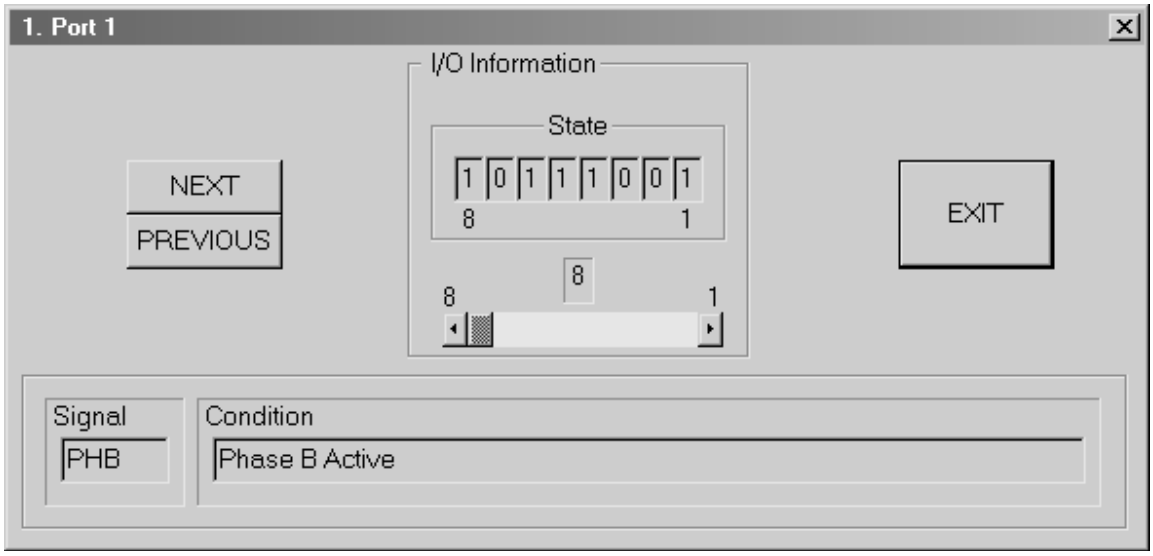

Figure 66

The three Subsystem I/O Information windows are labeled and described as follows:

- **I/O Information:**

  This window displays the individual bit patterns of the selection, in a bytewide (8 bits) format, for I/O information within the elevator control system. The horizontal scroll bar allow the user to walk through the individual bits and monitor the status of each of the eight bits as can be realized in the Signal and Condition windows.

- **Condition:**

  The Condition window reveals an English translation and a description of the bit status of the signal being monitored via the I/O Information window as the user monitors a specific bit utilizing the horizontal scroll bar.

- **Signal:**

  The Signal window displays an acronym or term known to those within the industry which describes the function of the specific bit being monitored. An “active low” logic signal is represented by an asterisk(*) appended to the Signal name within the Signal window.

The three function buttons are labeled and described as follows:

- **Previous:**

  The **PREVIOUS** button is used to move backward (n-1, where n is the number associated with the present option viewed) to the previous option without going back to the original selection window. To execute the PREVIOUS function, position the cursor over the **PREVIOUS** button and click once with the pointing device.

- **Next:**

  The **NEXT** button is used to move forward (n+1, where n is the number associated with the present option viewed) to the next option without going back to the original selection window. To execute the NEXT function, position the cursor over the **NEXT** button and click once with the pointing device.

- **Exit:**

  The **EXIT** button will leave the active window and return to the window detailing the list of the option selections. To execute the EXIT function, position the cursor over the **EXIT** button and click once with the pointing device.

The main Door window also consists of two radio buttons labeled **Parameters** and **Startup Sequence**.

Door Startup Sequence:

The Door Startup Sequence procedure is described as follows:

Prior to executing the **Door Startup Sequence** procedure, the following conditions must be met:

1. A Hoistway Setup operation must have been executed.
2. The car must be placed on inspection.
3. The car must be near any floor level.
4. The Door printed circuit board module must be reset or the AC power recycled. The reset will clear any faults from the Door operator.

1. If the Door module is present and the user positions the cursor on the Parameters pushbutton and clicks one time with the pointing device the Front or Rear Door Parameters Setup window will be displayed as shown in Figure 67. A prompt is displayed reminding the user that a Hoistway Setup must have been run prior to performing a Door Startup Sequence. To continue the Door Startup Sequence the user enables the ENTER function by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the Door Startup Sequence then position the cursor on the **EXIT** button and click once with the pointing device.

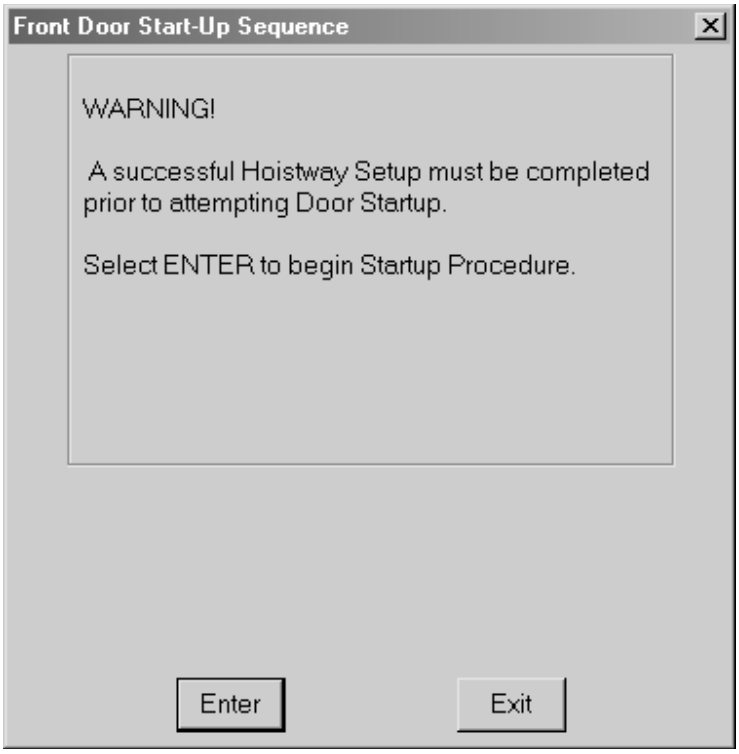

Figure 67

2. A second **Door Startup** window replaces the first **Door Startup** window and prompts the user that the Door Parameters will be cleared on enabling the ENTER function. This is done by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the Door Startup Sequence then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 68.

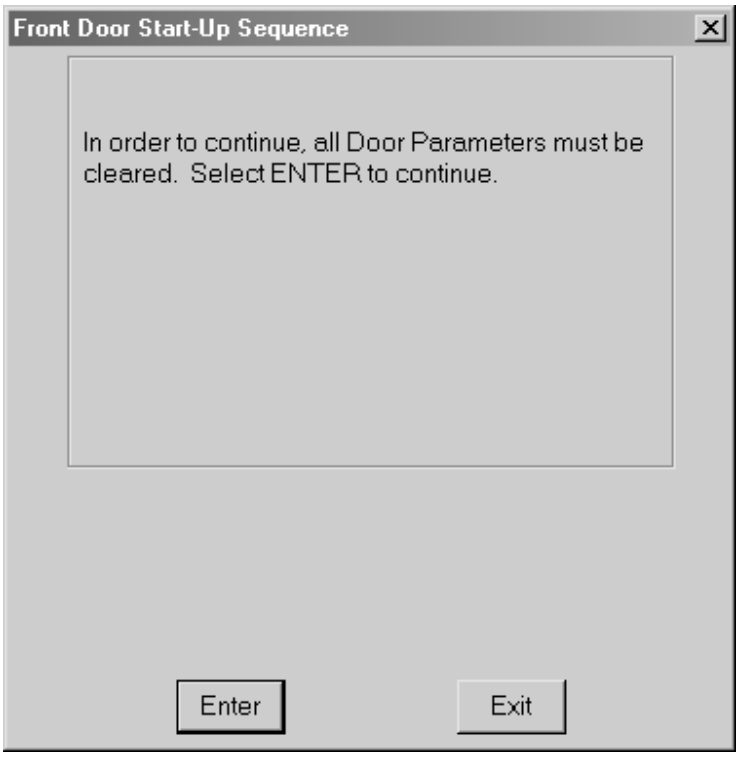

Figure 68

3. A third **Door Startup** window replaces the second **Door Startup** window and prompts the user that the Door Parameters have been reset, that the Door is ready, the inspection switch must be placed on AUTO, the doors themselves should begin to cycle, and if no faults exist enable the ENTER function by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the Door Startup then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 69.

Figure 69

4. A fourth **Door Startup** window replaces the third **Door Startup** window and prompts the user that to save pulse counts on enabling the ENTER function by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the Door Startup then position the cursor on the **EXIT** button and click once with the pointing device. Refer to Figure 70.

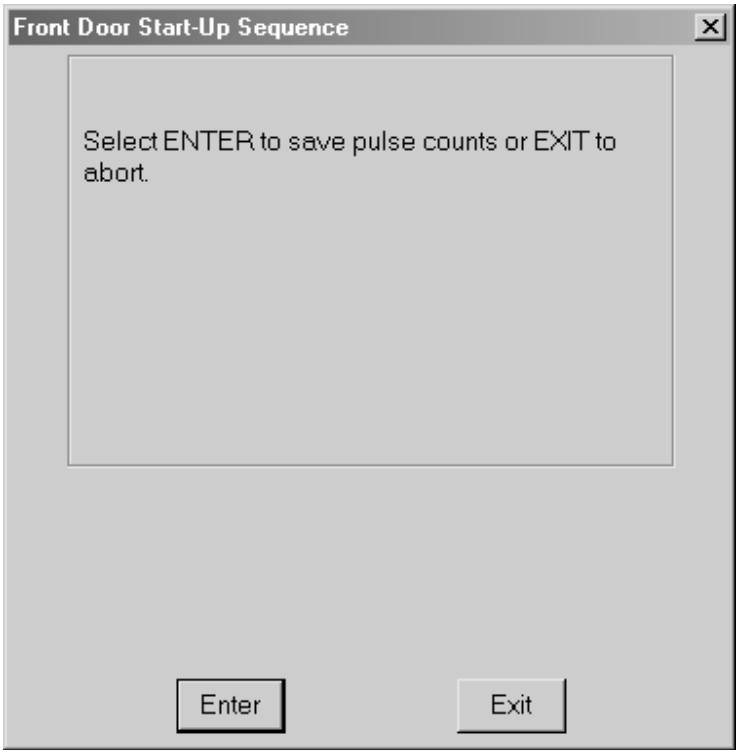

Figure 70

To summarize, the steps required to perform a Door Startup Sequence are as follows:

1. Meet startup conditions.
2. Acknowledge a Hoistway Setup has been executed via the ENTER function.
3. A second acknowledgment on the parameters being reset via the ENTER function.
4. Acknowledge that the car is near a floor level, the inspection switch is on AUTO, and no faults exist via the ENTER function.
5. An ENTER function is required to save the pulse counts, complete the Door Startup Sequence operation, and return to the main Door window.

Door Parameters:

The Door Parameters procedure is described as follows:

1. If the Door module is present and the user positions the cursor on the **Parameters** pushbutton and clicks the pointing device one time, the Front or Rear Door Parameters window will be displayed as shown in Figure 71. To retrieve the Door parameters, the user enables the ENTER function by positioning the cursor on the **ENTER** button and clicking once with the pointing device. If it is not desirable to continue, but desirable to exit the Parameters window then position the cursor on the **EXIT** button and click once with the pointing device.

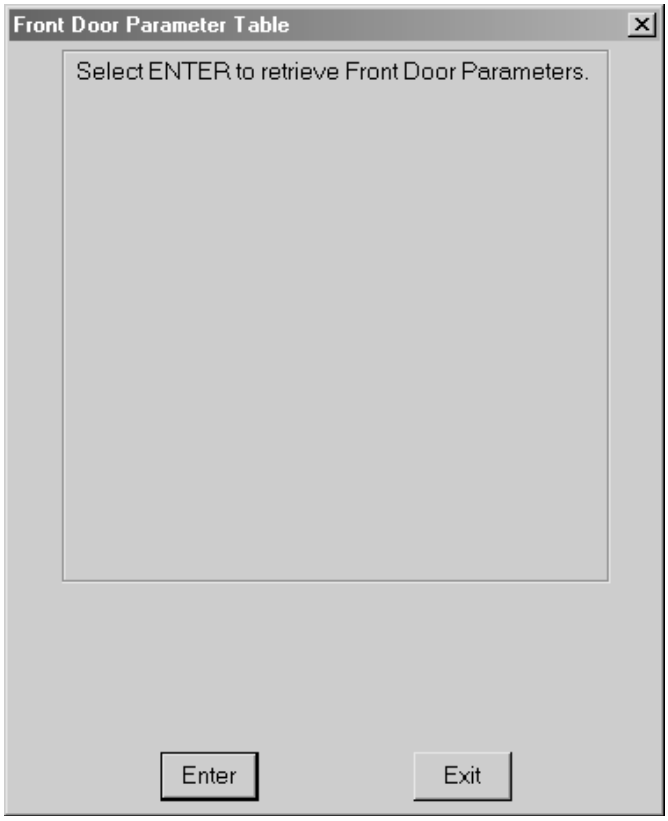

Figure 71

2. Continuing with **Parameters** causes a new message to appear within the Front or Rear Door Parameters window, shown in Figure 72. The FREEDOM Tool is in the process of retrieving the Door count limit from the Car Logic Controller (CLC). Once the FREEDOM Tool has received the count limit from the Car Logic Controller, the window is updated with this count limit. The numbers that are displayed are the count limits that have been determined by a Door Startup Sequence procedure as shown in Figure 73. To exit the Parameters window position the cursor on the **EXIT** button and click once with the pointing device. Single clicking on the **ENTER** button will perform a retrieval of the count limits from the Car Logic Controller (CLC) as previously stated.

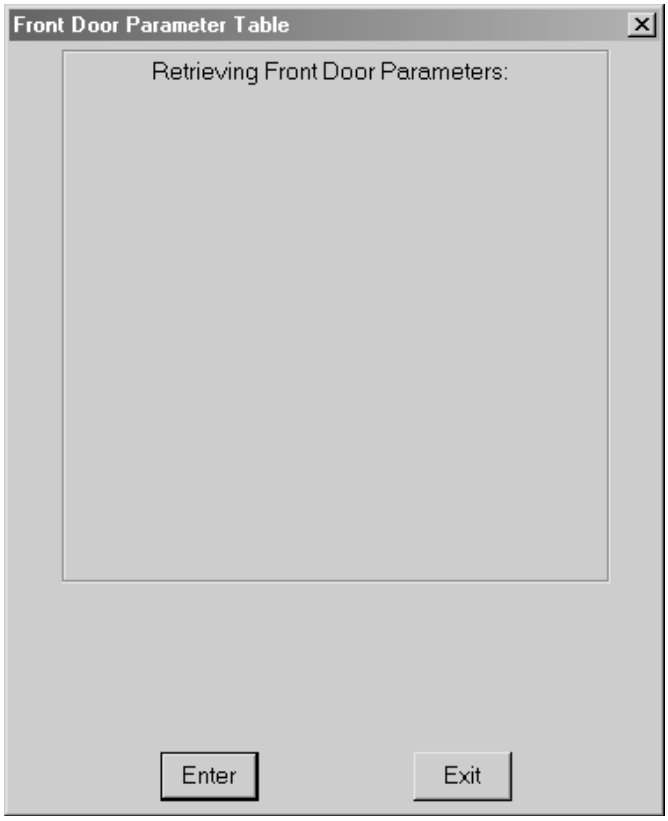
Front Door Parameter Table
Retrieving Front Door Parameters:
Enter
Exit

Figure 72

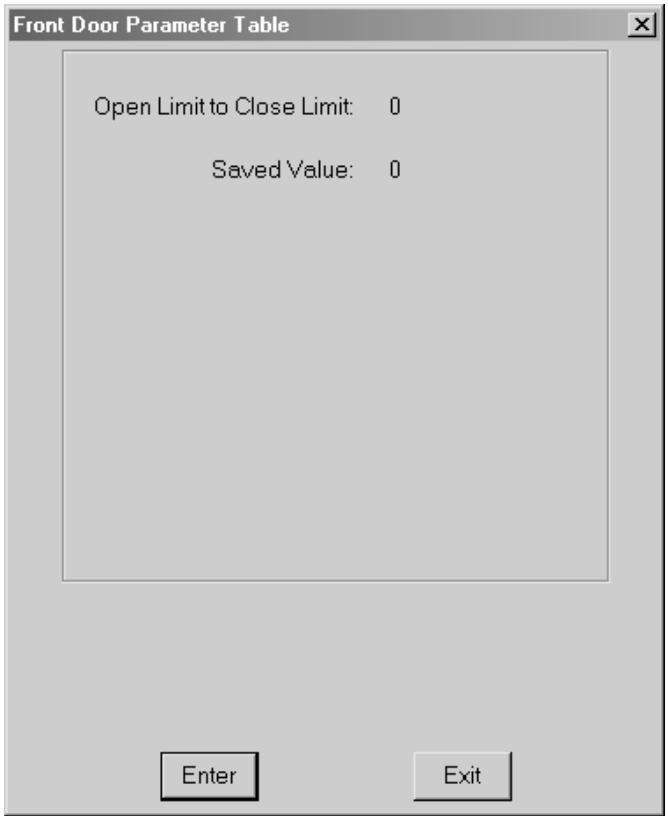

Figure 73

File Menu:

The FREEDOM Tool software provides the capability of Saving and Restoring the Car Logic Controller (CLC) Adjustments/Timers to/from the PC via one of the PC disk drives. To select the Save or Restore functions, position the cursor over the **File** menu option within the Main window and single click the pointing device button. The File selections will appear as in Figure 74. The selections of **Save**, **Restore**, and **Exit** are available. These selections are described as follows:

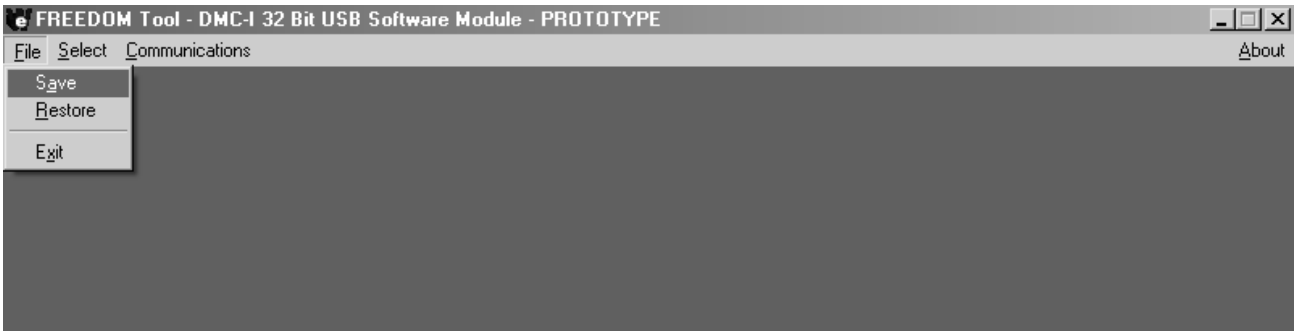

Figure 74

Save:

The SAVE function will save all the Adjustment and Timer values of the elevator system to either the hard disk drive (typically C:) or the floppy disk drive (typically A:). The values saved to the selected disk drive will be the "stored" values as described in the Car Logic Controller (CLC) Adjustments / Timers window (refer to page 34).

On initialization of the SAVE function, an Information window will appear as in Figure 75. Select **OK** to continue the SAVE function by positioning the cursor on the **OK** button and clicking once with the pointing device or cancel by positioning the cursor on the **CANCEL** button and clicking once with the pointing device. If continuation of the SAVE function were selected a second window will appear which displays the percentage of completion of the SAVE function. Refer to Figure 76.

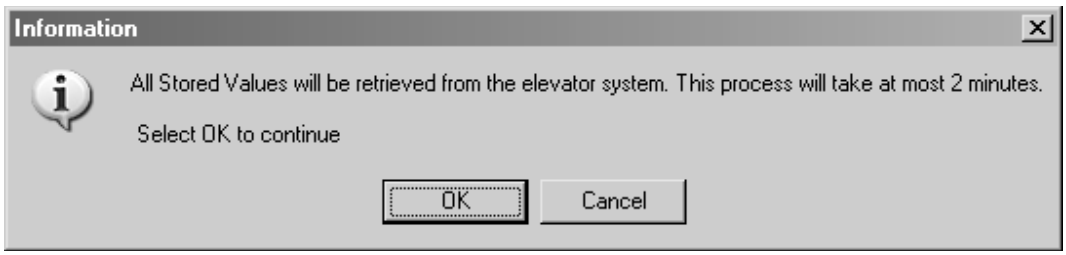

Figure 75

Figure 76

An additional window appears upon a 100% loading of parameters from the elevator system. The retrieved data has been placed in RAM on the PC and not yet written to a disk drive. This **Save As** window of Figure 77 appears prompting the user for a specific filename in which to save the elevator system parameters. This operation within this window follows standard Windows procedures. Follow the **SAVE** exit procedure and select **OK** from a final Information window as shown in Figure 78 to resume.

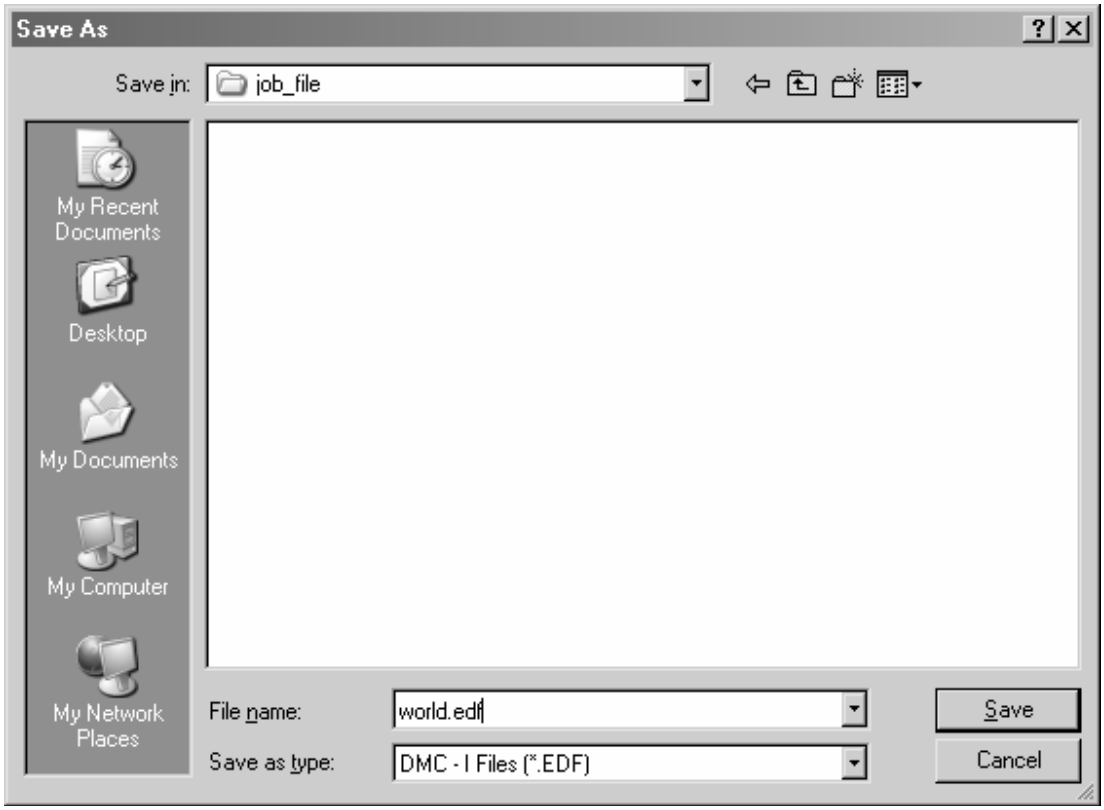

Figure 77

Figure 78

Restore

The **RESTORE** function will download (PC to CLC) the Saved information (Adjustment and Timers of the elevator system) described above from either the hard disk drive (typically C:) or the floppy disk drive (typically A:). These restored values will become both the "Actual" and the "Stored" values within the Car Logic Controller (CLC) Adjustments / Timers Window (refer to page 34). A Windows **Open** dialog box will appear, the operation within the window being consistent with standard Windows procedures. Refer to Figure 79. Select **OK** to continue the RESTORE function. An Information window will appear as in Figure 80. Select **OK** to continue the RESTORE function by positioning the cursor on the **OK** button and clicking once with the pointing device or cancel by positioning the cursor on the **CANCEL** button and clicking once with the pointing device. Selecting **OK** brings up an additional window which indicates the percentage of completion of the parameters written to the elevator system, refer to Figure 81. Follow the RESTORE exit procedure and select **OK** from a final Information window as shown in Figure 82 to resume.

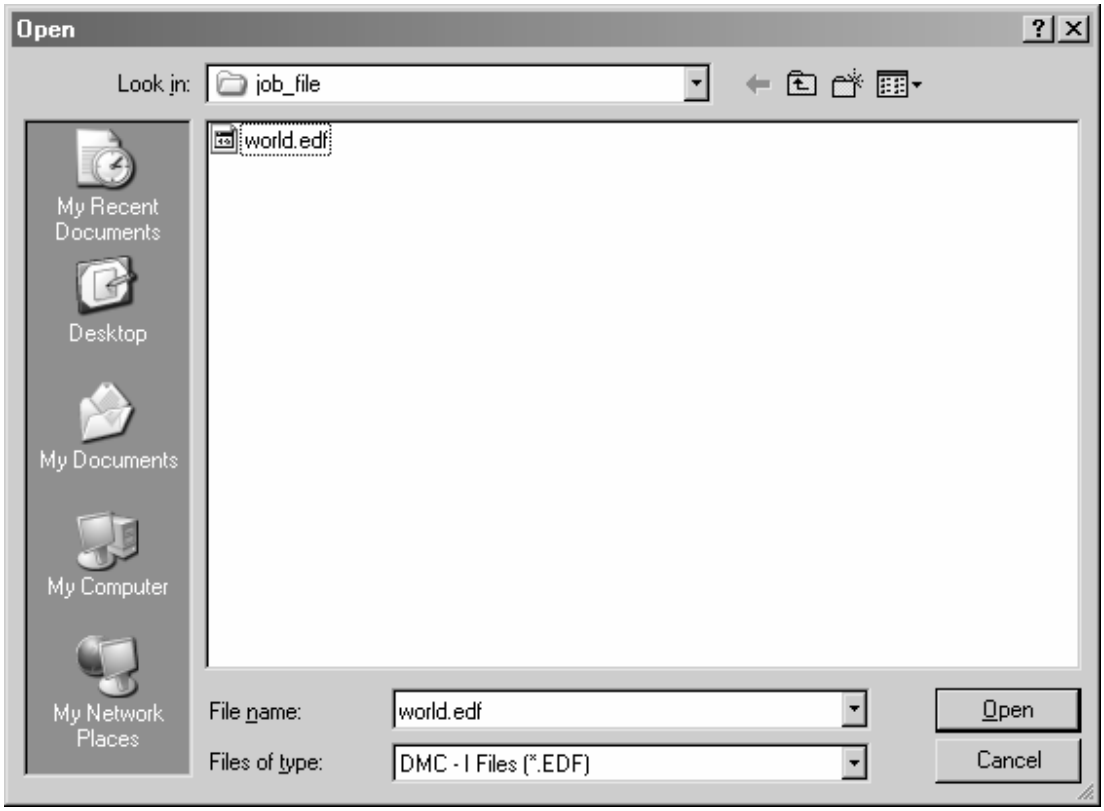

Figure 79

Figure 80

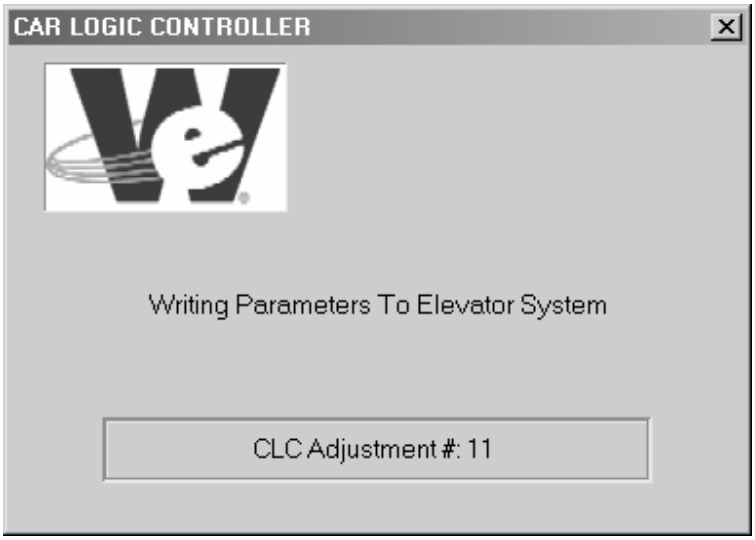

Figure 81

Figure 82

Exit

The Exit function will cause the FREEDOM Tool application specific program (DMC-I Version 675A or DMC-I Version 675D) to close and return to the FREEDOM Tool Shell program. Disconnect the "Dover DMC Interface" box prior to performing this EXIT function.

DMC File Utility

The DMC File Utility (data examination tool) included with the FREEDOM Tool is a convenient way to view the values saved at the job site when not at the job site. This utility allows the user to view the "**edf**" or **elevator data files** that the user saved using the **Save** command in the FREEDOM Tool. See Page 65 for more information.

Start Up:

The start up procedure for the DMC File Utility is described as follows:

1. Open the window titled Applications. Inside this window are two icons, one the FREEDOM Tool, the other the DMC File Utility.

2. With the Applications window open select the **DMC File Utility** Icon by positioning the cursor over the Icon with the pointing device and double clicking the pointing device button.

3. When done successfully the screen will appear as shown in Figure 83.

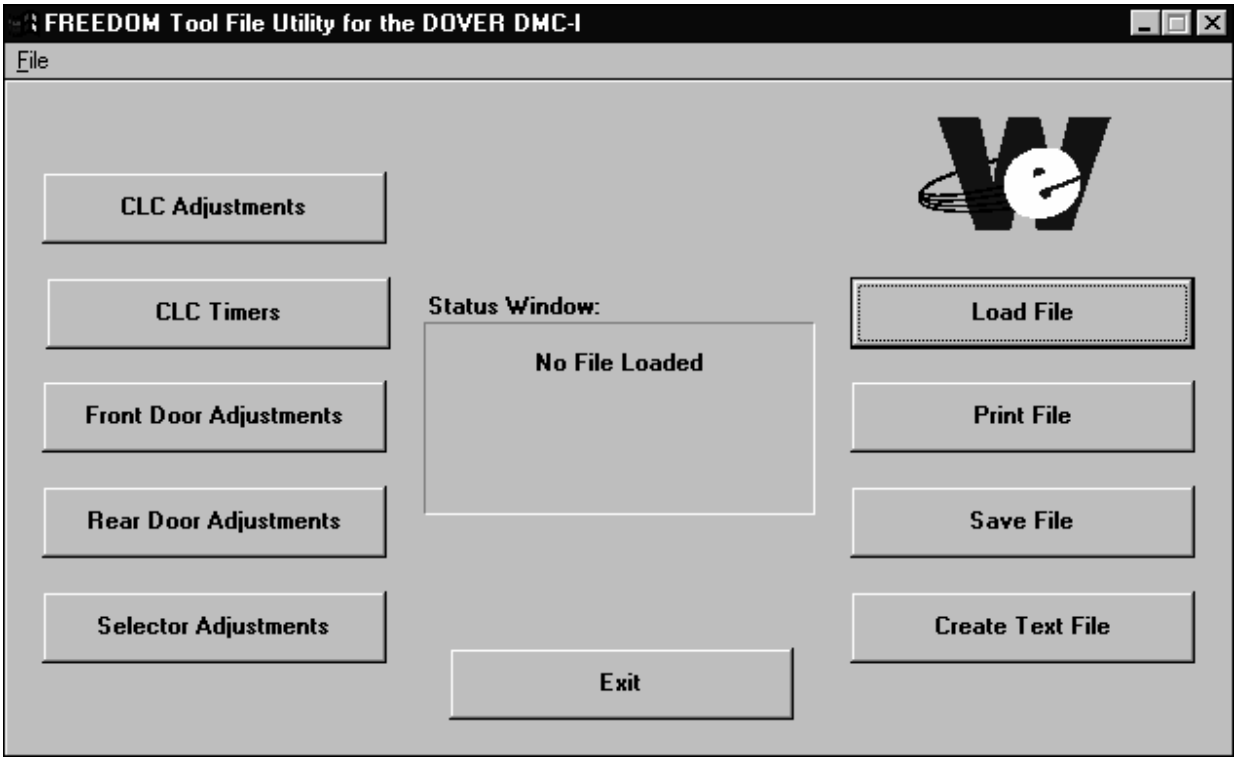

Figure 83

General Description:

To view an edf file, the user, must know the filename of the file desired. In the DMC File Utility main window the user is informed that there is **No File Loaded**, as seen in the Status window. The user is given 5 choices for performing a function and 5 choices for viewing parts of any given file. These are described as follows:

Load File

This option allows the user to select the specific file to be retrieved for viewing. Selecting **Load File** will open a standard Windows **Open** dialog window, see Figure 84, in which the user can select the drive, folder, and filename they desire to open.

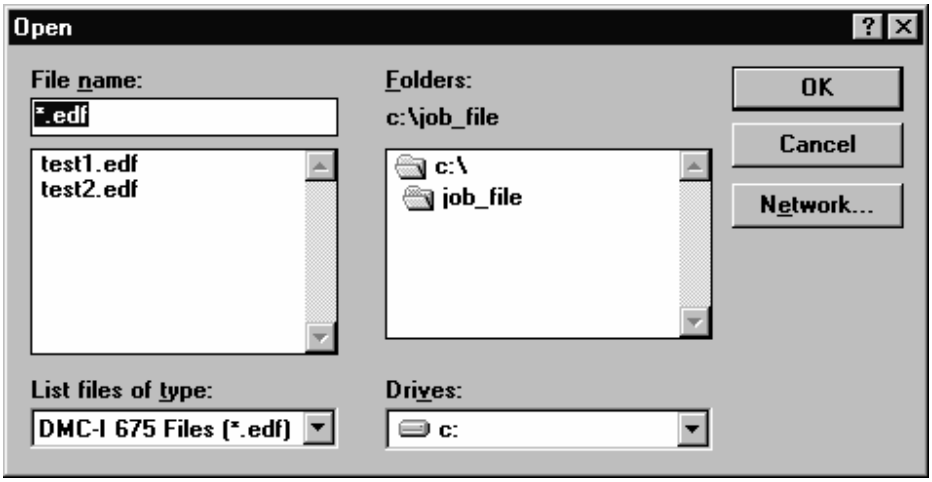

Figure 84

Print File

This option allows the user to print out the data file giving the user a hard copy of the saved elevator parameters. To use this option the user would press the **Print File** push button on the main window. This option will only work if you have a printer connected and the computer is set up to use that particular printer on the printer port.

Save File

The DMC File Utility allows the user to make changes to any adjustment saved by the FREEDOM Tool. These changes are done through the different adjustment viewing sections of the DMC File Utility. When a file has been changed the tool informs the user as to the changed status through the **Status Window** as seen in Figure 85. If the file has changed, the status window will state 2 things. First, it will have the text description, **Current File Changed**, at the top of the window. Second, it will show the name of the current file selected. To save the current file the user must select the button labeled, **Save File**. Selecting **Save File** will open a standard windows **Save As** dialog box where the user can choose the location to save the file, and type in the name of the updated file. When the file is successfully saved, the Status Window will update showing **Current File Saved** and the filename. Refer to Figure 86.

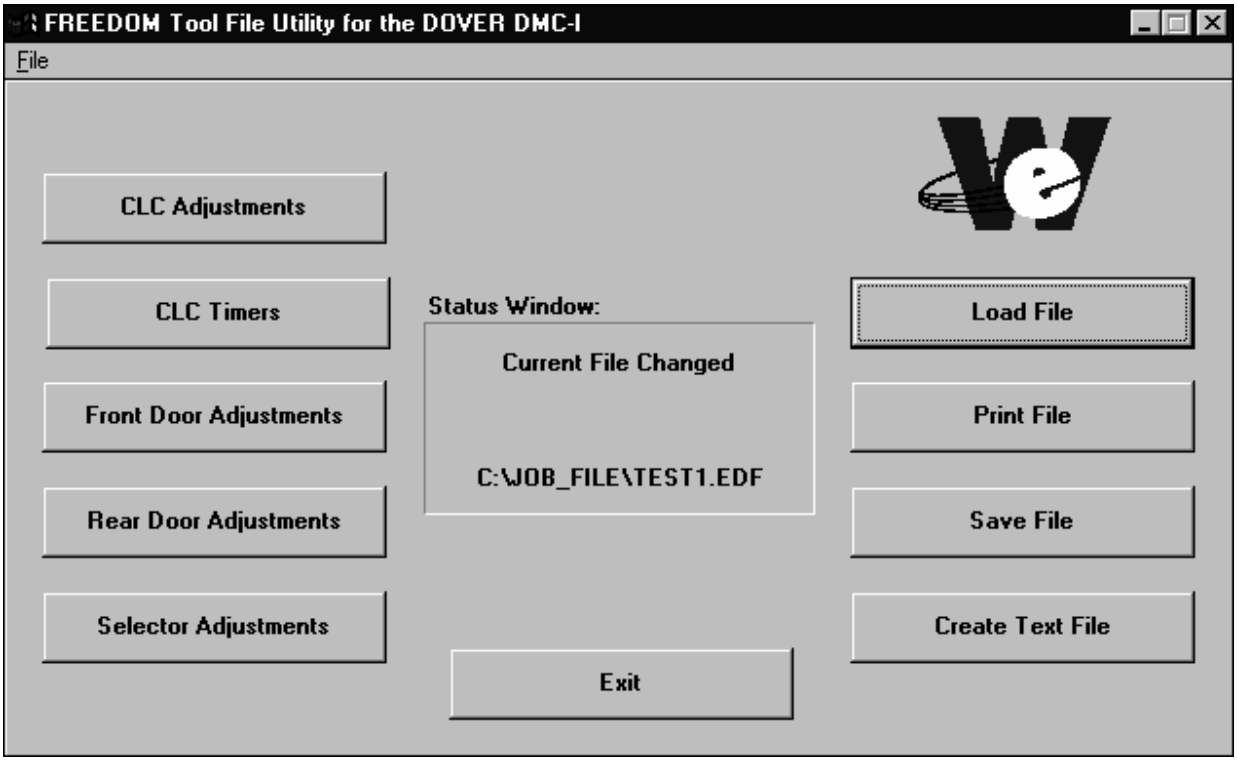

Figure 85

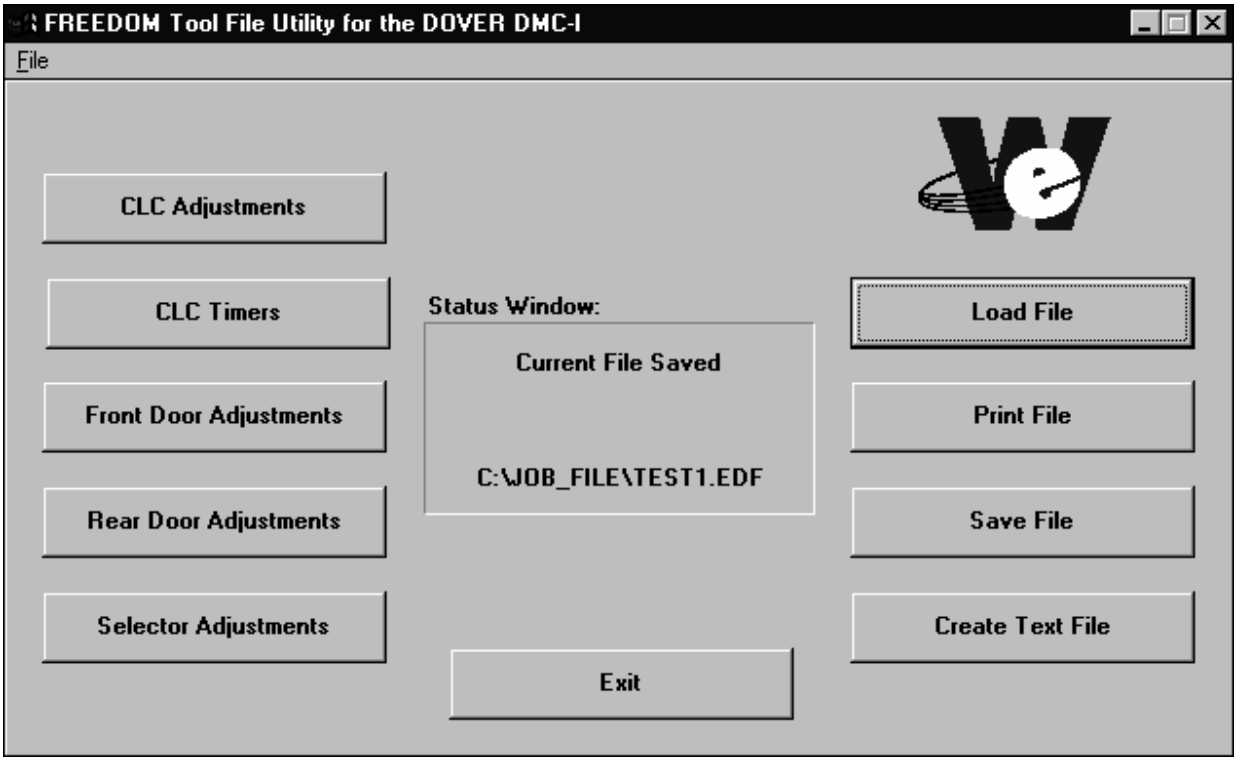

Figure 86

Create Text File

This option allows the user to save the stored value in a text format. This allows the user to view the saved data through any text editor such as Microsoft Write and Microsoft Notepad. Using a text editor allows the user to add notes and other such items to the saved data displayed. To convert the saved data into a text format the user would press the **Save Text File** push button on the DMC File Utility Main Window. The new file created would have the same filename, but it would now have **.txt** as its extension. Saving the data in a text format does not affect the original data file in any way.

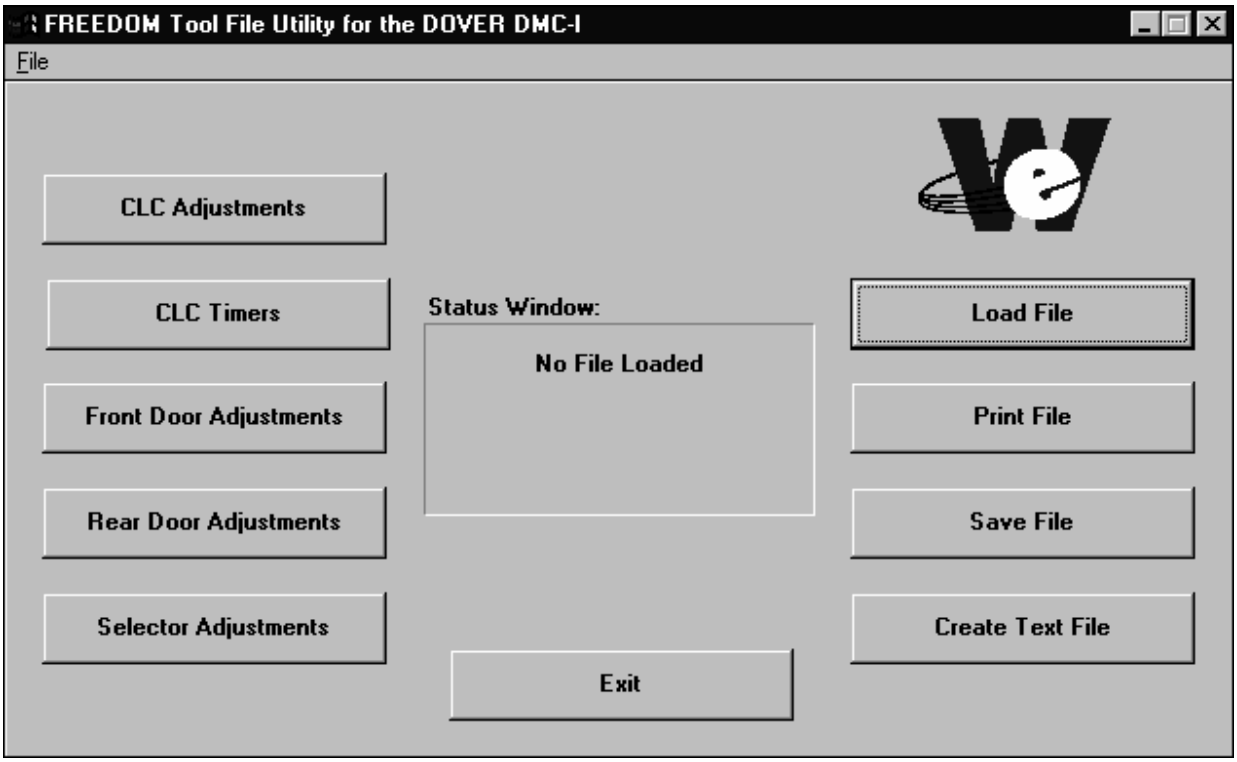

Figure 87

Adjustment Types:

- **CLC Adjustments**
- **CLC Timers**
- **Front Door Adjustments**
- **Rear Door Adjustments**
- **Selector Adjustments**

After a file is loaded, the user can view the saved adjustments by selecting on one of the adjustment type buttons. The adjustment types in the DMC-I are the following: CLC Adjustments, CLC Timers, Front Door Adjustments, Rear Door Adjustments, and Selector Adjustments. These adjustments type push buttons can be seen in Figure 87. When an adjustment type is selected a window similar to Figure 88 will appear. This window will show several things. First, the adjustment type selected will be displayed in the case **CLC Adjustments**. Second, if there are more adjustments than what can be displayed on the screen, the title will reflect the page currently being viewed and there will be additional push buttons that allow the user to proceed to a different page. Third, the adjustments will be displayed with their current value and the range at which they can be set. For each adjustment, there is a corresponding **Change** pushbutton. These **Change** pushbuttons, open a dialog that allows the user to type in a new value for the selected adjustment. If the

value entered is within the range for the selected adjustment, the adjustment display window will be updated showing the new value. Also, the status window section of the main window will update showing **File Changed**.

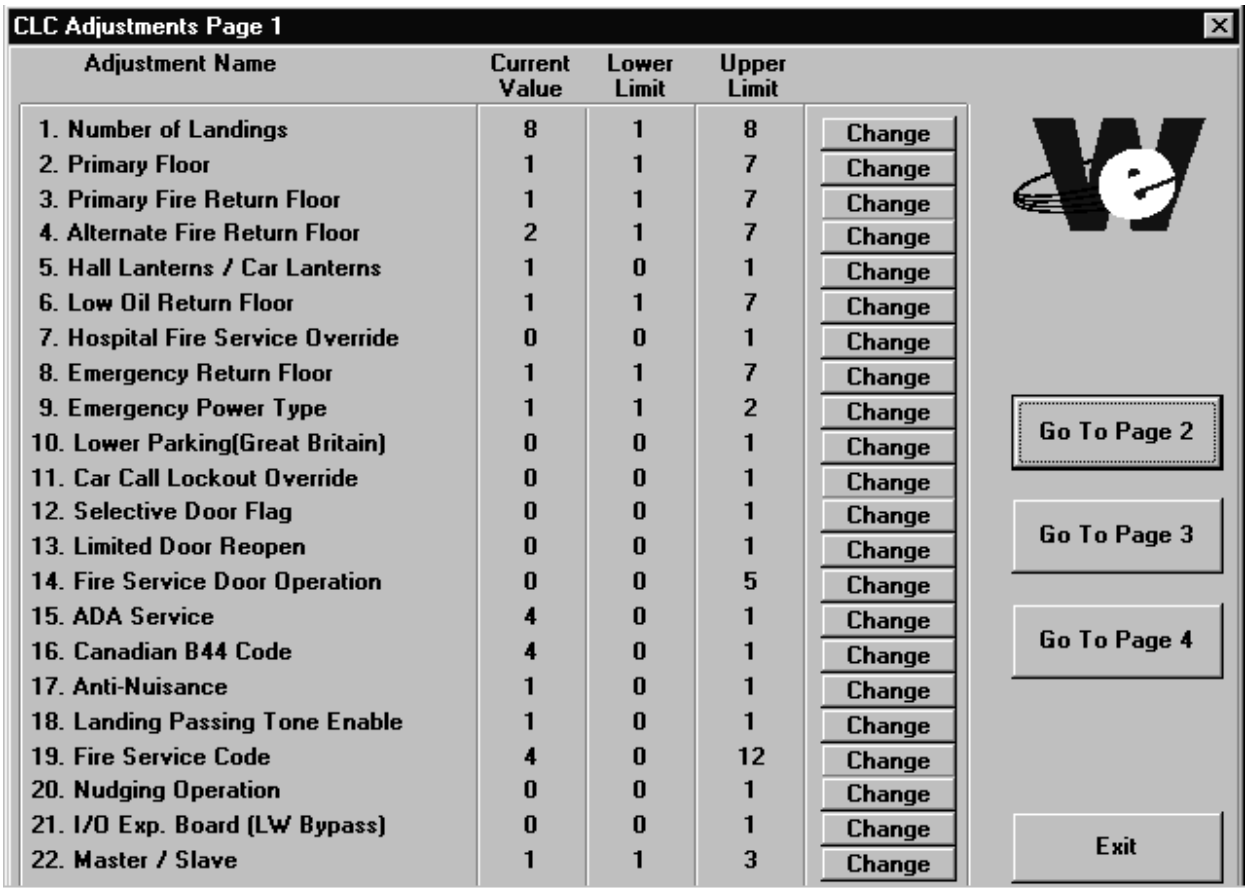

Figure 88

Exit

This option allows the user to leave the DMC File Utility. The user needs to press the button labeled **Exit** within the DMC File Utility main window to enable this option.

SUBSYSTEM I/O Bit Definitions:

CLC

1. **Safety Terms:**

   b1 - CST, Car Stop Switch
   b2 - HW, Hoistway Door Contacts
   b3 - DR, Door Gate Switch
   b4 - IN, Inspection / Automatic
   b5 - WD24 - 24V DC Supply Watch Dog
   b6 - N/A
   b7 to b8 - N/A

2. **Registered Car Calls:**

   b1 - 8C, 8th Floor Car Call
   b2 - 7C, 7th Floor Car Call
   b3 - 6C, 6th Floor Car Call
   b4 - 5C, 5th Floor Car Call
   b5 - 4C, 4th Floor Car Call
   b6 - 3C, 3rd Floor Car Call
   b7 - 2C, 2nd Floor Car Call
   b8 - 1C, 1st Floor Car Call

3. **Input Port 0 (LCC 1):**

   b1 - SP13, Car Call Lockout 3
   b2 - CIS, Car In Service
   b3 - DCB, Door Close Button
   b4 - DOB, Door Open Button
   b5 - CST, Car Stop Switch
   b6 - HWP, 24V Presence
   b7 - WD24, Watch Dog
   b8 - IN, Inspection / Automatic

4. **Input Port 1:**

   b1 - MSEL, Emergency Power Manual Selection Switch
   b2 - FCC, Fireman's Car Cancel
   b3 - CFS2, Car Fireman's Service Phase 2
   b4 - CFS1, Car Fireman's Service Phase 1
   b5 - 4C, 4th Floor Car Call
   b6 - 3C, 3rd Floor Car Call
   b7 - 2C, 2nd Floor Car Call
   b8 - 1C, 1st Floor Car Call

5. **Input Port 2:**

   b1 - EPW, Emergency Power Transfer Warning
   b2 - NP, Normal Power
   b3 - 4D, 4th Floor Down Directional Hall Call
   b4 - 3U, 3rd Floor Up Directional Hall Call
   b5 - 3D, 3rd Floor Down Directional Hall Call
   b6 - 2U, 2nd Floor Up Directional Hall Call
   b7 - 2D, 2nd Floor Down Directional Hall Call
   b8 - 1U, 1st Floor Up Directional Hall Call

6. Input Port 3:

b1 - OTS2, High Temperature Contact
b2 - OTS1,Low Temperature Contact
b3 - FSX, Fire Service Alternate
b4 - FSM, Fire Service Main
b5 - SPI2, Car Call Lockout 2
b6 - SPI1, Car Call Lockout 1
b7 - HFS2, Hall Fireman's Service Phase 2
b8 - HFS1, Hall Fireman's Service Phase 1

7. Input Port 4:

b1 - SPI7, Car Call Lockout 7
b2 - SPI6, Car Call Lockout 6
b3 - SPI5, Car Call Lockout 5
b4 - SPI4, Car Call Lockout 4
b5 - 8C, 8th Floor Car Call
b6 - 7C, 7th Floor Car Call
b7 - 6C, 6th Floor Car Call
b8 - 5C, 5th Floor Car Call

8. Input Port 5:

b1 - 8D, 8th Floor Down Directional Hall Call
b2 - 7U, 7th Floor Up Directional Hall Call
b3 - 7D, 7th Floor Down Directional Hall Call
b4 - 6U, 6th Floor Up Directional Hall Call
b5 - 6D, 6th Floor Down Directional Hall Call
b6 - 5U, 5th Floor Up Directional Hall Call
b7 - 5D, 5th Floor Down Directional Hall Call
b8 - 4U, 4th Floor Up Directional Hall Call

9. Output Port 0:

b1 - ISI, Independent Service
b2 - DHL, Down Hall Lantern
b3 - UHL, Up Hall Lantern
b4 - UMD, Up Main Drive
b5 - RDM, Run Down Mode
b6 - RUM, Run Up Mode
b7 - LE, Leveling
b8 - RHS, Run High Speed

10. Output Port 1:

b1 - I4, 4th Floor Position Indicator
b2 - I3, 3rd Floor Position Indicator
b3 - I2, 2nd Floor Position Indicator
b4 - I1, 1st Floor Position Indicator
b5 - 4C, 4th Floor Registered Car Call
b6 - 3C, 3rd Floor Registered Car Call
b7 - 2C, 2nd Floor Registered Car Call
b8 - 1C, 1st Floor Registered Car Call

11. Output Port 2:

b1 - SPO1, Car Call Lockout 1
b2 - FHS, Hall Fire Service
b3 - b8, N/A

12. Output Port 3:

b1 - DDA, Down Directional Arrow
b2 - UDA, Up Directional Arrow
b3 - FSI, Fire Service independent
b4 - VMR, Viscosity Motor Run
b5 - SPO2, Car Stop Switch Override
b6 - BUZ, Fireman Service Buzzer
b7 - CSTO,
b8 - RET, Fireman Service Return

13. Output Port 4:

b1 - I8, 8th Floor Position indicator
b2 - I7, 7th Floor Position indicator
b3 - I6, 6th Floor Position indicator
b4 - I5, 5th Floor Position indicator
b5 - 8C, 8th Floor Registered Car Call
b6 - 7C, 7th Floor Registered Car Call
b7 - 6C, 6th Floor Registered Car Call
b8 - 5C, 5th Floor Registered Car Call

14. Output Port 5:

b1 - 8D, 8th Floor Down Directional Hall Call
b2 - 7U, 7th Floor Up Directional Hall Call
b3 - 7D, 7th Floor Down Directional Hall Call
b4 - 6U, 6th Floor Up Directional Hall Call
b5 - 6D, 6th Floor Down Directional Hall Call
b6 - 5U, 5th Floor Up Directional Hall Call
b7 - 5D, 5th Floor Down Directional Hall Call
b8 - 4U, 4th Floor Up Directional Hall Call

15. CLC Serial Outputs to Front Door Operator:

b1 - OD, Open Door
b2 - CD, Close Door
b3 - LIMRE, Command to Use Door Open Limit
b4 - NUDG, Nudging Operation Command
b5 - CDA, Close Door Assist Command
b6 - LOCK, Lock Door Command
b7 - SETUP, Door Parameters Found
b8 - CLRFL, Clear fault Flag

16. Front Door Serial Inputs to CLC:

b1 - DOLX, Door Open Limit Switch
b2 - DCL, Door Close Limit
b3 - DR, Door Gate Contact
b4 - FAULT, Door Has No New Faults
b5 - N/A
b6 - READY, Door Ready / Not Ready
b7 - SE, Safety Edge
b8 - EE, Electric Eye

17. CLC Outputs to Selector:

b1 - GU, Running Up
b2 - GD, Running down
b3 - N/A
b4 - N/A
b5 - SYNC, Pulse Counts Agree with Magnets
b6 - SETUP, Selector parameters Found
b7 - CLRFL, Clear Faults
b8 - IN, Inspection / Automatic

18. Selector Serial Inputs to CLC, Set 1:

b1 - FAULT, No New Faults
b2 - LCR, Late Car Refusal Point
b3 - Level, Car Is Level
b4 - READY, Selector Is Ready
b5 - TARGE, Binary Count A for Target Floor
b6 - TARGE, Binary Count B for Target Floor
b7 - TARGE, Binary Count C for Target Floor
b8 - TARGE, Binary Count D for Target Floor

19. Selector Serial Inputs to CLC, Set 2:

b1 - SLIMIT, TDL or BDL
b2 - FATL, Fatal Errors
b3 - RUN, Run Signal
b4 - FAST, Fast Solenoid
b5 - UP, Up Motion
b6 - UPS, Up Solenoid
b7 - DN, Down Motion
b8 - DNS, Down Solenoid

20. Selector Serial Inputs to CLC, Set 3:

b1 - J3X, Jumper J3 A
b2 - J3X, Jumper J3 B
b3 - J3X, Jumper J3 C
b4 - J3X, Jumper J3 D
b5 - LU, Level Up
b6 - LD, Level Down
b7 - DZD, Door Zone Down
b8 - DZU, Door Zone Up

21. Port 1(Hardware Port on Micro):

b1 - PHB, Phase B Sensor
b2 - DZR, Door Zone Relay
b3 - SI, Slow Down interrupt
b4 - DTS, Down Slowdown
b5 - UTS, Up Slowdown
b6 - TSL, Top Speed Limit
b7 - TDL, Top Directional Limit
b8 - BDL, Bottom Directional Limit

22. Hall Fire Service No. 1:

b1 - AHFS, Hall fire Service Signal to Car
b2 - CPDF, Car Presence at Desired Floor
b3 - HFS1, Hall Fire Switch Phase 1
b4 - HFS2, Hall Fire Switch Phase 2
b5 - FSX, Other Fire Sensors
b6 - FSM, fire Sensor Main Floor
b7 - SINH, Start Inhibit
b8 - EEINH, Electric Eye Inhibit

23. Hall fire Service No. 2:

b1 - AHFS, Hall fire Service Signal to Car
b2 - RET, Fire Service Return
b3 - NB, Nudging Buzzer
b4 - FSI, Fire Service Indicator
b5 - CSTO, Car Stop Switch Override
b6 - FIROV, Hall Fire Service Bypass
b7 - FIRTO, Door To Go Off Fire T.O.
B8 - FIRDT, Delay before independent Service

24. Car fire Service No. 1:

b1 - ACFS, Fire Service
b2 - CPDF, Car Floor Presence
b3 - CFS1, Car Fireman's Service Switch 1
b4 - CFS2, Car Fireman's Service Switch 2
b5 - DCPB, Door Close Push-button
b6 - DOPB, Door Open Push-button
b7 - RDCPB, Rear Door Close Push-button
b8 - RDOP, Rear Door Open Push-button

25. Car fire Service No. 2:

b1 - ACFS, Fire Service
b2 - OD, Front Door Open
b3 - CD, Front Door Close
b4 - DOL, Front Door Open Limit
b5 - ROD, Rear Door Open
b6 - RCD, Rear Door Close
b7 - RDOL, Rear Door Open Limit
b8 - FSRCL, Fire Service Recall

26. Viscosity Control:

b1 - COVO, Car Viscosity Operation
b2 - CPVF, Car Presence Viscosity Floor
b3 - OTS1, Oil Low Temperature
b4 - OTS2, Oil High Temperature
b5 - VMR, Viscosity Motor Signal
b6 - ONLIN, Car On Line
b7 - LEVEL, Car Level
b8 - DLEVE, Dead Level

27. Emergency Power:

b1 - NP, Normal Power
b2 - EPW, Emergency Power Warning
b3 - N/A
b4 - UMD, Up Motion Detected
b5 - LEVEL, Car Level
b6 - AHFS, Hall fire Service
b7 - CPDF, Car Presence at Desired Floor
b8 - CCALL, Cancel Car Calls

28. Power Unit I/O:

b1 - RUM, Run up Micro
b2 - RDM, Run Down Micro
b3 - RHS, Run High Speed
b4 - UMD, Up Motion Detected
b5 - LE, Leveling
b6 - IN, Inspection / Automatic
b7 - HW, Hoistway Door Contacts
b8 - DR, Door Gate Switch

29. Car Homing:

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - CCINH, Car call Inhibit
b7 - N/A
b8 - N/A

30. Preference:

b1 - UPREF, Up Preference
b2 - DPREF, Down Preference
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - N/A

Selector

1. **Port 1:**

   b1 - PHB*, Phase B Sensor
   b2 - DZR*, Door Zone Relay
   b3 - N/A
   b4 - DTS*, Door Slowdown Switch
   b5 - UTS*, Up Slowdown Switch
   b6 - TSL*, Top Speed Limit
   b7 - TDL*, Top Directional Limit
   b8 - BDL*, Bottom Directional Limit

2. **Port 3:**

   b1 - N/A
   b2 - N/A
   b3 - N/A
   b4 - PRTY*, Parity
   b5 - BP8*, Bit 4 Sensor
   b6 - BP4*, Bit 3 Sensor
   b7 - BP2*, Bit 2 Sensor
   b8 - BP1*, Bit 1 Sensor

3. **Port 4:**

   b1 - JPA*, Jumper On/Off
   b2 - JPB*, Jumper On/Off
   b3 - JPC*, Jumper On/Off
   b4 - JPD*, Jumper On/Off
   b5 - LU*, Level Up Sensor
   b6 - LD*, Level Down Sensor
   b7 - DZU*, Door Zone Up Sensor
   b8 - DZD*, Door Zone Down Sensor

4. **Input flags from CLC:**

   b1 - GU, Run Up Fast
   b2 - GD, Run Down Fast
   b3 - GUL, Run Up Leveling
   b4 - GDL, Run Down leveling
   b5 - SYNC, Selector Count Match
   b6 - SETUP, Selector Parameters Found
   b7 - RERR, Reset Error Flag
   b8 - IN, Inspection / Automatic

5. **Output Flag 1 to CLC:**

   b1 - SLF, Internal flag
   b2 - LCR, Late Call Refusal Point
   b3 - LEVEL, Car Level
   b4 - RDY, Ready to Run
   b5 - BIT, Bit 1 Sensor
   b6 - BIT, Bit 2 Sensor
   b7 - BIT, Bit 3 Sensor
   b8 - BIT, Bit 4 Sensor

6. **Output Flag 2 to CLC:**

b1 - SLMT, TDL or BDL
b2 - LOCK, System Stable
b3 - RUN, Run Car
b4 - FAST, Fast Solenoid
b5 - UP, Up Motion
b6 - US, Up Solenoid
b7 - DN, Down Motion
b8 - DS, Down Solenoid

FRONT and REAR Door

1. **Port 1:**

b1 - CTC*, Center Of Travel
b2 - MDC, Manual Door Close Input
b3 - MDO, Manual Door Open Input
b4 - ADWR, Address Write Line
b5 - ADRD, Address Read Line
b6 - ADINT, Address Interrupt Line
b7 - N/A
b8 - PHB, Phase B Sensor

2. **Port 3:**

b1 - J4, Address Jumper J4
b2 - J3, Address Jumper J3
b3 - J2, Address Jumper J2
b4 - J1, Address Jumper J1
b5 - N/A
b6 - DIR, Door Closing
b7 - PC, Pulser Command
b8 - PC, Pulser Command

3. **Door Close Limit:**

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - DCL, Door Close Limit

4. **Door Open limit:**

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - DOL, Door Open Limit

5. Adjusted Door Open Limit:

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - DOLX, Door Open Limit

6. Open Door:

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - OD, Open Door

7. Close Door:

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - N/A
b7 - N/A
b8 - CD, Close Door

8. Input Flags 1 From CLC:

b1 - OD, Open Door
b2 - CD, Close Door
b3 - LREV, Limited Door Reopen
b4 - NUDG, Nudge
b5 - CDA, Close Door Assist Command
b6 - LOCK, Door Lock
b7 - SETUP, Door Parameters Found
b8 - RERR, Clear Faults

9. Input Flags 2 From CLC:

b1 - N/A
b2 - N/A
b3 - N/A
b4 - N/A
b5 - N/A
b6 - EEI*, Electric Eye Inhibit
b7 - ISE, Ignore Safety Edge
b8 - ISR, Inhibit Safety Edge Full Return

10. Internal Door flags:

b1 - FLT, Faults
b2 - INST, Setup Mode
b3 - INSF, Safety Edge
b4 - NOHS, High Speed Operation
b5 - DST, Destination is Door Closed Limit
b6 - RDY, Doors Ready
b7 - N/A
b8 - INC, Increment Duty Cycle

11. Pulser Port:

b1 - DOL*, Door Open Limit
b2 - DCL*, Door Close Limit
b3 - DR, Door Gate Switch
b4 - WD, 150V Watch Dog
b5 - OC9, OC9 Status
b6 - OC8, OC8 Status
b7 - SE, Safety Edge
b8 - EE, Electric Eye

DMC-I Adjustment/Timer Worksheet

	Sample	For Your Records		
CLC Adjustment	**6 stop duplex**	**Site #1**	**Site #2**	**Site #3**
* 1. Number of Landings	6			
2. Primary Floor	2			
3. Primary Fire Return Floor	2			
4. Alternate Fire Return Floor	1			
5. Hall Lanterns / Car Lanterns	0			
6. Low Oil Return Floor	2			
7. Hospital Fire Service Override	1			
8. Emergency Return Floor	1			
9. Emergency Power Type	1			
10. Lower Parking	1			
11. Car Call Lockout Override	0			
*12. Selective Door Flag	0			
13. Limited Door Reopen	0			
14. Fire Service Door Operation	3			
15. ADA Service	0			
16. Canadian B44 Code	0			
17. Anti-Nuisance	0			
18. Landing Passing Tone Enabled	1			
19. Fire Service Code	1			
20. Nudging Operation	0			
21. I/O Expansion Board	1			
* 22. Master/Slave	2			
* 23. Number of Cars in a Group	2			
24. Fire Service - CA / 1989 ANSI	0			
25. Medical Operation - MA	0			
26. Parking Floor	2			
27. Car Call Disable A	1			
28. Car Call Disable B	0			
29. Car Call Disable C	0			
30. Car Call Disable D	0			
31. Car Call Disable E	0			
32. Stop Car Switch / Door Hold Switch	0			
33. Stop Switch Level Up Option	1			
34. First Car to Auto Lower	1			
35. Second Car to Auto Lower	2			
36. Third Car to Auto Lower	1			
37. Car Call Disable F	0			

38. Close Landing	0			
39. Car Call Tone Enable (Canada)	0			
*40. Validate Front Doors 1-4 For Group	15			
*41. Validate Front Doors 5-7 For Group	3			
*42. Validate Rear Doors 1-4 For Group	0			
*43. Validate Rear Doors 5-7 For Group	0			
*44. Validate Front Doors 1-4 For Car	15			
*45. Validate Front Doors 5-7 For Car	3			
*46. Validate Rear Doors 1-4 For Car	0			
*47. Validate Rear Doors 5-7 For Car	0			
48. Group Parking	0			
49. Telescoping Jack Function	0			
50. Force Re-Sync	0			
51. Front Code Blue Calls 1-4	0			
52. Front Code Blue Calls 5-7	0			
53. Rear Code Blue Calls 1-4	0			
54. Rear Code Blue Calls 5-7	0			
55. Enable Code Blue Calls	0			
56. Fire Service (Great Britain)	0			
57. 1st Landing Digital P.I.	0			
58. 2nd Landing Digital P.I.	0			
59. 3rd Landing Digital P.I.	0			
60. 4th Landing Digital P.I.	0			
61. 5th Landing Digital P.I.	0			
62. 6th Landing Digital P.I.	0			
63. 7th Landing Digital P.I.	0			
64. 8th Landing Digital P.I.	0			
65. Predictive Maintenance	0			
66. Floor Height 1-2	0			
67. Floor Height 2-3	0			
68. Security Door Open Button Operation	0			
69. Fire Service Door Type	0			
70. Emergency Power Door Type	0			
71. Low Oil Door Type	0			
72. Door Disconnect	0			
73. Register Car Calls	0			
74. Cycle Car Calls	0			

* Must be entered prior to performing a Hoistway Setup.

Important note: The range of values that can be entered is dependent upon the version of software installed as indicated on the CLC EPROM's.

	Sample	For Your Records		
CLC Timers	**6 stop duplex**	**Site #1**	**Site #2**	**Site #3**
1. Door Open Time - Front Car Call	5			
2. Door Open Time - Electric Eye	6			
3. Door Open Time - Door Open Button	5			
4. Door Open Time – Front Hall Call	5			
5. Nudging Time	30			
6. Door Open Time – ADA Hall Call	45			
7. Door Open Time –Stuck Button	60			
8. PI Timeout	2			
9. Door Open Time -Rear Car Call	5			
10. Door Open Time - Rear Hall Call	5			
11. Low Oil Timer	100			
12. Limited Door Reopen Time	3			
13. Door Open Time – Code Blue	45			
14. Stuck Door Sensor Device Timer	38			
15. Door Fail Time	17			
16. Emergency Power Failure Time	120			
17. Delay Start Timer	0			
18. Parking Wait Timer	10			
19. Initial Jack Re-Synchronization Timer	14			
20. Main Jack Re-Synchronization Timer	1			
21. Jack Re-Synchronization Time	15			`
22. Twin-Jack Sensor Timer	30			

	Sample	For Your Records		
Selector Adjustments	**6 stop duplex**	**Site #1**	**Site #2**	**Site #3**
1. Slowdown Distance in Up Direction	85			
2. Slowdown Distance in Down Direction	46			

	Sample	For Your Records		
Front Door Adjustments	**6 stop duplex**	**Site #1**	**Site #2**	**Site #3**
1. Door Open High Speed	98			
2. Door Open Deceleration	16			
3. Door Open - Manual Operation	50			
4. Door Open Acceleration	6			
5. Door Open Slowdown Distance	200			
6. Door Open Final Slowdown Distance	12			
7. Door Close High Speed	50			
8. Door Close Deceleration	16			
9. Door Close - Manual Operation	25			
10. Door Close Acceleration	4			
11. Door Close Slowdown Distance	110			
12. Door Close Final Slowdown Distance	34			
13. Initial / Final Door Close Force	40			
14. Mid-Travel Door Close Force	60			
15. Nudging Speed	20			
16. Door Test Mode	0			
17. Manual Speed Mode	0			
18. Open Backlash Speed	20			
19. Backlash	5			