

# FREEDOM Tool



User's Guide and Reference  
for  
**FREEDOMWare Software Module 9**  
**KONE - MAC DOB Software Module**  
Marathon(WG) / MAC 105

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.

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- MAC and Marathon are registered trademarks of the Moline Accessories Division of the KONE Corporation.
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# INTRODUCTION

## **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 7502.9042, has been written to specifically target the KONE/MAC Marathon(WG) and 105 Door Operator Boards found on various KONE elevator product lines. All reference to "**FREEDOM Tool**" throughout this manual implies that it pertains solely to the KONE-MAC Door Operator Board Module.

## **FREEDOM Tool Features:**

The FREEDOM Tool is a Graphical User Interface (GUI) and provides all the functions necessary to service the MAC Marathon(WG) and MAC 105 Door Operator boards. The software runs under the Microsoft Windows operating system and provides the following features:

- A Graphical User Interface which makes it easy to access various adjustment and diagnostic areas comprising the service tool resident upon the MAC Marathon(WG) and MAC 105 Door Operator control board being diagnosed.
- Simple point and click operations. The computer does all of the necessary commands for the user in the background.

## **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 that have the following characteristics:

- A Pentium or equivalent microprocessor.
- Windows XP, Windows 2000, Windows Vista, or Windows 7 Operating Systems.
- CD-ROM Drive
- Mouse, Trackball, or other pointing device.
- 1 USB (Universal Serial Bus) Port

The FREEDOM Tool software 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 "FREEDOM Tool USB Interface Cable for KONE Products" (7502.9061) is required. This interface cable provides the proper signal conversions and connections between the computer and the MAC DOB that allows them to communicate to one another.

# INTRODUCTION

## 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](mailto:ElevatorSales@world-electronics.com)

**Service:**

[Service@world-electronics.com](mailto:Service@world-electronics.com)

**FREEDOM Tool:**

[fwhelp@world-electronics.com](mailto: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.

# INTRODUCTION

## Package Contents (Hardware Components):

### FREEDOM Tool Interface for KONE Products (7502.9061):

The KONE USB Interface Box provides the communication interface between the MAC Marathon(WG) and MAC 105 DOB's and the Notebook Computer on which the FREEDOM Tool Software Module is loaded. Without this device, the KONE Door Operator FREEDOMWare module will not work.



Figure 1

The KONE Products USB Interface Box as shown in Figure 1 is comprised of a black box with a four conductor RJ-11 modular phone jack 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 KONE Products**), 2) connection point for the Door Operator, 3) connection point for the Security Key, and 4) connection point for the Notebook Computer. The Interface Box may be plugged into the Door Operator 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 part of the initial software installation described in detail in the section titled **Installing the KONE-MAS DOB Software Module** on Page 6.

### **Special Information on KONE USB Interface Box:**

- A. The Gray "Phone Cable" used to connect the Interface Box to the Door Operator Board Tool port is NOT a standard 4-conductor phone cable. The cable WORLD electronics use is a "Data Cable" with four conductors that are NOT twisted like a Phone Cable is. If you should need to replace this cable, please contact WORLD electronics for assistance.

# INTRODUCTION

## Security Key (6015.0014):



**Figure 2**

The FREEDOM Tool Software 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 FREEDOM Tool software 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 FREEDOM Tool software (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 FREEDOM Tool software 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 FREEDOM 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.



# INTRODUCTION

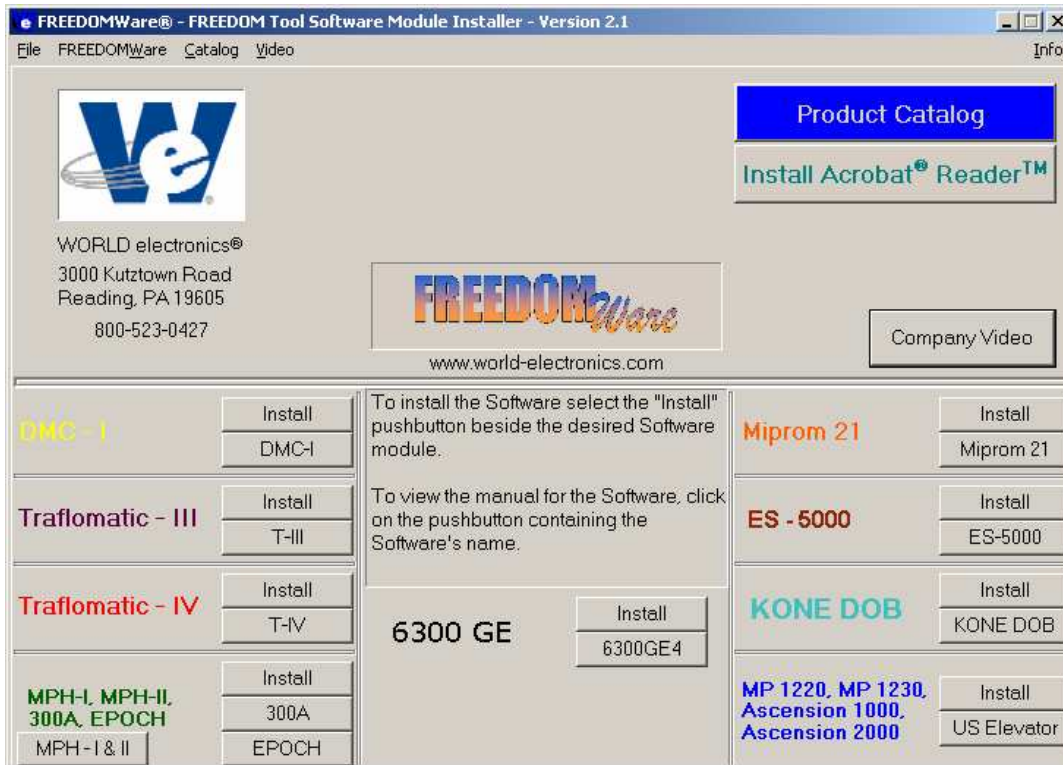


Figure 3

Upon insertion, the installation program should launch allowing the user access to the installation routines and reference manuals for all available FREEDOM Tool Software Modules (Figure 3). Please refer to the section labeled **Installing the KONE DOB Software Module** for instructions on installing the KONE-MAC DOB Software Module.

# INSTRUCTIONS

## Instructions:

### Installing the KONE-MAC DOB Software Module:

**IMPORTANT: DO NOT PLUG THE KONE USB 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 KONE-MAC DOB 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.

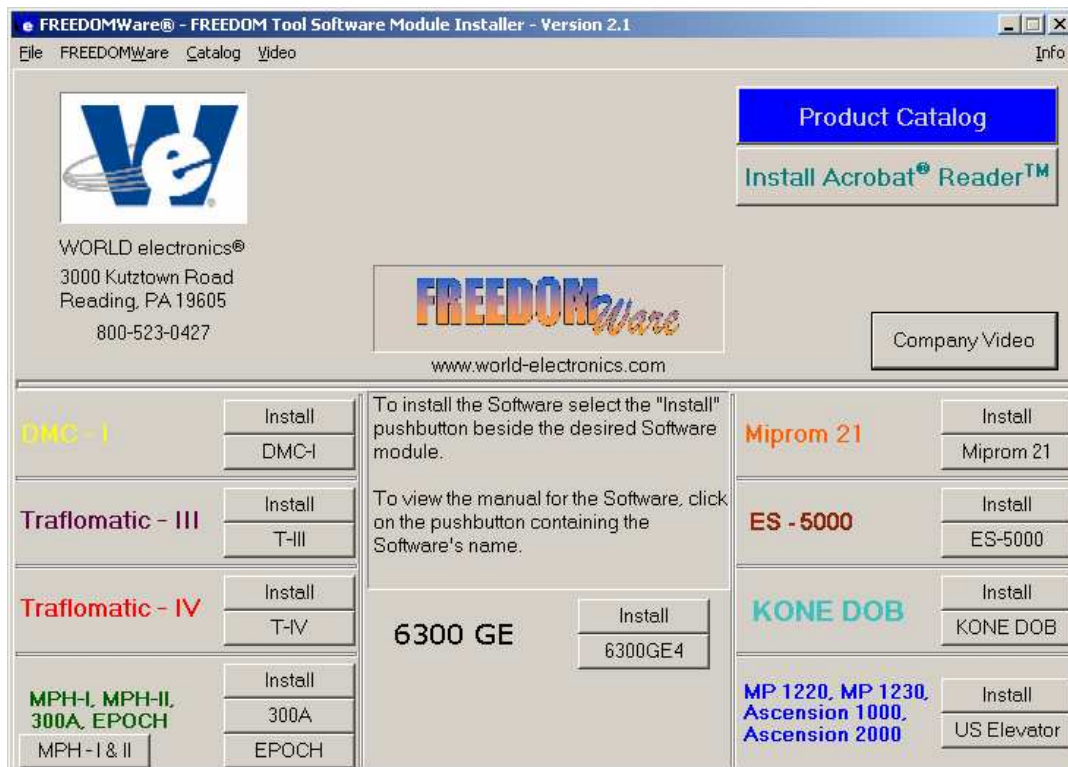


Figure 4

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 KONE DOB 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 KONE-MAC DOB software module simply click the **Next** pushbutton with the PC's pointing device.

# INSTRUCTIONS

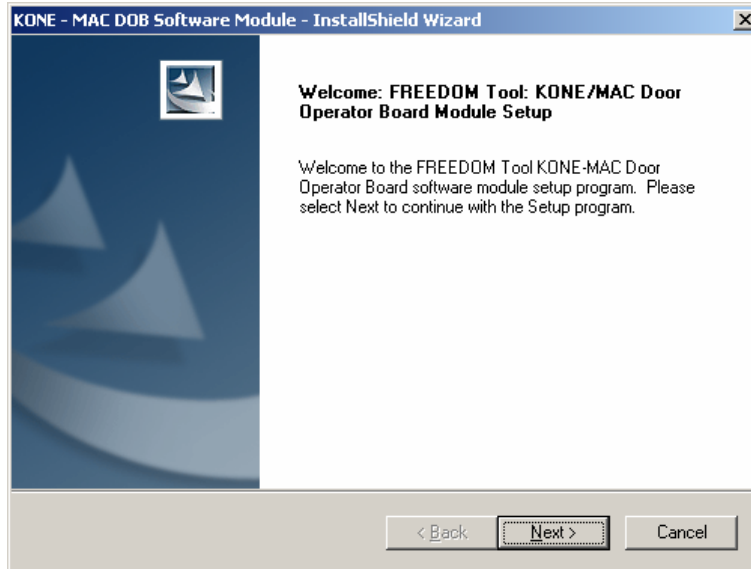


Figure 5

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 KONE-MAC DOB Software Module's Security Key. A second location where the serial number can be found is the side of the KONE-MAC DOB Software Module's Product Box.

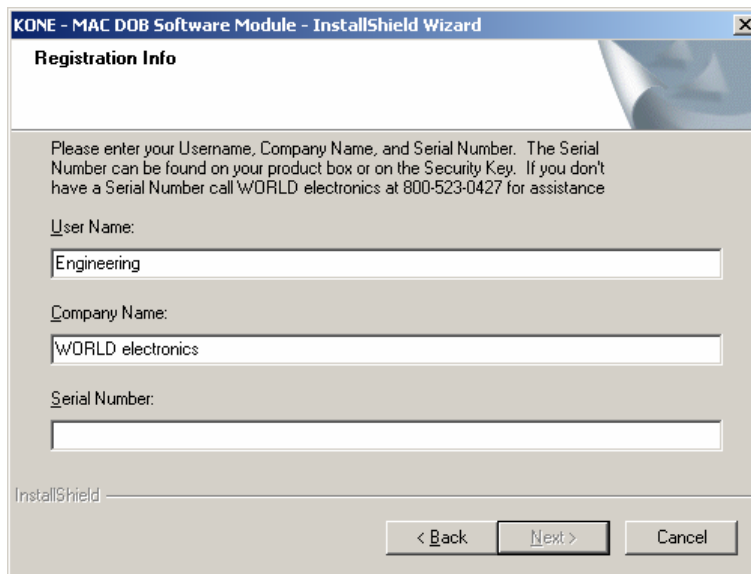


Figure 6

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

# INSTRUCTIONS

KONE - MAC DOB Software Module - InstallShield Wizard

**Registration Info**

Please enter your Username, Company Name, and Serial Number. The Serial Number can be found on your product box or on the Security Key. If you don't have a Serial Number call WORLD electronics at 800-523-0427 for assistance

User Name:  
Engineering

Company Name:  
WORLD electronics

Serial Number:  
12345678

InstallShield

< Back Next > Cancel

**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.

KONE - MAC DOB Software Module - InstallShield Wizard

**Ready to Install the Program**

The wizard is ready to begin installation.

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

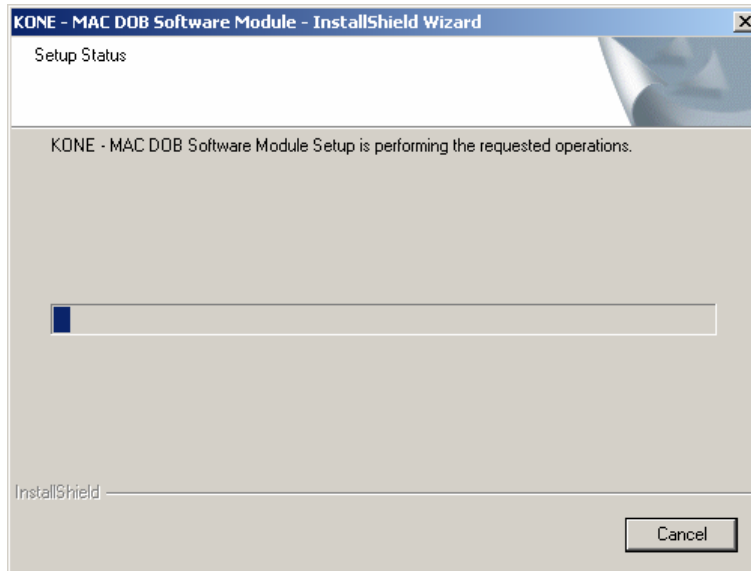
InstallShield

< Back Install Cancel

**Figure 8**

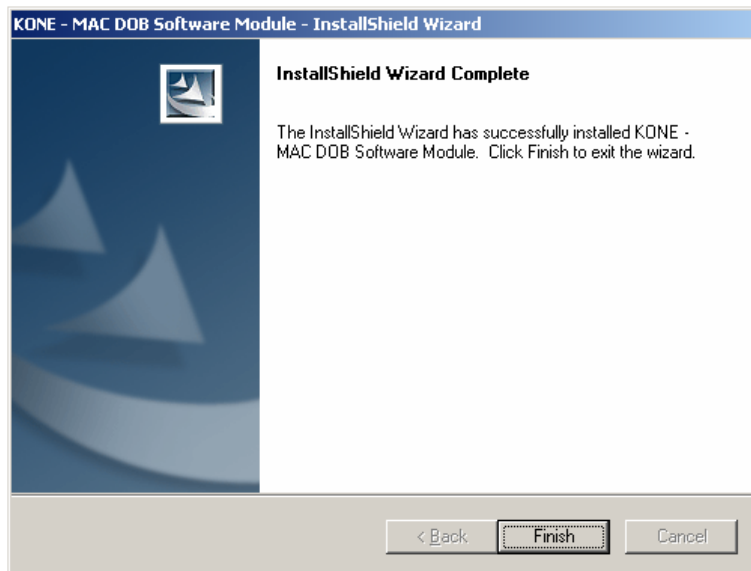
6. The Setup Status window will appear (Figure 9) showing the user the status of the installation procedure as it proceeds. A progress bar will visually indicate the installations progress while text will detail the module component being installed.

# INSTRUCTIONS



**Figure 9**

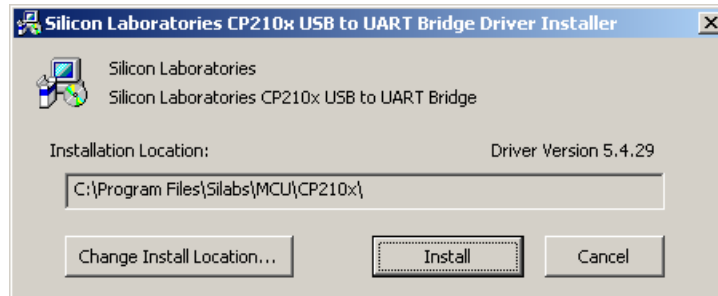
7. Upon completion of the Software Installation, the **InstallShield Wizard Complete** window will appear similar to what is seen in Figure 10. This window prompts the user to click the **Finish** button to complete the setup. To continue, click on the **Finish** button.



**Figure 10**

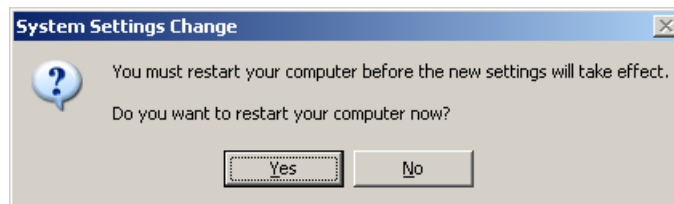
8. Upon clicking **Finish** the Installation Procedure will continue with the installation of the hardware devices. The first of these required hardware devices is the FREEDOM Tool Interface for KONE-Montgomery Products. The KONE Interface Box utilizes a device manufactured by Silicon Laboratories that requires drivers to be installed onto the FREEDOM Tool laptop. A figure similar to Figure 11 will appear allowing the user to install the drivers for the Silicon Laboratories part.

# INSTRUCTIONS



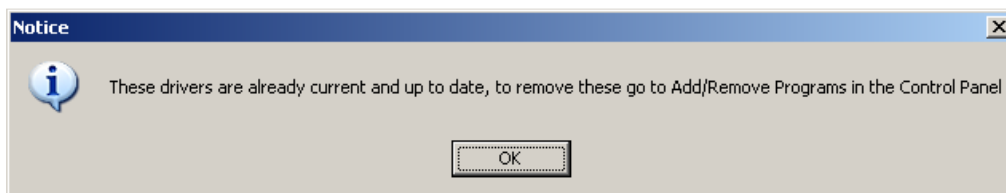
**Figure 11**

9. In order to begin the installation of the Silicon Laboratories Drivers select the pushbutton labeled **Install**. The computer will proceed with the installation of the Silicon Laboratories Device Drivers. Upon completion of the Install, a window will appear informing the user that the computer must be reset for the drivers to take effect. Refer to Figure 12. At this time, select **Yes** to complete the installation and restart the computer.



**Figure 12**

If drivers are already installed on the connected computer, a window similar to what is shown in Figure 13 will appear. This window indicates that drivers are already installed, current, and up to date. This means the user does not need to install any further software for the KONE Products Interface box to work properly. Select OK to complete the installation of the drivers for the Silicon Laboratories part.



**Figure 13**

10. Make sure the BLUE USB Security key with WORLD electronics lanyard IS NOT plugged into the KONE Products Interface box.
11. Insert the WHITE USB cable of the KONE Products Interface Box into an available USB port on the computer.
12. Upon insertion of the white USB cable, several “balloon” messages will pop up. The first will be a “New Hardware Found” message. It is followed by a message indicating that the computer is installing drivers for a Silicon Labs USB to UART bridge controller. The final balloon will indicate that the Hardware was installed and is ready to use. At this point, the KONE Products USB Interface box is ready for use.
13. Plug the USB Security Key into the available port on the KONE Products Interface Box.
14. Upon insertion of the Blue USB Security key into the available USB port on the KONE Products

# INSTRUCTIONS

Interface Box, a balloon message will pop up on the Windows toolbar stating that Device Drivers are being installed. Notice that the LED on the Security Key is flashing green. After a minute or so, the balloon message should update indicating the successful installation of the device drivers and the device is now ready for use. The LED on the Security key should be a steady Green. At this point the hardware installation is complete and ready to use on the MAC Marathon(WG) or MAC 105 Door Operator in conjunction with the KONE-MAC DOB Software module. The user may proceed to Executing the FREEDOM Tool Shell Program section of this manual for instructions of running the KONE-MAC DOB Software Module.

## **Executing the FREEDOM Tool Shell Program:**

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

1. Plug the BLUE USB security key into the "Security Key" port located on the KONE Products Interface Box.
2. Next, attach the WHITE USB cable (Square End) to the port labeled "USB to PC" on the KONE Products Interface Box. Attach the rectangular end of this WHITE USB cable to a USB Port on the notebook computer running the FREEDOMWare Software Module.
3. From the Microsoft Windows Desktop Screen, run the **FREEDOM Tool** application by double-clicking on the **FREEDOM Tool** icon using the notebook computer's pointing device. Refer to Figure 14.

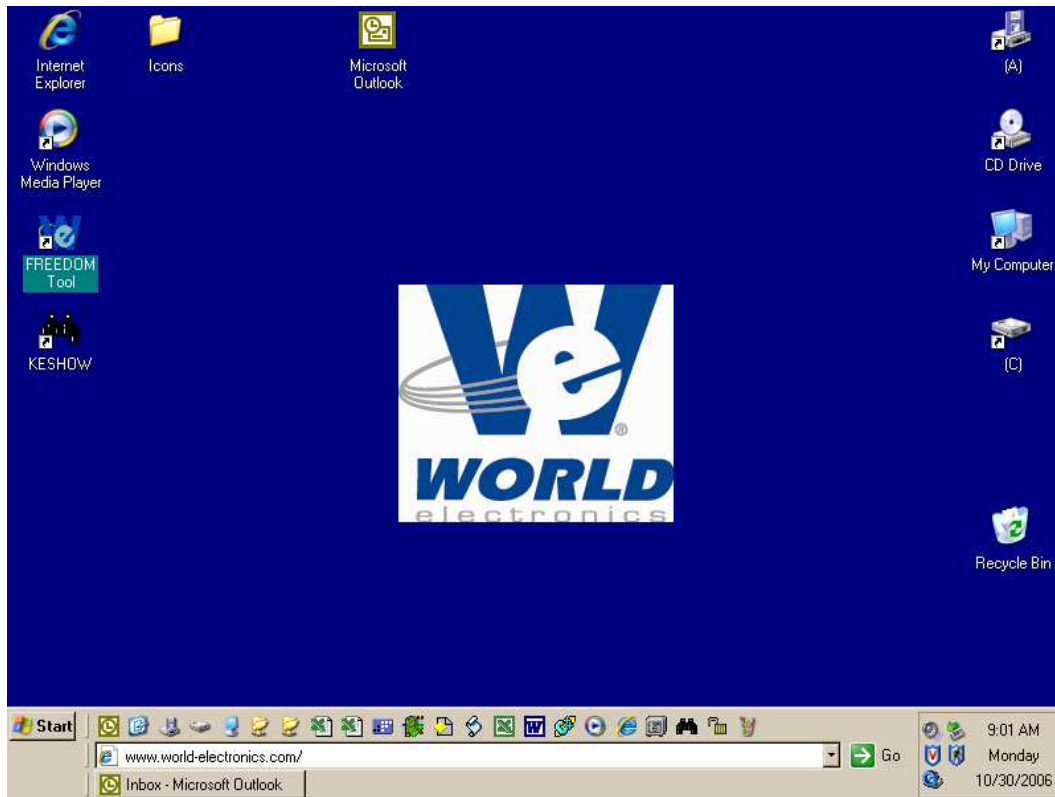


Figure 14

# INSTRUCTIONS

3. After double clicking the **FREEDOM Tool** icon the notebook computer's screen will update similar to Figure 15. The main FREEDOM Tool application allows the user to select the specific FREEDOM Tool Software Module for the equipment being diagnosed or adjusted.

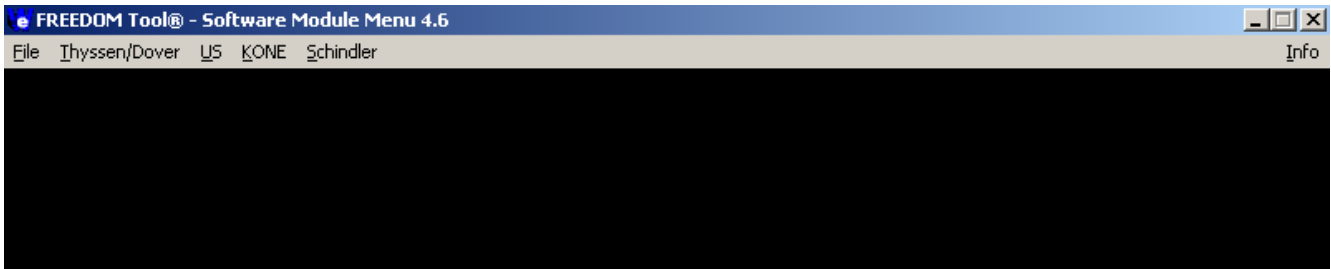


Figure 15

NOTE: Only installed FREEDOMWare software will run. If the module selected is not installed a window will appear as in Figure 16 informing the user that the Module is not installed and to contact WORLD electronics. If the user feels this error message is incorrect, the user should contact a member of WORLD electronics' technical support staff for further assistance.

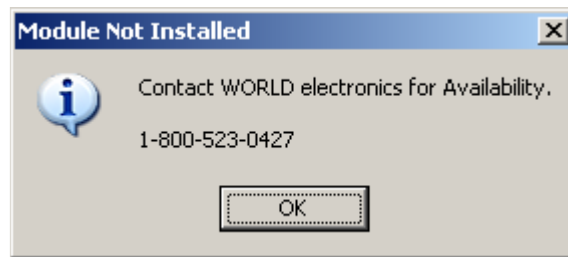


Figure 16

4. To run the KONE-MAC DOB Software Module, the user selects **KONE** from the menu with a single click on the notebook computer's pointing device. Refer to Figure 17. With KONE selected, the user has the choices of **USB** or **Serial Port**.



Figure 17

5. Select the menu choice **USB** to gain access to the software module written for use with the USB Interface Box for KONE Products. The USB selection contains three (3) choices. Refer to Figure 18.

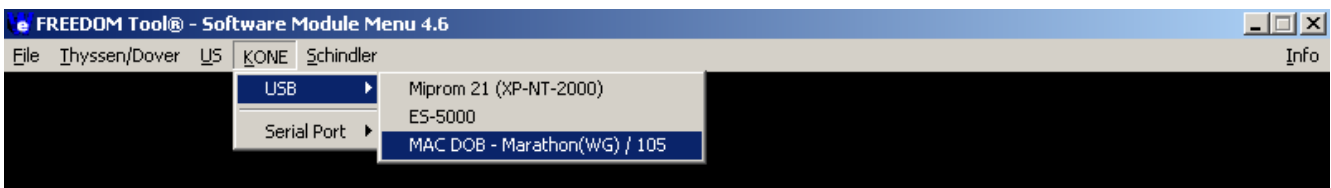


Figure 18

These choices are Miprom 21, ES-5000, and MAC DOB – Marathon(WG)/105. To run the KONE-MAC DOB Software Module, simply click once on the choice **MAC DOB – Marathon(WG) / 105**. If properly installed, the software module will run at this time.



# The KONE-MAC DOB Software Module

## The KONE-MAC DOB Software Module:

1. Upon successful selection of the KONE-MAC DOB Software Module, a window similar to the one seen in Figure 19 should appear. This is the **Communication Port Set-Up** window. The Communication Port Set-Up window allows the users to choose the serial port that is associated with the KONE Products USB Interface Box. Whenever the KONE Products USB Interface Box is plugged into a USB port on the notebook computer, the notebook computer assigns a virtual serial port to the interface box. This virtual serial port is used to communicate between the computer and the KONE Products USB Interface Box. If the drivers for the KONE Products USB Interface Box were successfully installed, the assigned virtual serial port will be selected on this window. Figure 19 illustrates that the KONE Products Interface box has been assigned COM3 for its virtual serial port.

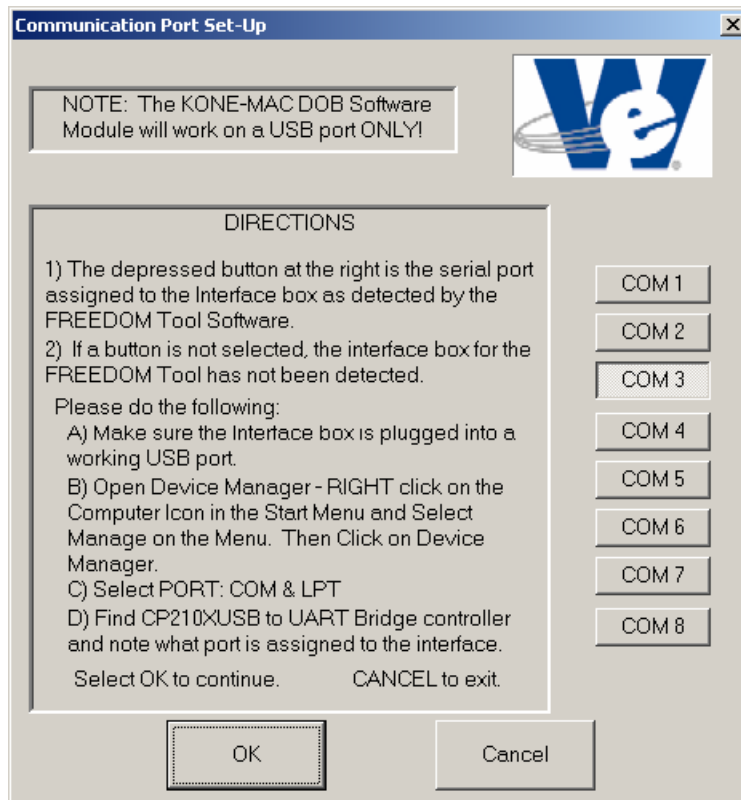


Figure 19

As instructed in the Communication Port Set-Up, a pushbutton on the right side of the window should be depressed indicating the serial port assigned to the KONE Products Interface Box. If a button is not selected, the KONE-MAC DOB Software Module did not detect the presence of the KONE Products Interface Box. The user should do the following: 1) check the cable connections to both the interface box and the USB port on the notebook computer, 2) Open the Device Manager Applet and verify the presence of the KONE-MAC Interface Box. Please see Appendix A on page 45 of this manual for instruction on opening Device Manager and verifying the presence of the KONE-MAC Interface Box.

To continue using the KONE-MAC DOB Software module select the OK pushbutton located at the bottom of the window.

## The KONE-MAC DOB Software Module

**NOTE:** If a Serial Port is not selected an error message will appear notifying the user that a serial port must be selected. This error window gives the user a choice to go back to the Communication Port Set-Up window and select a Serial Port or Cancel the software. This error window will also appear if the user initially selected Cancel in the Communication Port Set-Up window. Figure 20 shows the error window that appears if a Serial Port is not selected.

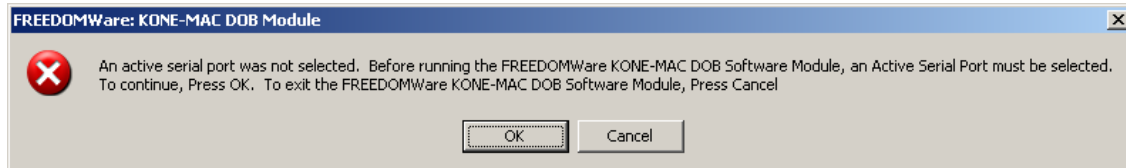


Figure 20

2. Upon selecting the OK pushbutton in the Communication Port Set-Up Window, the **About: Security Key Information** window will display similar to Figure 21. 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 **Software Security 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 door operator. In order to continue using the KONE-MAC DOB Software Module, position the cursor over the **OK** pushbutton and single click with the pointing device button. After selecting **OK**, the main window of the KONE-MAC DOB Software Module will open.



Figure 21

# The KONE-MAC DOB Software Module

## Information on connecting to the Door Operator Boards:

The connector which interconnects the FREEDOM Tool with the MAC Marathon(WG) and MAC 105 DOB's is located directly on the circuit board itself. The connector is an RJ-11 phone type female connector.

If there is a problem with the security key, such as not installed or expired, the **About: Security Key Information** window will show an image 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 22. When this window appears, the user should contact WORLD electronics for assistance. To close this window, click one time on the **OK** pushbutton. This causes the FREEDOM Tool KONE-MAC DOB Software Module to terminate execution and return to the Windows Desktop.

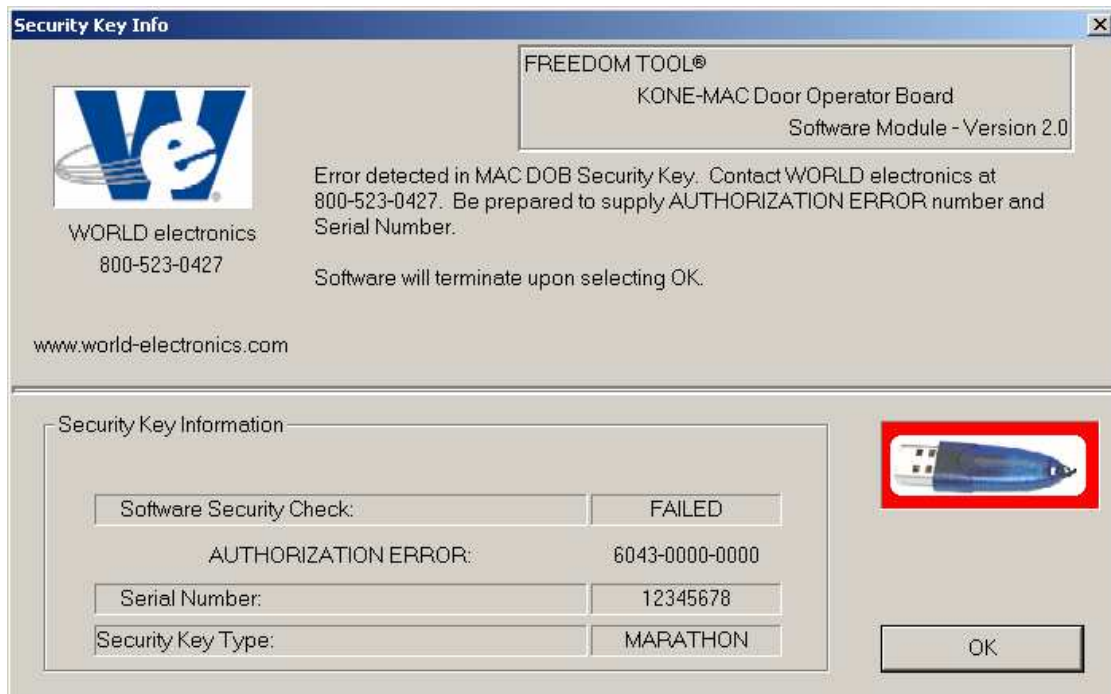


Figure 22

3. With selection of OK in the Security Key Info Window with a "PASSED" key condition, the **Main** Window of the KONE-MAC DOB Software Module appears as shown in Figure 23.

## General Description: Main Window

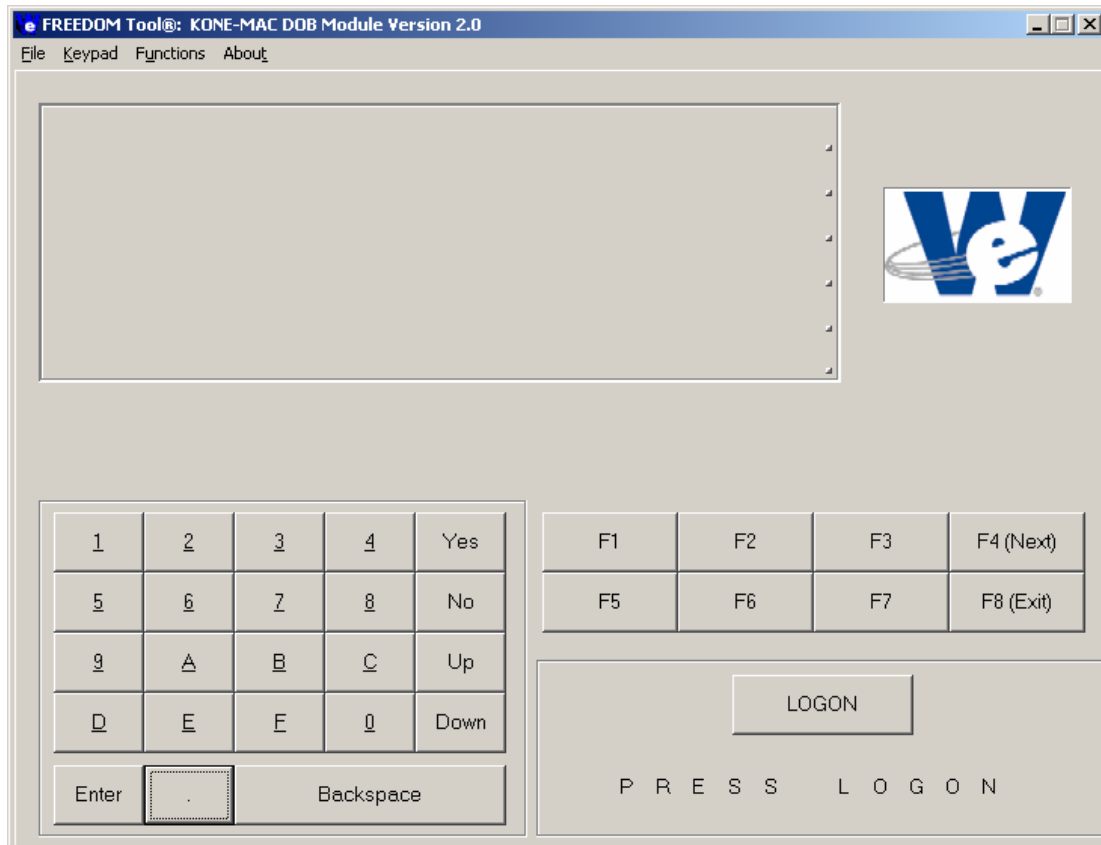


Figure 23

### General Description:

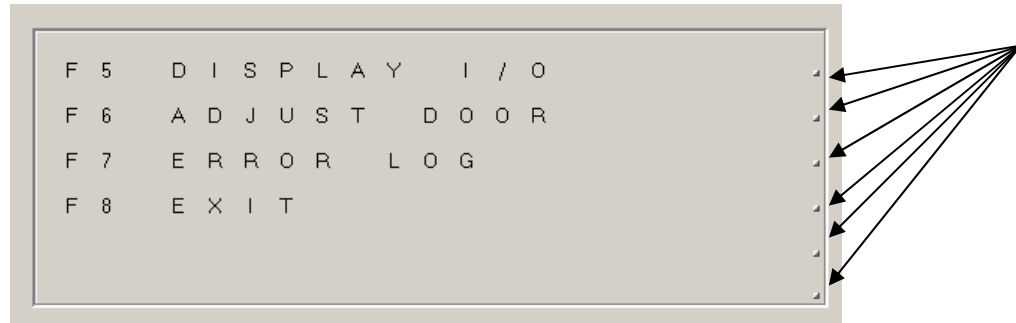
The KONE-MAC DOB Software Module consists of one main screen that allows the elevator mechanic to verify operation, view/clear faults, view/make adjustments, and observe I/O's for the MAC Marathon and MAC 105 Door Operator Boards. The KONE-MAC DOB Software Module's operation is as follows:

#### Main Window:

The Main Window gives the user access to all information provided by the connected DOB. Access to this information is through a Communication Screen, pushbuttons, and menu choices. These three user interfaces are described as follows:

**Communication Screen:** The Communication Screen found within the Main Window of the FREEDOM Tool displays ALL information received from the tool residing within the Door Operator PCB. The FREEDOM Tool does not generate any of the information seen within this screen on its own. The Communication Screen is comprised of five rows. Each row can contain up to 20 characters. The data streams coming from the Door Operator inform the FREEDOM Tool as to where to place the individual data characters. This includes information on clearing old characters from the screen. If for some reason, a row of characters still contains data or the user wants to manually clear out individual lines or the entire screen, five buttons have been placed at the end of each individual line and one additional button has been placed at the lower, right-hand corner of the Communication Screen. Please note: Pressing one of these buttons does not log the tool off from the Door Operator. Refer to Figure 24.

## General Description: Main Window



**Figure 24**

**Menu:** The FREEDOM Tool: KONE-MAC DOB Software Module's menu is broken down into four selections. These parts are File, Keypad, Functions, and About. Each of these menu categories contain commands that cause the FREEDOM Tool to perform an action. These actions can be anywhere from commanding the tool within the escalator control system to perform a task to opening a window that allows the user to change what port on the laptop PC is used for communicating with the Door Operator. The following section describes each of the menu categories and their individual functions contained within.

### **File**

The first of the five menu groups, **File** lets the user exit out of the Marathon DOB Software Module, set-up which laptop serial ports is used for communication, and start the logon process. This is accomplished through the menu choices Exit, Communications, and Logon respectively.

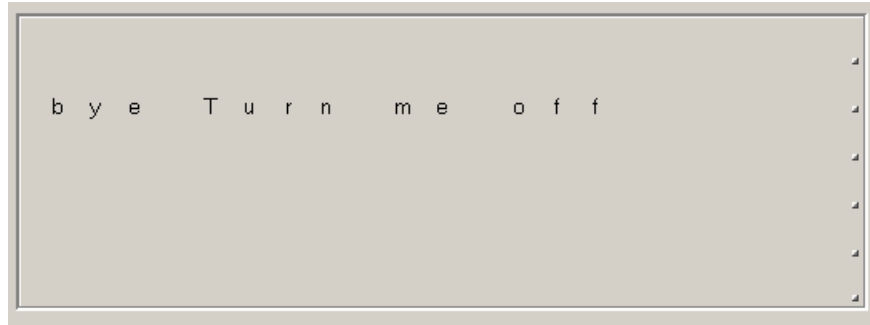
### **Keypad**

The keypad contains items for handling numerical and response entries within the KONE-MAC DOB Software Module. The keypad menu selections consist of the numbers 0 through 9, the hexadecimal numbers A through F, and a decimal point. The Keypad menu selection also contains the response keys Yes, No, Up, Down, Backspace, and Enter.

### **Functions**

Function selections are used to select various operations within the KONE-MAC DOB Software Module as shown within the Communication Screen. There are eight function keys used within the KONE-MAC DOB Software Module. The most commonly used function keys are F4(Next) and F8(Exit). As the label beside these two function keys describes, the F4 function key will scroll the Communication Screen data forward, displaying the next choice in a menu like progression. The F8 function key will exit the Communication Screen out of the currently selected mode and return back to the previous. When used from the initial Communication Screen menu, a press of the F8 button will place the KONE-MAC DOB Software module into a mode where the user can safely disconnect the tool from the connected Door Operator Board. The connected DOB will confirm a log off by showing "bye turn me off" in the Communication Status Window as shown in Figure 25.

## General Description: Main Window

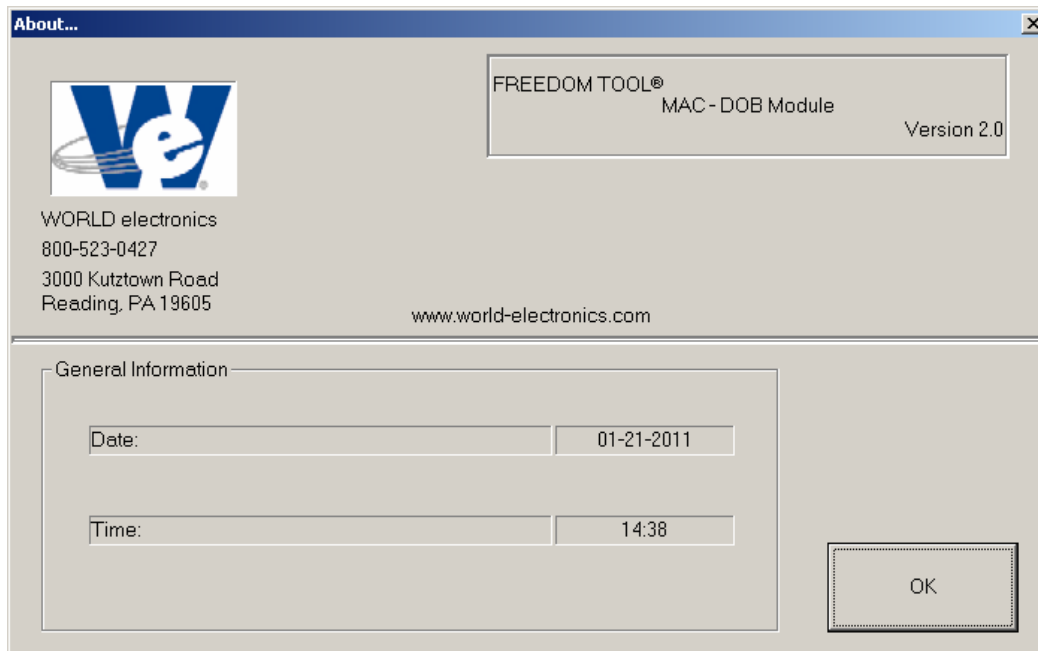


**Figure 25**

In some of the Function modes, the F7 key will enable the user to proceed backwards through a list one item at a time. The F1, F2, F3, F4, and F6 function keys are generally used to activate sub functions within the Main Function Modes.

### About

The About menu selection will open a window that gives version and contact information for the FREEDOM Tool: KONE-MAC DOB Software Module. Refer to Figure 26.



**Figure 26**

**Pushbuttons:** An integral part to any Windows based Graphical User Interface is an item called the pushbutton. The FREEDOM Tool: MAC Marathon DOB Software Module has two main groups of pushbuttons. These two main groups are the Keypad and Function buttons. Each of these groups contains commands that cause the FREEDOM Tool to perform an action. These two pushbutton groups are described briefly. Please refer to the System Information section of this manual for more information on the function of these pushbuttons.

## General Description: Logon Procedure

### **Keypad**

The keypad pushbuttons contain items for handling numerical and response entries within the Software Module. The keypad selections consist of the numbers 0 through 9, the hexadecimal numbers A through F, and a decimal point. The Keypad also contains the response keys Yes, No, Up, Down, Backspace, and Enter.

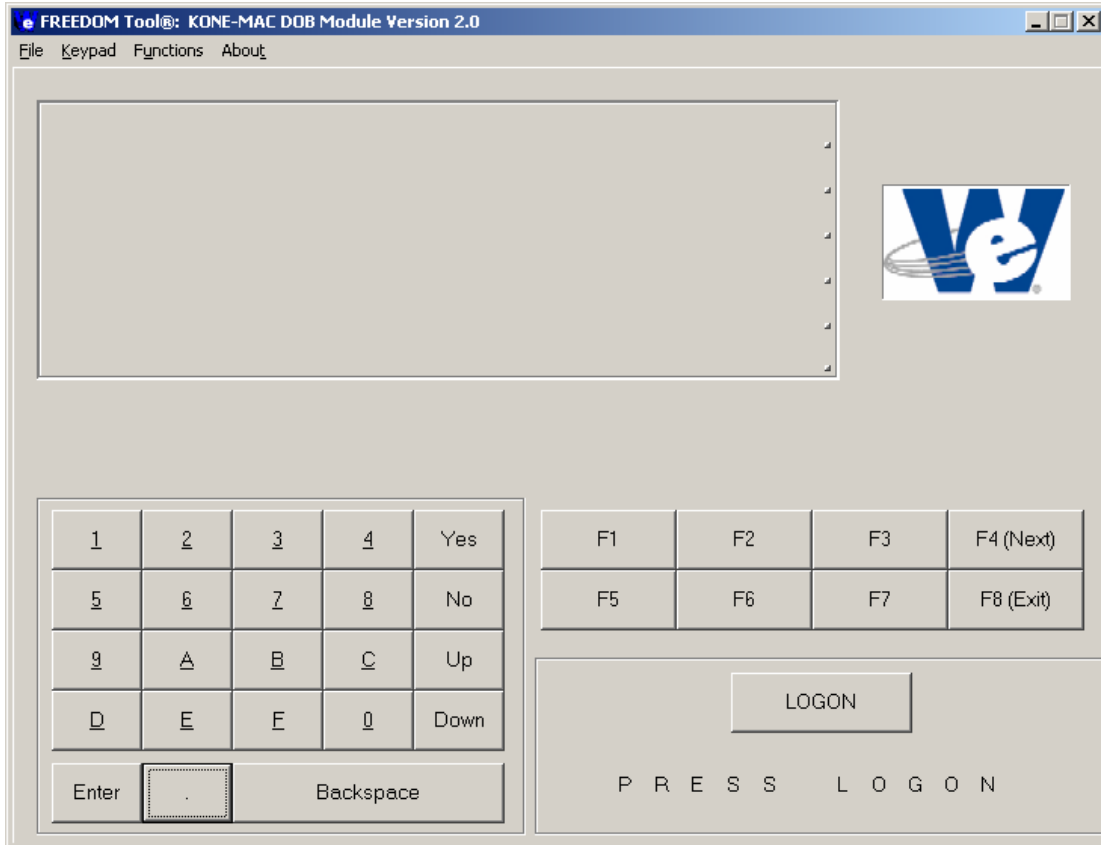
### **Functions**

Function selections are used to select various operations within the KONE-MAC DOB Software Module as shown within the Communication Screen. There are eight function keys used within the KONE-MAC DOB Software Module. The most commonly used function keys are F4(Next) and F8(Exit). As the label beside these two function keys describes, the F4 function key will scroll the Communication Screen data forward, displaying the next choice in a menu like progression. The F8 function key will exit the Communication Screen out of the currently selected mode and return to the previous. When used from the initial Communication Screen menu, a press of the F8 button will place the KONE-MAC DOB Software module into a mode where the user can safely disconnect the tool from the connected Door Operator Board. The connected DOB will confirm a log off by showing "bye turn me off" in the Communication Status Window. In some of the Function modes, the F7 key will enable the user to proceed backwards through a list one item at a time. The F1, F2, F3, F4, and F6 function keys are generally used to activate sub functions within the Main Function Modes.

### **Logon Procedure:**

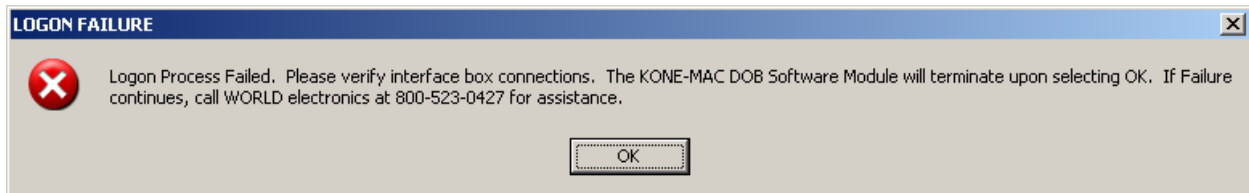
Whenever the user connects the KONE-MAC DOB FREEDOM Tool to the door operator, the door operator requires the tool to follow a very precise Logon procedure where several handshaking protocols are followed. The KONE-MAC DOB Software Module does this required handshaking automatically whenever the user selects the pushbutton labeled LOGON on the main window. Refer to Figure 27.

# General Description: Logon Procedure



**Figure 27**

The text field found beneath the LOGON pushbutton indicates to the user where the KONE-MAC DOB Software Module is within LOGON routine. These will show as: LOGON STEP 1, LOGON STEP 3, LOGON STEP 5, LOGON STEP 7, and LOGON STEP 9. It is not important for the user to know what each Logon step does, but, be aware, each logon step has a timeout period associated. If at any time this timeout period should expire before the logon procedure gets to the next step, a message window similar to Figure 28 will appear.



**Figure 28**

The message seen in Figure 28 informs the user that the Logon procedure has failed. It also reminds the user to the most prominent reason for a Logon failure, improper connections with the interface box. It is necessary for the user to pay attention to the text messages provided underneath the LOGON pushbutton. The reason for this is that, a WORLD electronics technical service representative will require this information when attempting to diagnose the problem the user is encountering.



## General Description: Logon Procedure

**Please note:** If the door operator controller believes a unit has logged onto it, it will not allow another logon to occur. Therefore, it may be necessary to attempt a LOGON 3-4 times before success. If time is a factor, it is possible to reset the Marathon(WG) or the 105 DOB by pressing the reset pushbutton. When the user selects the OK pushbutton within the LOGON FAILURE message box, the software will exit. In order for the user to attempt to Logon to the system again, it is necessary for the FREEDOM Tool: KONE-MAC DOB Software Module to be re-run.

Upon a successful Logon, the message area underneath the LOGON pushbutton will say "LOGGED ON", and the LOGON pushbutton will disappear. The Communication Screen found at the top of the Main Window will now display the initial main function menu as illustrated in Figure 29. At this time, the user can access all functions provided through the KONE-MAC DOB Software Module.

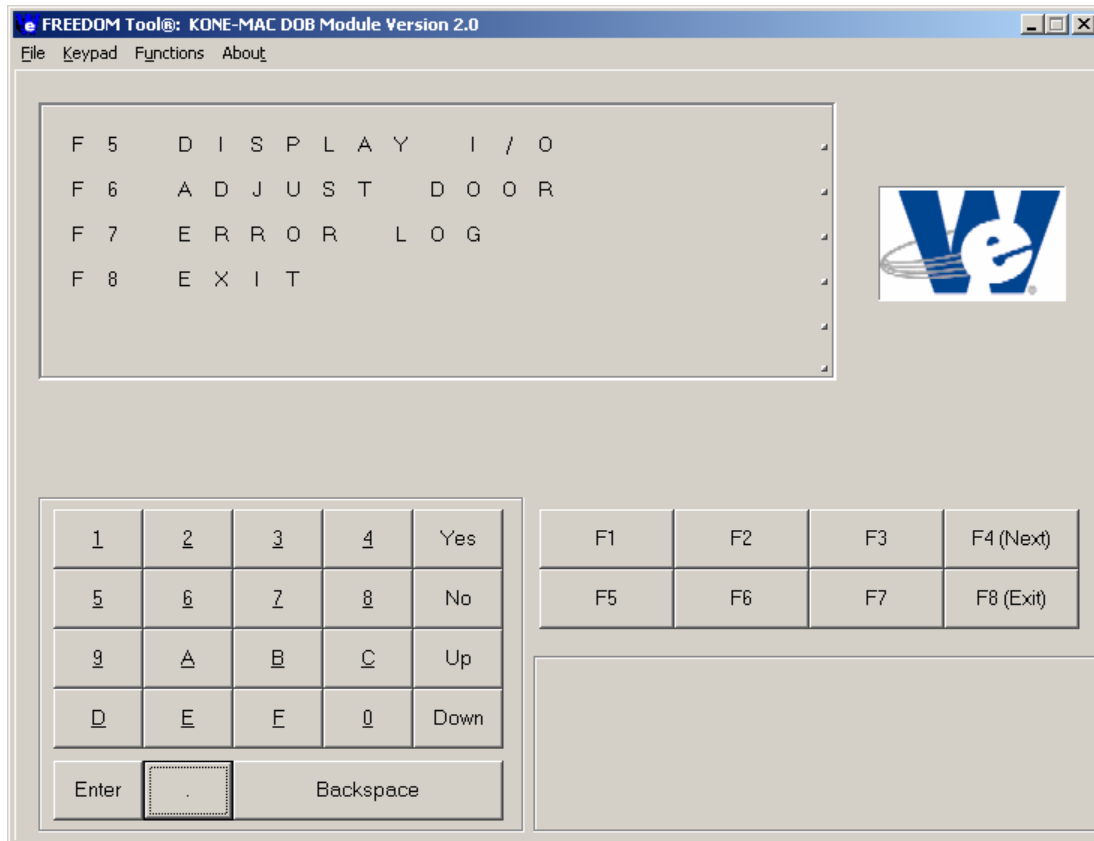


Figure 29

# MAC Marathon(WG)

## MAC Marathon(WG):

The following section presents the user instructions for using the FREEDOM Tool: KONE-MAC DOB Software Module on the MAC Marathon(WG) Door Operator. All information is presented in a state that is as accurate as possible. There may be situations from one Marathon Door Operator to the next where discrepancies arise. Any question on these discrepancies should be addressed to WORLD electronics. The KONE-MAC Door Operator Board Software Module has four Main Function Modes of operation. These modes are Display I/O, Adjust Door, Error Log, and Exit.

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

Figure 30

## Main Functions:

The Communication Screen, as shown in Figure 30, presents the user with four functions used to program and diagnose the MAC Marathon Door Operator Board. These Main Function Modes are Display I/O, Adjust Door, Error Log, and Exit.

### **F5 Display I/O**

The Main Function Mode, Display I/O, gives the user the ability to view the inputs and outputs related to the door operator and reset the door cycle counter. The door cycle counter is displayed to the user on line 3 of the Display I/O function menu screen. The Display I/O function screen is represented in Figure 31.

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
  CYCLE CNT:      655
F3 CLR CNT  F8 EXIT
```

Figure 31

Found within the Display I/O main function mode menu are the functions Door Output, Door Inputs, Clear Cycle Count(CLR CNT), and Exit. As mentioned earlier, line 3 of the Display I/O function menu displays the Door Cycle Counter. The Door Cycle Counter, represented by "CYCLE CNT:", is a count of the number of times the door has transitioned from open to close since the last time the count was reset. The Door Cycle Count can be reset by selecting the "F3 CLR CNT" function from the Display I/O function menu. Each of the functions found within the Display I/O function menu are described in the following sections.

### DOOR OUTPUTS:

Selecting the F1 function pushbutton from within the Display I/O function menu will place the FREEDOM Tool into a mode where the MAC Marathon Door Operator Board's Outputs can be viewed real-time. It is important to note, the user needs to be patient when selecting this function. Typically, there is a delay between the moments the F1 function key is pressed until the Communication Screen updates to show the DOB Output information. Once the information is displayed, it is continuously updated at a very rapid rate. After a period, the screen may lose its organization and may require the user to press the clear screen pushbutton found in the lower right hand corner of the Communication Screen. This will allow the MAC Marathon Door Board Tool to refresh the layout of information shown while using the Display Outputs function. Figure 32 shows the Display Outputs function as displayed on the Communication Screen.

# MAC Marathon(WG)

```
DO17 1 DO3 0 DSD 0
RO1 0 RC1 0
Dipswitch: 0100
```

Figure 32

The Door Outputs function screen contains information pertaining to several DOB outputs. On Line 1 of the Door Outputs function screen the state of the output signals for Door Close Limit(DO17), Door Open Limit(DO3), and Door Slowdown(DSD) are shown. Line 2 contains the signals for the Door Open Position (RO1) and the Door Closed Position (RC1). Located on the MAC Marathon Door operator is a bank of four DIP-Switches. Line 4 of the Communication Screen shows the settings of these four dipswitches. Pressing F8 will exit the FREEDOM Tool Software Module out of the Door Outputs function and return the Communication Screen to the Display I/O function menu. It may take from 30 seconds to a couple minutes for the FREEDOM Tool to exit out of the Door Output mode, therefore it is necessary to employ some patience and NOT press the F8(Exit) pushbutton multiple times. Pressing the F8 (Exit) pushbutton multiple times may cause the FREEDOM Tool to be logged off from the MAC Marathon DOB. This will be indicated by the phrase “turn me off, goodbye”. If this is displayed on the Communication Screen, the FREEDOMWare KONE-MAC DOB Software Module must be re-run.

## DOOR INPUTS:

The Door Inputs function, displayed by selecting the F2 function key from the Display I/O main function mode menu, displays various input signals used within the MAC Marathon DOB. When the Door Inputs function is selected the Communication Screen will update similar to what is seen in Figure 33.

```
DO4 1 DO7 1 DO10 0
Close Limit 1
ENCODER=0
Hsinks: 29 C 28 C
```

Figure 33

The Door Inputs function Communication Screen is comprised of four Lines. The first Line shows the status of the Nudging (DO4), Door Close Pilot (DO7), and Door Open Pilot (DO10) signals. Line 2 indicates whether the Door Close Limit input signal is active. The door position count, as provided by the encoder, is presented on Line 3. Heat Sink temperature, measured by thermocouples placed on the DOB power transistors, is displayed on Line 4. The temperature is given in Degrees Celsius. Use the following formula to convert this temperature to degrees Fahrenheit.

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

As in the Door Outputs function, the user needs to be patient when selecting this function. Typically there is a delay between the moment the F2 function key is pressed until the Communication Screen updates to show the DOB Input information. Once the information is displayed, it is continuously updated at a very rapid rate. After a period, the screen may lose its organization and may require the user to press the clear screen pushbutton found in the lower right hand corner of the Communication Screen. This will allow the MAC Marathon Door Board Tool to refresh the layout of information shown while using the Display Inputs function. Pressing F8 will exit the FREEDOM Tool Software Module out of the Door Inputs function and return the Communication Screen to the Display I/O function menu. It may take from 30 seconds to a couple minutes for the FREEDOM Tool to exit out of the Door Inputs mode, therefore it is necessary to employ some patience and NOT press the F8(Exit) pushbutton multiple times. Pressing the F8(Exit) pushbutton multiple times may cause the FREEDOM Tool to be logged off from the MAC Marathon DOB. This will be indicated by the phrase “turn me off, goodbye”. If this is displayed on the Communication Screen, the FREEDOMWare MAC Marathon DOB Software

# MAC Marathon(WG)

Module must be re-run.

## CYCLE CNT:

Line 3 of the Display I/O function mode menu gives a count of door cycles since the Marathon DOB has last been reset. Refer to Figure 34. This reset can be accomplished through powering the board off, or by selecting the Clear Cycle Count function found within the Display I/O function mode menu.

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
  CYCLE CNT:      126
F3 CLR CNT  F8 EXIT
```

**Figure 34**

## CLR CNT:

Selecting the F3 function from within the Display I/O function mode menu will result in clearing the Door Cycle Count. The Door Cycle Count is displayed on Line 3 of the Display I/O function mode menu. When this function is selected the CYCLE CNT: number will change from its current displayed value to zero(0).

## EXIT:

From the Display I/O function mode menu, the F8 pushbutton can be selected to return to the FREEDOMWare: KONE-Mac DOB Software Module's main function menu.

## **F6 Adjust Door**

Selecting F6 ADJUST DOOR from the Main Function Menu will place the FREEDOM Tool: KONE-MAC DOB Software Module into Adjust Mode. When Adjust Mode is invoked, the Communication Screen will appear similar to what is seen in Figure 35.

```
F1 DOOR ADJUST

F8 EXIT
```

**Figure 35**

Figure 35 depicts the Communication Screen when the Adjust Door function is selected for the main menu. At this point, the user has two options. These options are: F1 DOOR ADJ or F8 EXIT.

## DOOR ADJ:

When the F1 DOOR ADJ function is selected from the ADJUST DOOR Function menu, the Communication Screen opens presenting the user with four choices. These four choices, used to adjust the door, are; F5 SINGLE DOOR TEST, F6 CONT DOOR TEST, F7 DOOR ADJUSTMENTS, and F8 EXIT. Figure 36 shows the DOOR ADJ function's set of choices.

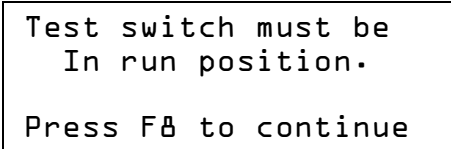
```
F5 SINGLE DOOR TEST
F6 CONT DOOR TEST
F7 DOOR ADJUSTMENTS
F8 EXIT
```

**Figure 36**

# MAC Marathon(WG)

## SINGLE DOOR TEST:

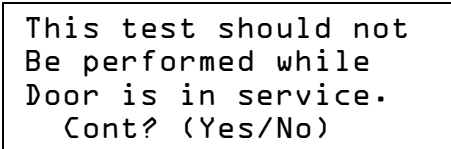
The SINGLE DOOR TEST function of the Door Adjust mode, invoked by selecting the F5 function pushbutton, will cycle the door 1 time from the closed position to fully open and back to closed again. For this test to occur the MAC Marathon DOB's Test/Run switch (SW2) must be in the RUN position. If switch (SW2) is in the TEST position, the Communication Screen will present the user with a message that instructs the user to put the DOB into the RUN position. Refer to Figure 37.



Test switch must be  
In run position.  
Press F8 to continue

Figure 37

At this point, the user would be required to toggle SW2 to the RUN position and press the F8 function pushbutton to exit back to the DOOR ADJ menu as instructed on the communication screen. If the DOB SW2 switch is in the RUN position, the Communication Screen will appear similar to Figure 38.



This test should not  
Be performed while  
Door is in service.  
Cont? (Yes/No)

Figure 38

The Single Door Test informs the user, through the Communication Screen, that the test should not be performed while the doors are in service. The tool as shown in Figure 38 then asks the user if they desire to continue. At this time, the user would continue with the SINGLE DOOR TEST by selecting the Yes pushbutton. If the user desires to cancel the test, the user must select the No pushbutton at this time. This action will cause the Communication Screen to revert to the DOOR ADJ menu. If Yes is selected, the Communication Screen will update as shown in Figure 39.



Single Test in  
progress

Figure 39

The door should start opening at regular speed until the Open Limit is reached and then proceed back to the fully closed position. If the door does not open after a brief period, the DOB will create a critical fault requiring the user to reset the DOB using the SW1 pushbutton and re-running the FREEDOMWare Software Module.

## CONT DOOR TEST

A selection of the F6 pushbutton will place the FREEDOM Tool into a Continuous Cycle Test mode. The Continuous Cycle Door Test Mode will cycle the door open and closed until the door is commanded to stop. To begin the Continuous Cycle Test Mode, the Test/Run switch(SW2) on the DOB must be placed in the RUN position. If switch SW2 is not in the RUN position, the Communication Screen appears as seen in Figure 40.

# MAC Marathon(WG)

```
Test switch must be
  In run position.
Press F8 to continue
```

**Figure 40**

To run the Continuous Door Test, the Run/Test switch must be in the RUN position. Before proceeding, the user is required to Exit the Continuous Door Test mode and return to the Door Adjust menu. Once the Tool is back to the Door Adjust menu, the user can set the Test/Run switch to the RUN position and restart the Continuous Cycle Door Test. With the Test/Run switch in the RUN position, the screen will appear as in Figure 41 when the Continuous Cycle Door Test is selected.

```
This test should not
Be performed while
Door is in service.
Cont? (Yes/No)
```

**Figure 41**

The screen as shown in Figure 41 warns the user that the test should not be performed while the door is in service. It gives the user the ability to cancel the test by selecting the No pushbutton, or continuing by selecting the Yes pushbutton. Once the Yes pushbutton is selected, the screen will update similar to Figure 42 and the door will begin to cycle. Figure 42 informs the user that the Continuous door Cycle Test is in progress and it gives a count of the door cycles on Line 3. Selecting the F8 Exit pushbutton while in Continuous Cycle Door Test mode will stop the doors from cycling and return the Tool to the Door Adjust Function menu.

```
Continuous Test
  In Progress.
Cycle Count:      4
F8 - Exit
```

**Figure 42**

## DOOR ADJUSTMENTS

To access the adjustable parameters for the MAC Marathon(WG) DOB, the user would select the menu choice F7 DOOR ADJUSTMENTS from the Door Adjust function menu. When the F7 function pushbutton is selected within the Door Adjust menu the Communication Screen will update as in Figure 43, showing a list of three adjustable parameters. Each of these three parameters can be adjusted by selecting the function pushbutton associated with the adjustable parameters name. In the Communication Screen depicted in Figure 43, the F1 function pushbutton would be selected to adjust the Door Open Limit, the F2 pushbutton would adjust the Close Direction Maximum Door Speed, and the F3 pushbutton would allow the user to adjust the Close Direction Minimum Door Speed.

```
F1 ADJ OPEN LIMIT
F2 CLOSE MAX SPEED
F3 CLOSE MIN SPEED
F4=MORE BKSPACE=BACK
```

**Figure 43**

Line 4 of the Door Adjustments function defines two other pushbutton operations that perform a task.

# MAC Marathon(WG)

The first pushbutton is the F4 function pushbutton. Pressing the F4, function pushbutton will scroll the adjustments forward through the adjustment list showing three additional adjustments. The F4 pushbutton can be pressed repetitively until the end of the adjustment list is reached (Reload Defaults). The other pushbutton option is the Backspace key. As the Communication Screen suggests, the Backspace key will move Backwards through the Adjustment list, 3 at a time, until the first 3 adjustment are shown on the Communication Screen. Table 1 shows a list of adjustable parameters used with the MAC Marathon(WG) DOB.

ADJ OPEN LIMIT	CLOSE MAX SPEED
CLOSE MIN SPEED	CLOSE CURRENT
CLOSE SLOW DOWN	OPEN MAX SPEED
OPEN MIN SPEED	OPEN SLOWDOWN
ACCELERATION	NUDGE SPEED
CLUTCH PICKUP	Reload Defaults

**Table 1**

Each of these adjustments is broken down individually as follows in Figures 44-54:

## ADJ OPEN LIMIT

```
Adj Door Open Limit
F1- Open Door 1/2 in
F2- Cls Door 1/2 in
F8 - Exit
```

**Figure 44**

Used to Adjust Door Open Limit  
F1 - will move door to open 1/2" wider  
F2 - will move door to open 1/2" narrower

## CLOSE MAX SPEED

```
Close Max Speed
Min: 0.04 Max: 1.20
Curr: 0.80 ft/sec
F1-Inc F2-Dec F8-Ex
```

**Figure 45**

-High speed close direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.04 ft/sec  
F2: Decrease by 0.04 ft/sec

## CLOSE MIN SPEED

```
Close Min Speed
Min: 0.02 Max: 0.40
Curr: 0.16 ft/sec
F1-Inc F2-Dec F8-Ex
```

**Figure 46**

-Slow speed close direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.02 ft/sec  
F2: Decrease by 0.02 ft/sec

## CLOSE CURRENT

```
Close Current
Min: 0.08 Max: 4.80
Curr: 2.32 amps
F1-Inc F2-Dec F8-Ex
```

**Figure 47**

-Power used to close door  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.08 Amps  
F2: Decrease by 0.08 Amps

# MAC Marathon(WG)

## CLOSE SLOW DOWN

Set close slowdown  
Min: 0.22 Max: 21.78  
Curr: 6.16 inches  
F1-Inc F2-Dec F8-Ex

Figure 48

-Close slowdown distance  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.22 inches  
F2: Decrease by 0.22 inches

## OPEN MAX SPEED

Open Max Speed  
Min: 0.04 Max: 2.00  
Curr: 1.60 ft/sec  
F1-Inc F2-Dec F8-Ex

Figure 49

-High speed in open direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.04 ft/sec  
F2: Decrease by 0.04 ft/sec

## OPEN MIN SPEED

Open Min Speed  
Min: 0.04 Max: 0.40  
Curr: 0.20 ft/sec  
F1-Inc F2-Dec F8-Ex

Figure 50

-Low speed in open direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.04 ft/sec  
F2: Decrease by 0.04 ft/sec

## OPEN SLOW DOWN

Set Open Slowdown  
Min: 0.22 Max: 21.78  
Curr: 8.80 inches  
F1-Inc F2-Dec F8-Ex

Figure 51

-Open slowdown distance  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.22 inches  
F2: Decrease by 0.22 inches

## ACCELERATION

Set Acceleration  
Min: 0.84 Max: 4.20  
Curr: 2.52 ft/sec<sup>2</sup>  
F1-Inc F2-Dec F8-Ex

Figure 52

-Acceleration rate of door  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.84 ft/sec<sup>2</sup>  
F2: Decrease by 0.84 ft/sec<sup>2</sup>

## NUDGE SPEED

Set Nudge Speed  
Min: 0.04 Max: 0.40  
Curr: 0.20 ft/sec  
F1-Inc F2-Dec F8-Ex

Figure 53

-Nudging Speed  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.04 ft/sec  
F2: Decrease by 0.04 ft/sec



# MAC Marathon(WG)

## CLUTCH PICKUP

```
Set Clutch Pickup
Min: 0.65 Max: 3.90
Curr: 1.95 inches
F1-Inc F2-Dec F8-Ex
```

**Figure 54**

-Distance door clutch picked  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.65 inches  
F2: Decrease by 0.65 inches

The last item on the DOOR ADJUSTMENTS list is labeled Reload Defaults. When Reload Defaults is selected the Communication Screen appears as in Figure 55.

## Reload Defaults

```
Reset should not
be performed while
door is in service.
Cont? (Yes/No)
```

**Figure 55**

-Resets all adjustment values to their default value  
  
Select Yes to accept  
Select No to cancel

The initial screen of the Reload Defaults selection, warns the user that the default adjustments should not be reloaded with the door is in service. The tool requires the user to select the Yes or No pushbutton to determine the desire of reloading the default values of the door. At this point, selecting the No pushbutton would cancel the Reload Defaults procedure and return the tool to the Door Adjustments menu. Selecting the Yes pushbutton causes the Communication Screen to update as shown in Figure 56.

```
Resetting...
```

**Figure 56**

Figure 56 demonstrates to the user that the DOB is reloading its default values. Upon a successful reload of the door adjustments, the Communication Screen will appear as in Figure 57. The tool, as shown in Figure 57, will indicate to the user that the default adjustment value restoration was completed and that the system should be rebooted. To do this, press the reset (S1) pushbutton on the MAC Marathon DOB and restart the FREEDOMWare: KONE-MAC DOB Software Module. Note that this will require the user to re-login to the Marathon DOB.

```
Defaults Restored
System will now
reboot
Turn me off
```

**Figure 57**

## EXIT:

Selecting the F8-Exit function from the Adjust Door menu will exit the tool from the Adjust Door function and return the FREEDOMWare: KONE-MAC DOB Software Module to the Main Function Mode menu.

# MAC Marathon(WG)

## F7 Error Log

To view or reset the MAC Marathon DOB's error list, the user would select F7 ERROR LOG from the main function menu. When the Error Log function is selected, the Communication Screen will appear similar to the one seen in Figure 58. The Error Log function menu gives the user four sub-function choices. These choices are F1 FULL ERROR LIST, F2 NON-CRIT ERR SMRY, F3 CLEAR ERROR LOG, and F8 EXIT.

```
F1 FULL ERROR LIST
F2 NON-CRIT ERR SMRY
F3 CLEAR ERROR LOG
F8 EXIT
```

Figure 58

### FULL ERROR LIST:

The Marathon DOB has the ability to log up to 100 errors. This error log is viewed by selecting the F1 pushbutton from the Error Log menu. When the Full Error List is selected from the Error Log menu, the Communication Screen will update similar to what is seen in Figure 59.

```
Err 22:118
Err 21: 1
Err 20:110
F4=MORE BKSPACE=BACK
```

Figure 59

The Full Error List screen shows up to 3 errors, contained within the error log, at a time. These errors are displayed on lines 1 through 3 on the Communication Screen. Each error list entry begins with the text "ERR" and then a number followed by a colon (:). This number is the entry number on the error list for the displayed error. On Line 1 of the Full Error List shown in Figure 59, the entry number would be 22. After the colon, the next number seen is the actual error number. Error list entry number 22 on Line 1 of Figure 59 is the error number 118. Error number 118 is indicating that the door is opening in the wrong direction. Table 2 shows the known error numbers for the Marathon Door Operator Board's non-critical errors and their description. Table 3 is the error list for the Marathon Door Operator Board's critical errors.

Error Number	Description
1	Command Timeout
2	Current sensor failure
3	Software overcurrent
4	Open-close Test Switch
5	Hardware overcurrent
6	RAM set 1 corrupted
7	RAM set 2 corrupted
8	RAM set 1 not restored
9	RAM set 2 not restored
10	
11	RAM set 1 write failure
12	RAM set 2 write failure
13	MOSFET bridge overtemp
14	Encoder failure
15	

Table 2

## MAC Marathon(WG)

Error Number	Description
101	RAM Checksum bad
102	
103	Multiple current sensor failures
104	Bridge enable low
105	Bridge enable high
106	12V power supply low
107	Sensor resistor failure
108	
109	Current sensor 1 failed
110	Current sensor 2 failed
111	
112	
113	Unexpected door motion
114	
115	Encoder noise
116	Bridge enable bad
117	
118	Door open – wrong direction
119	Open relay failed
120	Close relay failed
121	Motor power supply – low
122	
123	Motor overcurrents – long
124	Bad close limit switch
125	Dip switches bad

**Table 3**

Line 4 of the Communication Screen informs the user of the active function buttons while in the Full Error List function. The first active pushbutton is F4. Pressing the F4 pushbutton while in the Full Error List function will advance the fault list showing the next three errors in the error list. Keep in mind that the most recently occurring errors were found at the beginning (higher entry numbers) of the error log. F8 is the other active pushbutton within the Full Error List function. The F8 pushbutton, when selected, will exit the FREEDOM Tool out of the Full Error List function and return the Communication Screen to the Error Log function menu. If the end of the error list is reached the Communication Screen will appear similar to Figure 60. Figure 60 shows that the “End of Log” has been reached and that the user’s only option at this time is to select the F8-Exit pushbutton.

```
Err  1:110
    ** End of Log **

    Press F8 to Exit
```

**Figure 60**

### NON-CRIT ERR SMRY:

Use the F2 NON-CRIT ERR SMRY selection to display a brief summary of the non-critical errors that have been logged within the Marathon DOB. When the Non-critical error summary is selected from the Error Log function menu, the Communication Screen updates similar to what is seen in Figure 61.

## MAC Marathon(WG)

```
Err: 7 Num= 2
** End of Log **

Press F8 to Exit
```

**Figure 61**

The number displayed after the acronym “Err” is the actual non-critical error number. Refer to Tables 2 and 3 to get an understanding of the error. Located after the “Num” acronym is a number representing the number of times the error occurred. When “\*\*End of Log\*\*” appears within the Communication Screen, the last error within this error log has been displayed. The Non-Critical Error log displays only three errors at a time. If more than three errors have been logged, the user can select the F4 function pushbutton to advance through the list of logged errors. The F8 function pushbutton is used to return to the Error Log function menu.

### CLEAR ERROR LOG:

The CLEAR ERROR LOG function selection is used to clear out the MARATHON DOB’s error log. When the F3 pushbutton is selected, the Communication Screen updates similar to what is seen in Figure 62.

```
Are you sure?
```

**Figure 62**

The Clear Error Log screen as shown in Figure 62 is looking for a response from the user. The possible responses are the Yes or No pushbuttons. Selecting the No pushbutton will cancel the Clear Error Log function without clearing the errors logs and return the Communication Screen to the Error Log function menu. Selecting the Yes pushbutton will cause the FREEDOM Tool to clear the error log. The clearing of the error log will be indicated by means of a screen similar to Figure 63.

```
Clearing log...
```

**Figure 63**

The “Clearing log...” message as shown in Figure 63 indicates that the error log is being cleared. This message will only be present for a couple of seconds and then the Communication Screen will update to what is shown in Figure 64.

```
Log Cleared

Press F8
```

**Figure 64**

The “Log cleared” message depicted in Figure 64 informs the user that the error log was cleared. To exit the Clear Error Log function and return to the Error Log function menu, the user should select the F8-Exit pushbutton at this time.

# MAC 105 DOB

## EXIT:

Selecting the F8-Exit pushbutton from the Error Log function menu, will return the Communication Screen to the MAC Marathon DOB main function menu.

## **F8 Exit**

Selecting the F8 Exit function from the MAC Marathon DOB main function menu will log the tool off of the DOB. When the EXIT function is selected the Communication Screen will update to show the message "Turn me off, good bye". It is the MAC Marathon DOB tool's way of indicating to the user that it is safe to disconnect the FREEDOM Tool from the MAC Marathon DOB.

## MAC 105:

The following section presents the user instructions for using the FREEDOM Tool: KONE-MAC DOB Software Module on the MAC 105 Door Operator. All information is presented in a state that is as accurate as possible. There may be situations from one MAC 105 Door Operator to the next where discrepancies arise. Any question on these discrepancies should be addressed to WORLD electronics. The KONE-MAC Door Operator Board Software Module has four Main Function Modes of operation. These modes are Display I/O, Adjust Door, Error Log, and Exit.

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

Figure 65

## Main Functions:

The Communication Screen, as shown in Figure 65, presents the user with four functions used to program and diagnose the MAC 105 Door Operator Board. These Main Function Modes are Display I/O, Adjust Door, Error Log, and Exit.

## **F5 Display I/O**

The Main Function Mode, Display I/O, gives the user the ability to view the inputs and outputs related to the door operator and reset the door cycle counter. The door cycle counter is displayed to the user on line 3 of the Display I/O function menu screen. The Display I/O function screen is represented in Figure 66.

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
CYCLE CNT:      655
F3 CLR CNT  F8 EXIT
```

Figure 66

Found within the Display I/O main function mode menu are the functions Door Output, Door Inputs, Clear Cycle Count (CLR CNT), and Exit. As mentioned earlier, line 3 of the Display I/O function menu displays the Door Cycle Counter. The Door Cycle Counter, represented by "CYCLE CNT:", is a count of the number of times the door has transitioned from open to close since the last time the count was reset. The Door Cycle Count can be reset by selecting the "F3 CLR CNT" function from the Display I/O function menu. Each of the functions found within the Display I/O function menu are described in the following sections.

# MAC 105 DOB

## DOOR OUTPUTS:

Selecting the F1 function pushbutton from within the Display I/O function menu will place the FREEDOM Tool into a mode where the MAC 105 Door Operator Board's Outputs can be viewed real-time. It is important to note, the user needs to be patient when selecting this function. Typically, there is a delay between the moments the F1 function key is pressed until the Communication Screen updates to show the DOB Output information. Once the information is displayed, it is continuously updated at a very rapid rate. After a period, the screen may lose its organization and may require the user to press the clear screen pushbutton found in the lower right hand corner of the Communication Screen. This will allow the MAC 105 Door Board Tool to refresh the layout of information shown while using the Display Outputs function. Figure 67 shows the Display Outputs function as displayed on the Communication Screen.

```
DO17 1  DO3 1
RO1 0  RC1 0
Dipswitch: 0100
```

**Figure 67**

The Door Outputs function screen contains information pertaining to several DOB outputs. On Line 1 of the Door Outputs function screen the state of the output signals for Door Close Limit(DO17) and Door Open Limit(DO3) are shown. Line 2 contains the signals for the Door Open Position (RO1) and the Door Closed Position (RC1). Located on the MAC 105 Door operator is a bank of four DIP-Switches. Line 4 of the Communication Screen shows the settings of these four dipswitches. The assignments correlating to these DIP switches is shown in Table 4.

<u>Switch Position</u>	<u>Assignment</u>
RH	RIGHT HAND Opening Door
LRN	LEARN MODE
CEN	CENTER Opening Door

**Table 4**

Pressing F8 will exit the FREEDOM Tool Software Module out of the Door Outputs function and return the Communication Screen to the Display I/O function menu. It may take from 30 seconds to a couple minutes for the FREEDOM Tool to exit out of the Door Output mode, therefore it is necessary to employ some patience and NOT press the F8(Exit) pushbutton multiple times. Pressing the F8 (Exit) pushbutton multiple times may cause the FREEDOM Tool to be logged off from the MAC 105 DOB. This will be indicated by the phrase "bye, Turn me off". If this is displayed on the Communication Screen, the FREEDOMWare KONE-MAC DOB Software Module must be re-run.

## DOOR INPUTS:

The Door Inputs function, displayed by selecting the F2 function key from the Display I/O main function mode menu, displays various input signals used within the MAC 105 DOB. When the Door Inputs function is selected the Communication Screen will update similar to what is seen in Figure 68.

```
DO4 0  DO7 0  DO10 0
DO19 0 DO18 0
ENCODER=0
Hsink: 150 C
```

**Figure 68**

## MAC 105 DOB

The Door Inputs function Communication Screen is comprised of four Lines. The first Line shows the status of the Nudging (DO4), Door Close Pilot (DO7), and Door Open Pilot (DO10) signals. Line 2 indicates the status of the Auxilliary Door Profile (DO19) The door position count, as provided by the encoder, is presented on Line 3. Heat Sink temperature, measured by thermocouples placed on the DOB power transistor's is shown on Line 4. The temperature is given in degrees Celsius. Use the following formula to convert this temperature to degrees Fahrenheit.

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

As in the Door Outputs function, the user needs to be patient when selecting this function. Typically there is a delay between the moment the F2 function key is pressed until the Communication Screen updates to show the DOB Input information. Once the information is displayed, it is continuously updated at a very rapid rate. After a period, the screen may lose its organization and may require the user to press the clear screen pushbutton found in the lower right hand corner of the Communication Screen. This will allow the MAC 105 Door Board Tool to refresh the layout of information shown while using the Display Inputs function. Pressing F8 will exit the FREEDOM Tool Software Module out of the Door Inputs function and return the Communication Screen to the Display I/O function menu. It may take from 30 seconds to a couple minutes for the FREEDOM Tool to exit out of the Door Inputs mode, therefore it is necessary to employ some patience and NOT press the F8(Exit) pushbutton multiple times. Pressing the F8(Exit) pushbutton multiple times may cause the FREEDOM Tool to be logged off from the MAC 105 DOB. This will be indicated by the phrase "bye, turn me off". If this is displayed on the Communication Screen, the FREEDOMWare KONE-MAC DOB Software Module must be re-run.

### CYCLE CNT:

Line 3 of the Display I/O function mode menu gives a count of door cycles since the MAC 105 DOB has last been reset. Refer to Figure 69. This reset can be accomplished through powering the board off, or by selecting the Clear Cycle Count function found within the Display I/O function mode menu.

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
  CYCLE CNT:    126
F3 CLR CNT  F8 EXIT
```

**Figure 69**

### CLR CNT:

Selecting the F3 function from within the Display I/O function mode menu will result in clearing the Door Cycle Count. The Door Cycle Count is displayed on Line 3 of the Display I/O function mode menu. When this function is selected the CYCLE CNT: number will change from its current displayed value to zero(0).

### EXIT:

From the Display I/O function mode menu, the F8 pushbutton can be selected to return to the FREEDOMWare: KONE-MAC DOB Software Module's main function menu.

## **F6 Adjust Door**

Selecting F6 ADJUST DOOR from the Main Function Menu will place the FREEDOM Tool: KONE-MAC DOB Software Module into Adjust Mode. When Adjust Mode is invoked, the Communication Screen will appear similar to what is seen in Figure 70.

## MAC 105 DOB

```
F1 SINGLE DOOR TEST
F2 CONT DOOR TEST
F3 NORMAL DOOR ADJ
F4=MORE F8=EXIT
```

**Figure 70**

Figure 70 depicts the Communication Screen when the Adjust Door function is selected for the main menu. At this point, the user has several options. These options are: F1 SINGLE DOOR TEST, F2 CONT DOOR TEST, F# NORMAL DOOR ADJ, F4 - MORE or F8 EXIT. In addition, pressing F4 scrolls the Adjust Door menu to show the choice F1 HEAVY DOOR ADJUST.

### SINGLE DOOR TEST:

The SINGLE DOOR TEST function of the Door Adjust mode, invoked by selecting the F1 function pushbutton, will cycle the door 1 time from the closed position to fully open and back to closed again. Figure 71 shows a warning message that appears upon invoking the SINGLE DOOR TEST. This warning reminds the user that the door should not be in service while this test is being performed

```
This test should not
Be performed while
Door is in service.
Cont? (Yes/No)
```

**Figure 71**

The tool as shown in Figure 71 asks the user if they desire to continue. At this time, the user would continue with the SINGLE DOOR TEST by selecting the Yes pushbutton. If the user desires to cancel the test, the user must select the No pushbutton at this time. This action will cause the Communication Screen to revert to the DOOR ADJ menu. If Yes is selected, the Communication Screen will update as shown in Figure 72.

```
Single Test in
progress
```

**Figure 72**

The door should start opening at regular speed until the Open Limit is reached and then proceed back to the fully closed position. If the door does not open after a brief period, the DOB will create a critical fault requiring the user to reset the DOB using the SW1 pushbutton and re-running the FREEDOMWare Software Module.

### CONT DOOR TEST:

A selection of the F2 pushbutton will place the FREEDOM Tool into a Continuous Cycle Test mode. The Continuous Cycle Door Test Mode will cycle the door open and closed until the door is commanded to stop. Upon entering the Continuous CYCLE Test, the screen will appear as in Figure 73.



## MAC 105 DOB

```
This test should not  
Be performed while  
Door is in service.  
Cont? (Yes/No)
```

**Figure 73**

The screen as shown in Figure 73 warns the user that the test should not be performed while the door is in service. It gives the user the ability to cancel the test by selecting the No pushbutton, or continuing by selecting the Yes pushbutton. Once the Yes pushbutton is selected, the screen will update similar to Figure 74 and the door will begin to cycle. Figure 74 informs the user that the Continuous Door Cycle Test is in progress and it gives a count of the door cycles on Line 3. Selecting the F8 Exit pushbutton while in Continuous Cycle Door Test mode will stop the doors from cycling and return the Tool to the Door Adjust Function menu.

```
Continuous Test  
In Progress.  
Cycle Count:      4  
F3=Adjust F8-Exit
```

**Figure 74**

### NORMAL DOOR ADJ:

To access the adjustable parameters for the MAC 105 DOB, the user would select the menu choice F3 NORMAL DOOR ADJ from the Adjust Door function menu. When the F3 function pushbutton is selected within the Adjust Door menu the Communication Screen will update as in Figure 75, showing a list of three adjustable parameters. Each of these three parameters can be adjusted by selecting the function pushbutton associated with the adjustable parameters name. In the Communication Screen depicted in Figure 75, the F5 function pushbutton would be selected to adjust the Close Direction Maximum Door Speed, the F6 pushbutton would allow the user to adjust the Close Direction Minimum Door Speed, and F7 is selected for Close Slow Down.

```
F5 CLOSE MAX SPEED  
F6 CLOSE MIN SPEED  
F7 CLOSE SLOW DOWN  
F4=MORE BKSPACE=BACK
```

**Figure 75**

Line 4 of the Adjust Door function defines two other pushbutton operations that perform a task. The first pushbutton is the F4 function pushbutton. Pressing the F4, function pushbutton will scroll the adjustments forward through the adjustment list showing three additional adjustments. The F4 pushbutton can be pressed repetitively until the end of the adjustment list is reached (Reload Defaults). The other pushbutton option is the Backspace key. As the Communication Screen suggests, the Backspace key will move Backwards through the Adjustment list, 3 at a time, until the first 3 adjustment are shown on the Communication Screen. Table 5 shows a list of adjustable parameters used with the MAC Marathon(WG) DOB.

# MAC 105 DOB

CLOSE MAX SPEED  
CLOSE SLOW DOWN  
CLOSE CURR LIMIT  
OPEN MIN SPEED  
OPEN FAULT SPEED  
Nudge Speed  
Reload Defaults

CLOSE MIN SPEED  
CLOSE FAULT SPEED  
OPEN MAX SPEED  
OPEN SLOW DOWN  
Acceleration  
Clutch Pickup

**Table 5**

Each of these adjustments is broken down individually as follows in Figures 76-89:

## CLOSE MAX SPEED

Max Close Speed  
Min: 0.04 Max: 1.60  
Curr: 0.80 ft/sec  
F1-Inc F2-Dec F8-Ex

**Figure 76**

-High speed close direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.04 ft/sec  
F2: Decrease by 0.04 ft/sec

## CLOSE MIN SPEED

Min Close Speed  
Min: 0.02 Max: 0.50  
Curr: 0.22 ft/sec  
F1-Inc F2-Dec F8-Ex

**Figure 77**

-Slow speed close direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.02 ft/sec  
F2: Decrease by 0.02 ft/sec

## CLOSE SLOW DOWN

Set Close Slowdown  
Min: 1.00 Max: 255.0  
Curr: 110.00 counts  
F1-Inc F2-Dec F8-Ex

**Figure 78**

-Slow Down Distance in Close Direction  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 1.00 Encoder Counts  
F2: Decrease by 1.00 Encoder Counts

## CLOSE FAULTS SPEED

Close Fault Speed  
Min: 0.02 Max: 0.60  
Curr: 0.30 ft/sec  
F1-Inc F2-Dec F8-Ex

**Figure 79**

-Close door speed when fault detected  
-Range of adjustment  
-Current adjustment setting  
F1: Increase by 0.02 inches  
F2: Decrease by 0.02 inches

# MAC 105 DOB

## CLOSE CURR LIMIT

Current should not  
Be adjusted while  
Door is in service.  
Cont? (Yes/No)

Figure 80

- Sets current limit to door while door is closing
- Range of adjustment
- Current adjustment setting
- Yes - Proceed with Adjustment (Figure 81)
- No - Return To Adjust Door Menu

## CLOSE CURR LIMIT (YES SELECTED)

Please wait while  
Door opens

Figure 81

- wait for door to completely open before proceeding

- Door will be completely open when Figure 82 appears.

## CLOSE CURR LIMIT (DOOR FULLY OPEN)

Press F4 to begin  
Closing doors

F8 - Exit

Figure 82

- Doors should begin closing upon pressing F4.
- Block Doors with pressure gauge at 1/3 closed point.
- Figure 83 appears allowing user to adjust closing current

## CLOSE CURR LIMIT (F4 SELECTED)

Close Curr. Limit  
Min: 0.08 Max: 20.4  
Curr: 4.6 amps  
F1-Inc F2-Dec F8-Exit

Figure 83

- Current Limit Close Direction
- Range of adjustment
- Current adjustment setting
- F1: Increase by 0.04 amps
- F2: decrease by 0.04 amps

## OPEN MAX SPEED

Max Open Speed  
Min: 0.04 Max: 2.00  
Curr: 1.00 ft/sec  
F1-Inc F2-Dec F8-Ex

Figure 84

- High speed in open direction
- Range of adjustment
- Current adjustment setting
- F1: Increase by 0.04 ft/sec
- F2: Decrease by 0.04 ft/sec

## OPEN MIN SPEED

Min Open Speed  
Min: 0.04 Max: 1.00  
Curr: 0.20 ft/sec  
F1-Inc F2-Dec F8-Ex

Figure 85

- Low speed in open direction
- Range of adjustment
- Current adjustment setting
- F1: Increase by 0.04 ft/sec
- F2: Decrease by 0.04 ft/sec

# MAC 105 DOB

## OPEN SLOW DOWN

```
Set Open Slowdown
Min: 1.00 Max: 255.0
Curr: 120.00 counts
F1-Inc F2-Dec F8-Ex
```

Figure 86

- Open slowdown distance
- Range of adjustment
- Current adjustment setting
- F1: Increase by 1.00 encoder counts
- F2: Decrease by 1.00 encoder counts

## OPEN FAULT SPEED

```
Open Faults Speed
Min: 0.02 Max: 0.60
Curr: 0.30 ft/sec
F1-Inc F2-Dec F8-Ex
```

Figure 87

- Open Door speed when fault detected
- Range of adjustment
- Current adjustment setting
- F1: Increase by 0.02 ft/sec
- F2: Decrease by 0.02 ft/sec

## ACCELERATION

```
Set Acceleration
Min: 1.00 Max: 10.00
Curr: 1.00 units
F1-Inc F2-Dec F8-Ex
```

Figure 88

- Door acceleration
- Range of adjustment
- Current adjustment setting
- F1: Increase by 1.00 units
- F2: Decrease by 1.00 unitsc

## NUDGE SPEED

```
Set Nudging Speed
Min: 0.04 Max: 1.20
Curr: 0.22 ft/sec
F1-Inc F2-Dec F8-Ex
```

Figure 88

- Nudging Speed
- Range of adjustment
- Current adjustment setting
- F1: Increase by 0.04 ft/sec
- F2: Decrease by 0.04 ft/sec

## CLUTCH PICKUP

```
Set Clutch Pickup
Min: 1.00 Max: 255.0
Curr: 66.00 counts
F1-Inc F2-Dec F8-Ex
```

Figure 89

- Distance door clutch picked
- Range of adjustment
- Current adjustment setting
- F1: Increase by 1.00 encoder counts
- F2: Decrease by 1.00 encoder counts

The last item on the DOOR ADJUSTMENTS list is labeled Reload Defaults. When Reload Defaults is selected the Communication Screen appears as in Figure 90.

## Reload Defaults

```
Reset should not
be performed while
door is in service.
Cont? (Yes/No)
```

Figure 90

- Resets all adjustment values to their default value
- Select Yes to accept
- Select No to cancel

## MAC 105 DOB

The initial screen of the Reload Defaults selection, warns the user that the default adjustments should not be reloaded with the door is in service. The tool requires the user to select the Yes or No pushbutton to determine the desire of reloading the default values of the door. At this point, selecting the No pushbutton would cancel the Reload Defaults procedure and return the tool to the Door Adjustments menu. Selecting the Yes pushbutton causes the Communication Screen to update as shown in Figure 91.

```
Resetting...
```

**Figure 91**

Figure 91 demonstrates to the user that the DOB is reloading its default values. Upon a successful reload of the door adjustments, the Communication Screen will appear as in Figure 92. The tool, as shown in Figure 92, will indicate to the user that the default adjustment value restoration was completed and that the system should be rebooted. To do this, press the RESET pushbutton on the MAC 105 DOB and restart the FREEDOMWare: KONE-MAC DOB Software Module. Note that this will require the user to re-logon to the MAC 105 DOB.

```
Defaults Restored
System will now
reboot
Turn me off
```

**Figure 92**

### HEAVY DOOR ADJUST:

To access the adjustable parameters for a MAC 105 DOB set up as a "Heavy Door", the user would select the menu choice F4 from the Adjust Door menu to show the Menu choice F1 HEAVY DOOR ADJUST. When the F1 HEAVY DOOR ADJUST function pushbutton is selected, the Communication Screen will update as in Figure 93, showing a list of three adjustable parameters. Each of these three parameters can be adjusted by selecting the function pushbutton associated with the adjustable parameters name. In the Communication Screen depicted in Figure 93, the F5 function pushbutton would be selected to adjust the Close Direction Maximum Door Speed, the F6 pushbutton would allow the user to adjust the Close Direction Minimum Door Speed, and F7 is selected for Close Slow Down.

```
F5 CLOSE MAX SPEED
F6 CLOSE MIN SPEED
F7 CLOSE SLOW DOWN
F4=MORE BKSPACE=BACK
```

**Figure 93**

Line 4 of the Adjust Door function defines two other pushbutton operations that perform a task. The first pushbutton is the F4 function pushbutton. Pressing the F4, function pushbutton will scroll the adjustments forward through the adjustment list showing three additional adjustments. The F4 pushbutton can be pressed repetitively until the end of the adjustment list is reached (Reload Defaults). The other pushbutton option is the Backspace key. As the Communication Screen suggests, the Backspace key will move Backwards through the Adjustment list, 3 at a time, until the first 3 adjustment are shown on the Communication Screen. Table 6 shows a list of adjustable parameters used with the MAC Marathon(WG) DOB.

# MAC 105 DOB

CLOSE MAX SPEED	CLOSE MIN SPEED
CLOSE SLOW DOWN	CLOSE FAULT SPEED
CLOSE CURR LIMIT	OPEN MAX SPEED
OPEN MIN SPEED	OPEN SLOW DOWN
OPEN FAULT SPEED	Acceleration
Nudge Speed	Clutch Pickup
Reload Defaults	

**Table 6**

The description of these adjustments is similar to what is seen for NORMAL DOOR ADJ in the previous section. Please review Figures 76 through 89 for information on each HEAVY DOOR ADJUSTMENT AVAILABLE. There is also a choice of Reload Defaults on the HEAVY DOOR ADJUST menu that performs the same way as the Reload Defaults selection in the NORMAL DOOR ADJ menu. Refer to the Reload Defaults selection on the NORMAL DOOR ADJ section of the MAC 105 DOB section of this manual.

## EXIT:

Selecting the F8-Exit function from the Adjust Door menu will exit the tool from the Adjust Door function and return the FREEDOMWare: KONE-MAC DOB Software Module to the Main Function Mode menu.

## **F7 Error Log**

To view or reset the MAC 105 DOB's error list, the user would select F7 ERROR LOG from the main function menu. When the Error Log function is selected, the Communication Screen will appear similar to the one seen in Figure 94. The Error Log function menu gives the user four sub-function choices. These choices are F1 FULL ERROR LIST, F2 NON-CRIT ERR SMRY, F3 CLEAR ERROR LOG, and F8 EXIT.

```
F1 FULL ERROR LIST
F2 NON-CRIT ERR SMRY
F3 CLEAR ERROR LOG
F8 EXIT
```

**Figure 94**

## FULL ERROR LIST:

The MAC 105 has the ability to log up to 100 errors. This error log is viewed by selecting the F1 pushbutton from the Error Log menu. When the Full Error List is selected from the Error Log menu, the Communication Screen will update similar to what is seen in Figure 95.

```
Err 14: 157
Err 13: 51
Err 12: 157
F4=MORE BKSPACE=BACK
```

**Figure 95**

The Full Error List screen shows up to 3 errors, contained within the error log, at a time. These errors are displayed on lines 1 through 3 on the Communication Screen. Each error list entry begins with the text "Err" and then a number followed by a colon (:). This number is the entry number on the error list for the displayed error. On Line 1 of the Full Error List shown in Figure 95, the entry number would be 14. After the colon, the next number seen is the actual error number. Error list entry number 14 on Line 1 of Figure 95 is the error number 157. Error number 157 is indicating that both the open and close limit switches are active. Table 7 shows the known error numbers for the MAC 105 Door Operator Board's

## MAC 105 DOB

errors and their description.

Error Number	Description
1	Door does not reach DOL or DCL on requested OPEN/CLOSE
2	Bad Open-Close-Stop switch
3	EEPROM Set 1: Bad Checksum
4	EEPROM Set 2: Bad Checksum
5	EEPROM Set 1: corrupt
6	EEPROM Set 2: corrupt
7	Unable to save value to EEPROM Set 1
8	Unable to save value to EEPROM Set 2
9	Encoder Failure
10	I <sup>2</sup> C Failure (Resetable)
11	EEPROM not responding
12	Encoder indicating wrong direction in Close
51	Current Sense circuit failed
52	Torque Limit exceeded (Current)
53	Door Stationary but Current detected
54	Open limit encoder count does not match learned value
55	Close limit encoder count does not match learned value (0)
101	DAC Failure
102	I <sup>2</sup> C Failure (Unable to Reset)
103	DCL Failure – while door opening
104	Error 51-52 Overlimit (3 in a row)
105	Relay failure (Stuck engaged)
106	Relay Failure (Stuck disengaged)
107	Failure in Relay or H-Bridge
151	RAM Parameter Checksum error (Compared to value at Boot)
152	H-Bridge Enable Failed
153	H-Bridge Direction Control Failed
154	12V Power Failure
155	Main Power Failure
156	Dip Switch Read error
157	DCL and DOL engaged at same time
158	DOL Failure – while door closing
159	Motor Relay Control Failure
160	Encoder indicating wrong direction in Open

**Table 7**

Line 4 of the Communication Screen informs the user of the active function buttons while in the Full Error List function. The first active pushbutton is F4. Pressing the F4 pushbutton while in the Full Error List function will advance the fault list showing the next three errors in the error list. Keep in mind that the most recently occurring errors were found at the beginning (higher entry numbers) of the error log. F8 is the other active pushbutton within the Full Error List function. The F8 pushbutton, when selected, will exit the FREEDOM Tool out of the Full Error List function and return the Communication Screen to the Error Log function menu. If the end of the error list is reached the Communication Screen will appear similar to Figure 96. Figure 96 shows that the “End of Log” has been reached and that the user’s only option at this time is to select the F8-Exit pushbutton.

## MAC 105 DOB

```
Err 2: 4  
Err 1: 3  
** End of Log **  
Press F8 to Exit
```

**Figure 96**

### NON-CRIT ERR SMRY:

Use the F2 NON-CRIT ERR SMRY selection to display a brief summary of the non-critical errors that have been logged within the MAC 105 DOB. When the Non-critical error summary is selected from the Error Log function menu, the Communication Screen updates similar to what is seen in Figure 97.

```
Err: 3 Num= 1  
Err: 4 Num= 1  
** End of Log **  
Press F8 to Exit
```

**Figure 97**

The number displayed after the acronym “Err” is the actual non-critical error number. Refer to Table 7 to get an understanding of the error. Located after the “Num” acronym is a number representing the number of times the error occurred. When “\*\*End of Log\*\*” appears within the Communication Screen, the last error within this error log has been displayed. The Non-Critical Error log displays only three errors at a time. If more than three errors have been logged, the user can select the F4 function pushbutton to advance through the list of logged errors. The F8 function pushbutton is used to return to the Error Log function menu.

### CLEAR ERROR LOG:

The CLEAR ERROR LOG function selection is used to clear out the MAC 105 DOB’s error log. When the F3 pushbutton is selected, the Communication Screen updates similar to what is seen in Figure 98.

```
Are you sure?
```

**Figure 98**

The Clear Error Log screen as shown in Figure 98 is looking for a response from the user. The possible responses are the Yes or No pushbuttons. Selecting the No pushbutton will cancel the Clear Error Log function without clearing the errors logs and return the Communication Screen to the Error Log function menu. Selecting the Yes pushbutton will cause the FREEDOM Tool to clear the error log. The clearing of the error log will be indicated by means of a screen similar to Figure 99.

```
Clearing log...
```

**Figure 99**

The “Clearing log...” message as shown in Figure 99 indicates that the error log is being cleared. This message will only be present for a couple of seconds and then the Communication Screen will update to what is shown in Figure 100.



## APPENDIX A: Using Device Manager

Log Cleared  
Press F8

Figure 100

The “Log cleared” message depicted in Figure 100 informs the user that the error log was cleared. To exit the Clear Error Log function and return to the Error Log function menu, the user should select the F8-Exit pushbutton at this time.

### EXIT:

Selecting the F8-Exit pushbutton from the Error Log function menu, will return the Communication Screen to the MAC 105 DOB main function menu.

### F8 Exit

Selecting the F8 Exit function from the MAC 105 DOB main function menu will log the tool off of the DOB. When the EXIT function is selected the Communication Screen will update to show the message “bye Turn me off”. It is the MAC 105 DOB tool’s way of indicating to the user that it is safe to disconnect the FREEDOM Tool from the MAC 105n DOB.

## APPENDIX A: Using Device Manager to Determine Serial Port Assignment

1. Click the **Start** button on the Windows Toolbar.
2. Find **COMPUTER** or **My Computer** on the menu.
3. Right click **COMPUTER** or **My Computer** and select **Manage** from the menu that pops up.
4. A window titled **Computer Management** will open as in Figure 101. Find **Device Manager** on the left side of the window and select it using the computer-pointing device's left button.

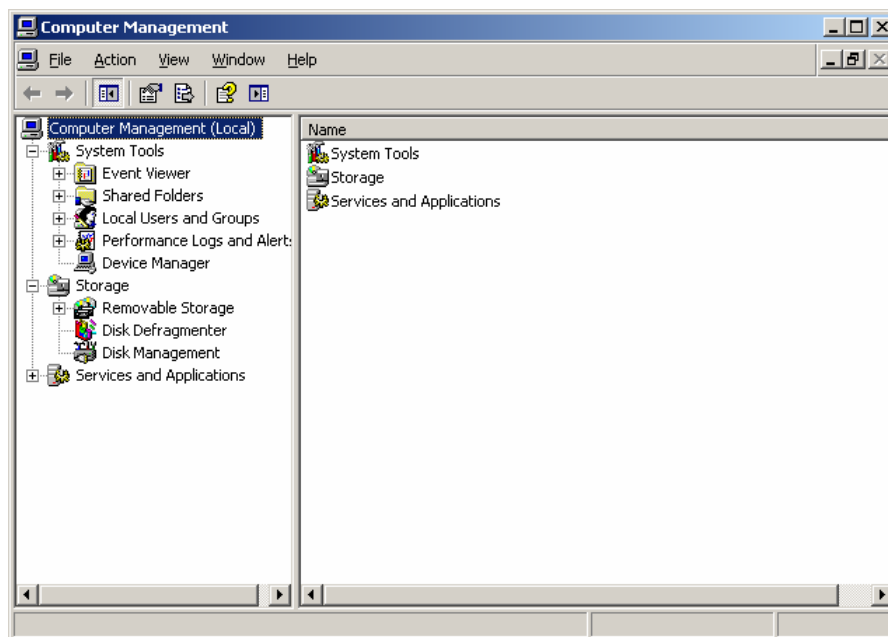


Figure 101

## APPENDIX A: Using Device Manager

5. This will update the **Computer Management** window to look similar to what is seen in Figure 102. Find **Ports(COM & LPT)** on the device category list.

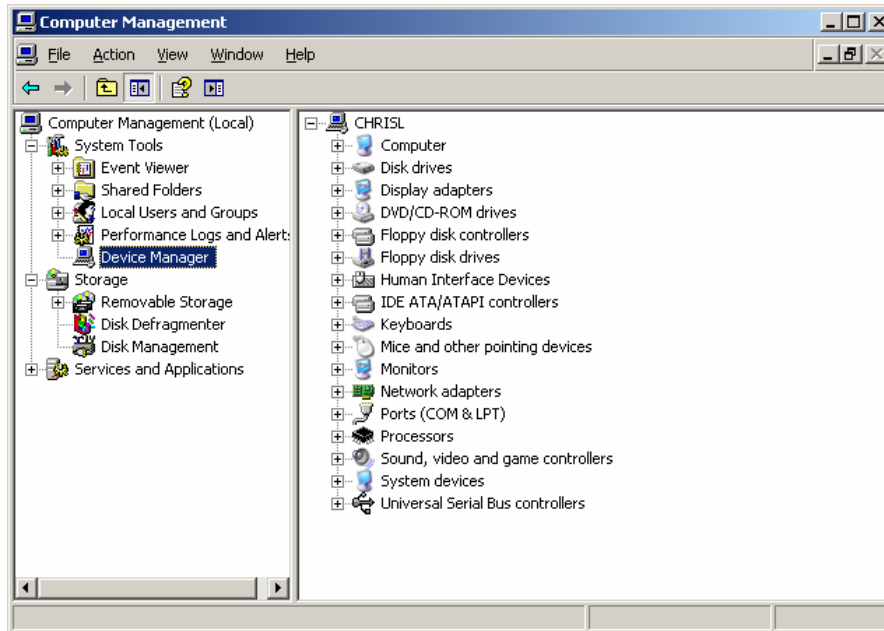


Figure 102

6. Double click the category **Ports (COM & LPT)** to expand the list of serial and parallel port devices. If the drivers have been installed on the computer and the Interface Box is plugged in, a device named **Silicon Labs CP210X USB to UART Bridge** should appear similar to what is seen in Figure 103.

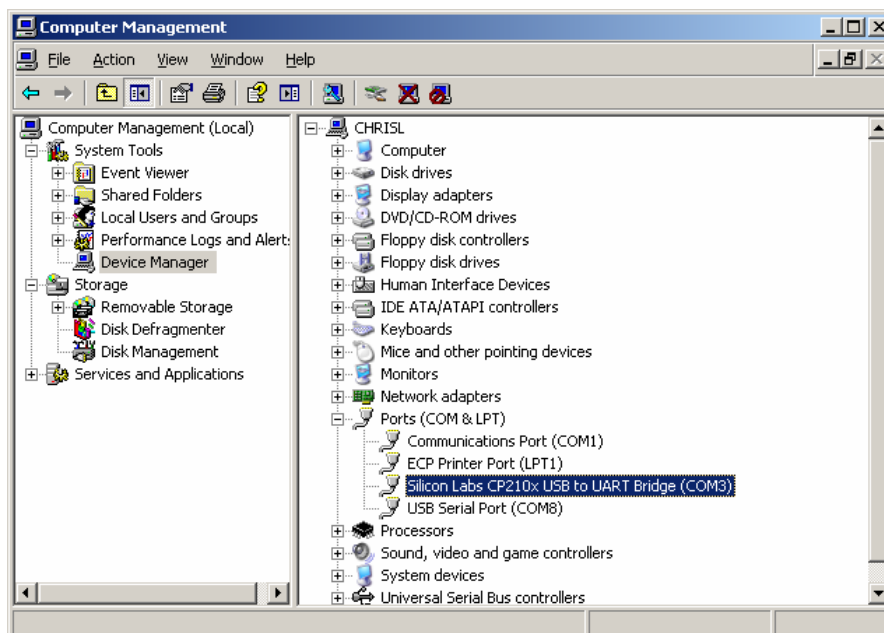


Figure 103

## APPENDIX A: Using Device Manager

7. Please note the COM port (In the example COM3) that is assigned to this device and use it to select the COM port in the KONE-MAC DOB Software Module's **Communication Port Set-Up** window. If the Silicon Labs part does not show up on this list do the following:
  - a) Make sure the KONE Products Interface Box is connected to a USB port on the computer. If the drivers were installed and this device is plugged in the Silicon Labs part should appear under the Port category in the Device Manager.
  - b) If after doing the step above, the Silicon Labs Part does not appear please do the following to install the drivers:
    - i. Disconnect the KONE Products Interface Box
    - ii. Select **Start**
    - iii. Select **COMPUTER** or **My Computer** on the menu.
    - iv. Double click on the **C** drive.
    - v. Find the folder named **Nellie** and double click it.
    - vi. Double click the **SiLabs** folder.
    - vii. Double click the **MCU** folder.
    - viii. Double click the **CP210X** folder.
    - ix. Double click the **Vxp PreInstall** folder.
    - x. Run **CP210xVCPInstaller** by double clicking. This will install the current drivers for the Silicon Laboratories part located within the KONE Products Interface Box.
    - xi. Plug the KONE Products Interface Box back into the computer. Go back to Step 1 of **Using Device Manager to Determine Serial Port Assignment**. If the Silicon Labs part still does not appear, contact FREEDOM Tool Technical Support at WORLD electronics.