

# *Multipurpose Electronic Sign Developer*

for PCs running Microsoft Windows



## **User Guide**

Revision 1.0

**LOGIC RAIL** <sup>TM</sup>  
**TECHNOLOGIES**

*PMB #287    21175 Tomball Parkway    Houston, TX 77070  
Voice/Fax: (281) 251-5813  
email: [info@logicrailtech.com](mailto:info@logicrailtech.com)  
<http://www.logicrailtech.com>*

# Multipurpose Electronic Sign Developer User Guide

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## 1 Introduction

Thank you for purchasing a **Logic Rail Technologies** product! This software is owned by **Logic Rail Technologies** or its suppliers and is protected by United States copyright laws and international treaty provisions. Therefore, you must treat the software like any other copyrighted material (e.g. a book or musical recording) **except** that you may transfer the software to a single hard drive. You may not copy the written materials accompanying the software.

The Multipurpose Electronic Sign (MES) Developer is an easy-to-use Windows-based software program that allows you to do the following to the MES:

1. Configure the Fast Clock's initial time
2. Configure the temperature to be displayed
3. Change the scroll type of the time/temp feature
4. Enter new messages
5. Set the scroll speed and message delay parameters
6. Set the display brightness level
7. Control the Fast Clock and messages from the keyboard

Most of the above parameters can be changed temporarily (while MES power is on) or permanently (stored on the controller).

### REQUIREMENTS:

- MES Developer CD-ROM
- MES to PC serial port cable
- PC running Windows (95, 98, Millenium, 2000, XP)
- PC mouse
- RS-232C compatible serial port (9 pin)

## 2 Serial Port Connections

### 2.1 Connecting to the MES

There is a black connector on the MES controller that looks like a telephone jack. Simply plug the mating end of the serial port cable into this connector. Make sure you hear the "click" when it is properly inserted.

### 2.2 Connecting to your PC

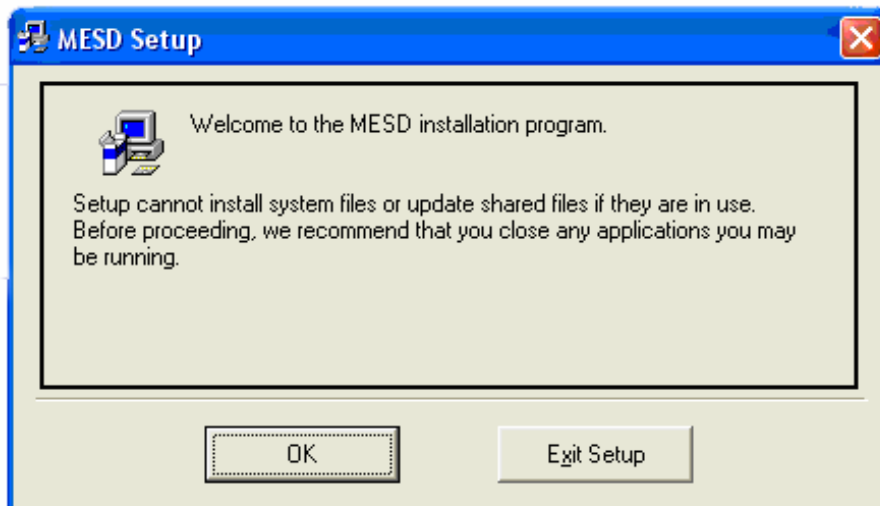
The serial port cable has a 9 pin female connector to connect to your PC's RS-232C compatible serial port. Simply plug the connector onto the serial port of your PC. If your PC has multiple serial ports you can connect the cable to any of them; the MES Developer software can communicate with serial port #1 (also referred to as COM1) through serial port #4 (COM4). Refer to your PC's documentation to determine which COM port you are using – you will need to know this when you load the MES Developer software!

### 3 Installing the MES Developer Software

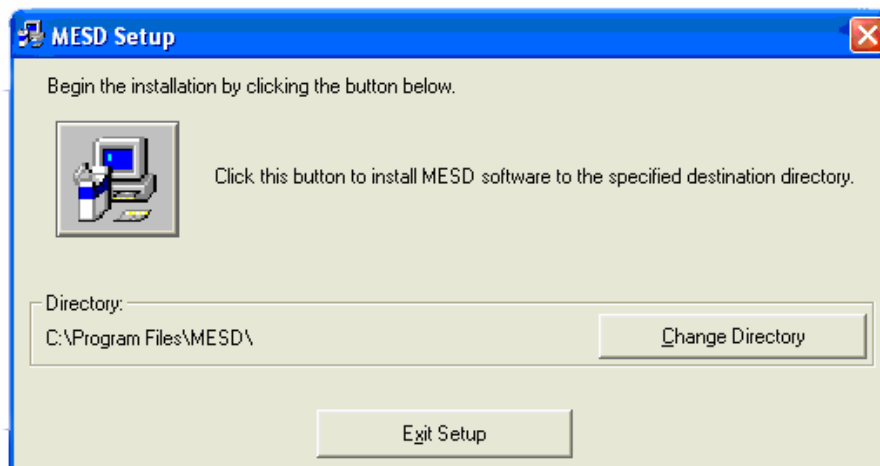
The CD contains a setup program to install the MES Developer application on your PC. After you have placed the CD in your PC's CD-ROM drive navigate to the files on the CD using Windows Explorer or My Computer. Once you see the list of files on the CD double-click on the Setup icon.



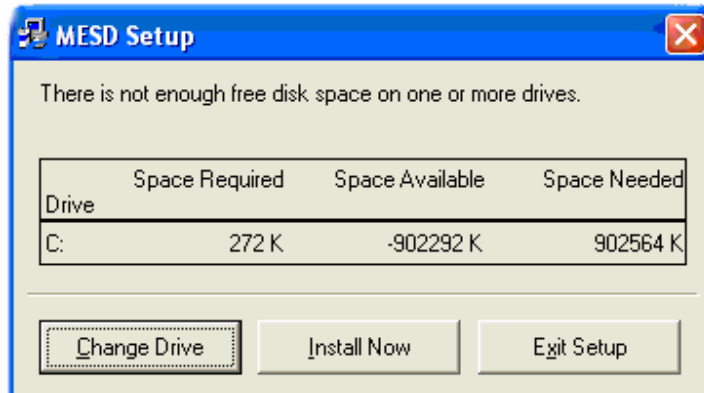
This will launch the setup process and the following dialog box will appear:



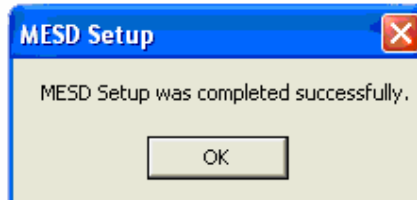
Click on the OK button to proceed. Next the following dialog box will recommend a directory to install the software in. If you wish to change the location where the software will be installed click on the Change Directory button. Otherwise click on the icon of the computer to install the software.



On some PCs you might see the following “error” message. This is most likely a false error so click on the Install Now button to continue.



If the installation was successful the following message box will appear. Click on the OK button to finish.



Congratulations! Your MES Developer software is now ready to use.

## 4 Using the MES Developer

The MESD CD has a text file called README.TXT on it. It contains last minute documentation changes and any other important notes that are not included in this document. Please read it before continuing on.

In this manual, curly brackets will be used to denote a key on your keyboard. For example, {enter} indicates that you should press the **enter** or **return** key.

Once the MES Developer establishes communication with the MES it will prevent using the switches on the MES Controller board to change the clock speedup or enter set mode. In addition, the clock run/stop mode will be the "or" of the **RUN** input on the MES Controller, the **RUN** switch on SW1 and the state of the clock run/stop mode from the MES Developer. In other words, the clock can only be stopped if the **RUN** input on the MES Controller is floated **and** the **RUN** switch on SW1 is **OFF and** the MES Developer has the clock stopped (refer to the **Configure Time/Temp** menu). Each message enable will also be the "or" of the MES Controller's switches and the state of the enables from the MES Developer. However, if the MES Developer program is exited you can re-gain control using the switches by resetting the clock (refer to the **Multipurpose Electronic Sign User's Guide** for instructions on how to reset the clock).

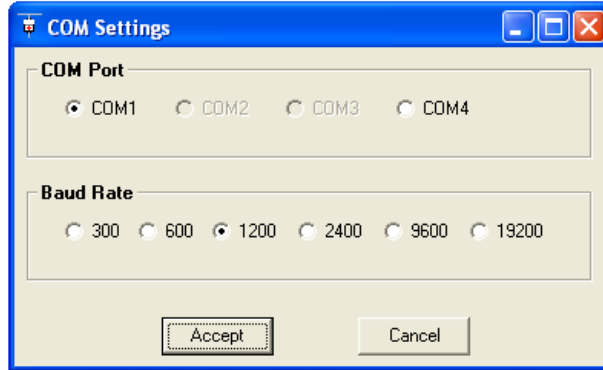
### 4.1 Running the program

To launch the program click on Start • All Programs and then double-click on the MESD icon. Alternately, you can use Windows Explorer (or any other applicable file directory window) to find the MESD icon in the directory it was installed in (default is C:\Program Files\MESD). When the program first loads you will see the following introductory window:



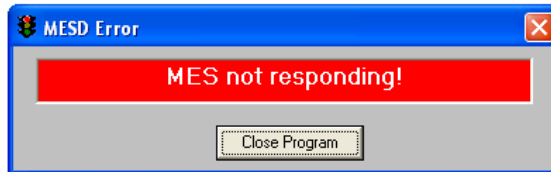
The COM settings box indicates the current (or default when run for the very first time) settings for the COM port and baud rate. You **MUST** make sure that the COM port selected matches the COM port that you attached the serial cable to! If these do not match then left-click on the "Change" button. You can also select the baud rate which establishes the speed of communication between the PC and the MES. The higher the baud rate, the

faster the MES Developer will communicate with the MES. However, faster baud rates are more sensitive to errors from external noise. If you left-click on the “Change” button then the following window will pop up.



There are two sets of options: COM Port and Baud Rate. The current settings are indicated with a black dot. In this example COM1 is selected at a baud rate of 1200. Notice that COM2 and COM3 are grayed out; this indicates that those COM ports are not available on this PC. Although COM4 is shown as available it is being used by the PC’s modem (refer to your PC’s documentation or use Windows’ Device Manager for more information). Once you are satisfied with your selections left-click on the “Accept” button. If you prefer to keep the current settings (even if you have made changes) simply left-click on the “Cancel” button. The COM Settings window will close.

Once your COM port and baud rate selections have been made left-click on the “Continue” button. At this point the MES Developer will initialize your PC’s serial port and will attempt to communicate with the MES. If successful, then the Main Menu of options (refer to section 4.3) will be displayed. If unsuccessful, the following message box will pop up:



This indicates that the MES Developer was unable to establish communication with the MES Controller. You should exit the program immediately (left-click on the “Close Program” button). You should then check your serial port connections to the MES Controller and your PC. Incorrect or loose connections are the most common problems. You may also wish to try a lower baud rate when you re-run the program. Turn off the power source to the MES and then turn it on again before attempting to re-run the MES Developer.

During program execution you may receive an error message box. This usually indicates that the communication link between the MES Developer and the MES Controller has been lost. Refer to the Appendix for a list of error messages. Repeated error messages should be reported to us.

## 4.2 Message and Option Storage

The MES Controller contains a device which is called an EEPROM (Electrically Erasable Programmable Read Only Memory). That's a lot of technical jargon which basically means that you can store information in it and turn the power off without losing the information! The MES Controller uses this device to store your messages and display settings (brightness, default time, temperature, etc).

### 4.3 Main Window

Once the MES Developer has established communication with the MES, the main window will be presented.



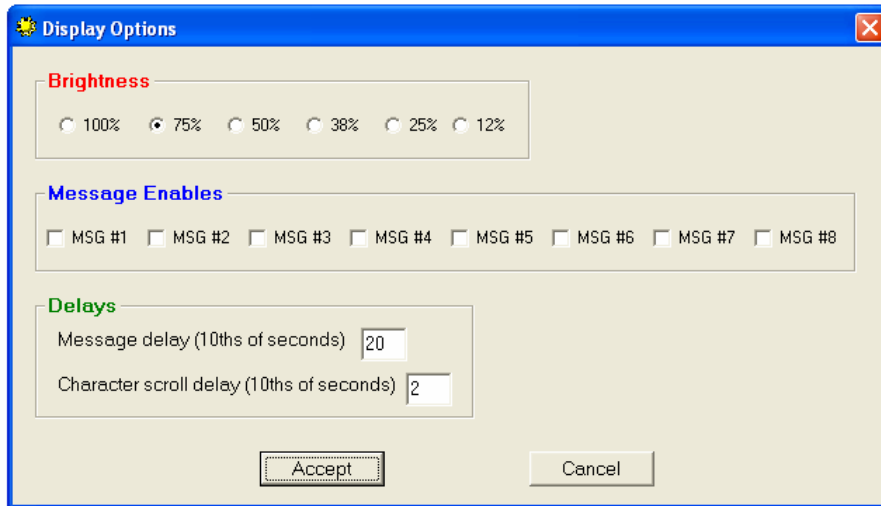
From this window you will make the choice of what action you would like to take. The choices are listed across the top menu bar:

Display Options      Time/Temperature      Messages      MES Hardware      Help      Exit

Although MES Maintenance is also shown it is password-protected option that is only utilized (with our assistance) if you are having certain technical issues.

You can select the action by left-clicking on it. Alternatively, you can press and hold the {alt} key on your keyboard and simultaneously press the underlined letter of the action. For example, if you hold down the {alt} key and press the {M} key you will select “Messages”. Note that in the screen shot shown above each action has an underlined letter as a result of the user pressing the {alt} key.

### 4.3.1 Display Options



From this window you can change the brightness of the display, which messages to display, the message delay amount, and the scroll delay amount. In the window snapshot shown above the current values indicated are 75% brightness, no messages enabled, a 2.0 second message delay and a 0.2 second scroll delay. When you first select this action from the main window the values will reflect the ones stored by the MES Controller. **Changing any of these values will only stay in effect temporarily (while power is on to the MES).** However, you can make the changes permanent using the **MES Hardware • Default Values** action (section 4.3.6). Left-clicking the “Cancel” button at any time will close this window and return you to the main window; none of the values will be changed. Left-click your mouse to move from one field to another.

#### Brightness

Select a new brightness level for the display by left-clicking on the desired level.

#### Message Enables

Left-click on a message number if you wish to enable or disable the displaying of that message. Each time you left-click on a message number the enable/disable state will be toggled. If the box has a check mark (✓) then the displaying of that message is enabled; no check mark means that it is disabled. Note that the message contents are NOT affected by this action and enabling the display of an empty message will not result in any action taken for that message number.

#### Message Delay

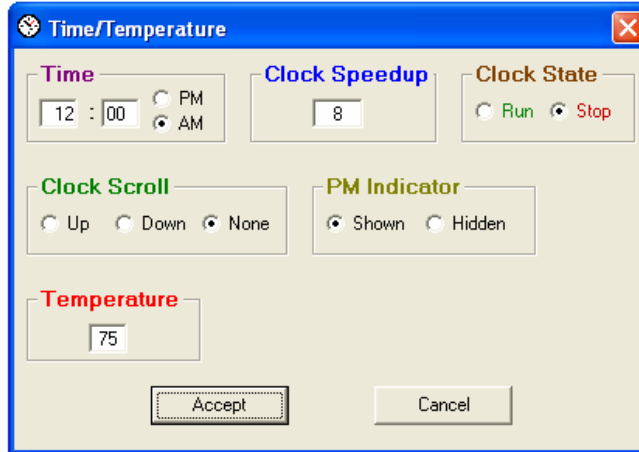
This parameter determines the length of time that a non-scrolling message will be displayed before the next message or time/temp is displayed. This parameter is also used to determine how long the non-scrolling time/temp is displayed. The value, in tenths of seconds, can range from 0 to 255 (25.5 seconds). Enter the value followed by pressing the {enter} key. You MUST press the {enter} key for the value to be accepted!

#### Scroll Delay

This parameter determines the speed at which the display will scroll. The value, in tenths of seconds, can range from 0 to 255 (25.5 seconds). Enter the value followed by pressing the {enter} key. You MUST press the {enter} key for the value to be accepted!

Once you are satisfied with your selections left-click on the “Accept” button.

### 4.3.2 Time/Temperature



From this window you can change the current time, clock speedup, clock run/stop state, clock scroll mode, showing/hiding the PM indicator, and the temperature value. In the window snapshot shown above the current values indicated are 12:00AM, clock speedup of 8, the clock is stopped, the time/temperature does not scroll, the PM indicator will be shown, and the temperature is 75°. When you first select this action from the main window the values will reflect the ones stored by the MES Controller. **Changing any of these values will only stay in effect temporarily (while power is on to the MES).** However, you can make the changes permanent using the **MES Hardware • Default Values** action (section 4.3.6). Left-clicking the “Cancel” button at any time will close this window and return you to the main window; none of the values will be changed. Left-click your mouse to move from one field to another.

#### Time

You can change the clock's current time by entering a value of 1 – 12 for the hours and press the {enter} key. You **MUST** press the {enter} key for the value to be accepted! You can then enter a value of 0 – 59 for the minutes and press the {enter} key. You **MUST** press the {enter} key for the value to be accepted! Left-click on AM or PM as desired.

#### Speedup

Enter a value from 0 - 15 and press the {enter} key. You **MUST** press the {enter} key for the value to be accepted! A speedup value of 0 will disable the time/temperature from being displayed.

#### Clock State

Left-click on Run or Stop as desired. Remember that the **RUN** input on the MES Controller will also control the clock. So clicking on Stop will only stop the clock if the **RUN** input is floated.

#### Clock Scroll

Left-click on Left, Right or None as desired.

#### PM Indicator

Left-click on Shown or Hidden as desired.

#### Temperature

Enter a number from 0 – 99 and press the {enter} key. You **MUST** press the {enter} key for the value to be accepted!

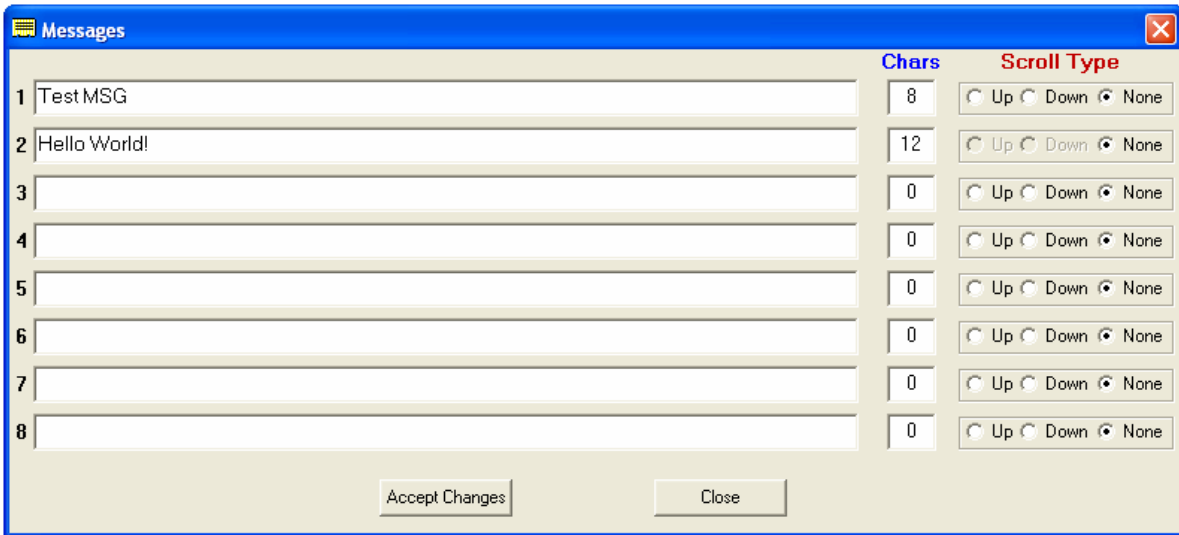
Once you are satisfied with your selections left-click on the “Accept” button.

### 4.3.3 Messages

When you first select this action the MESD will retrieve all stored messages from the MES Controller. While this is in progress the following pop-up box will be shown indicating progress. The box will close automatically when all messages have been retrieved.



The following window is then displayed. Listed are any currently stored messages along with each message's character count (Chars) and scroll type. Messages that are 10 characters or less in length (e.g. message #1 below) can either scroll up, scroll down, or not scroll at all. Messages greater than 10 characters in length (e.g. message #2 below) cannot scroll up or down and have those options grayed out; these messages will automatically scroll from right to left when displayed.



Left-click the message text box in order to add or modify the message. As you enter or delete characters from the message the character count will change accordingly. If you reach a character count you will not be allowed to enter additional characters. Once you are satisfied with your editing you MUST press the {enter} key to accept the message text. If the message is 10 characters or less you may choose to have it scroll up, down or not at all. Once a message becomes greater than 10 characters the scroll up and scroll down options will be grayed out and thus made unavailable. You may choose to abandon any changes by left-clicking on the "Close" button.

The MES supports all characters available on a standard U.S. keyboard.

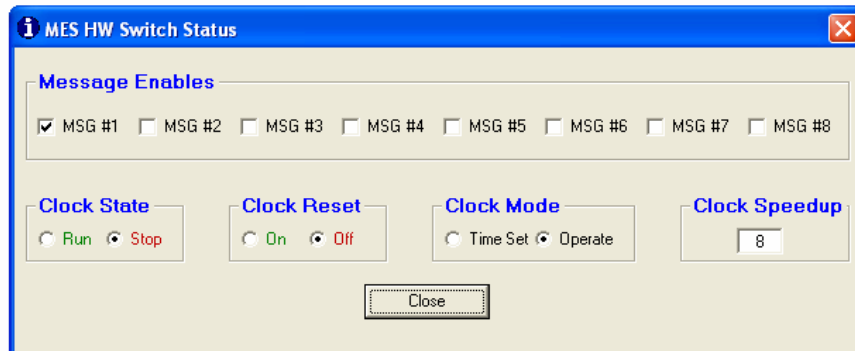
Once you are satisfied with all message edits left-click on the “Accept Changes” button; a box will pop-up indicating the progress of the message storage on the MES. If no changes were made to any existing messages (including scroll type) and no new messages were entered then left-clicking the “Accept Changes” button has the same effect as the “Close” button.



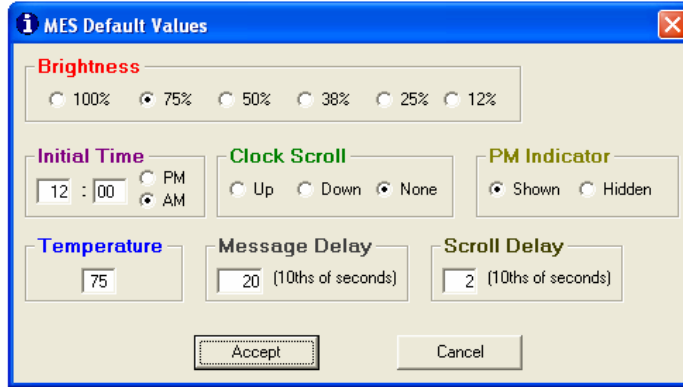
### 4.3.4 MES Hardware



The “Switch Status” option allows you to view the state of the hardware switches on the MES Controller. When this option is selected from the main window the MES Developer will ask the MES Controller for its switch status and display the information in a window resembling the one below. In this example message #1 is enabled, while the other information should be self-explanatory. Left-click the “Close” button when you are done viewing the information. It is not possible to change the hardware switches from the MES Developer!



This window allows you to specify parameters that can be permanently stored on the MES Controller. When this option is selected from the main window the MES Developer will request the current values that the MES Controller has stored. These are referred to as the hardware defaults since these are the values that the MES Controller uses when it first powers up.



If you don't wish to change any of the current values then simply left-click on “Cancel” button. You can also left-click the “Cancel” button to abort any changes. Changing the default values is done in the same way you changed them temporarily on the Display Options or Time/Temperature windows. Once you are satisfied with the values left-click the “Accept” button. The MES Developer will then tell the MES Controller to store the new defaults which will take effect the next time the MES Controller is powered up.

### 4.3.5 Help

There are two selections for getting additional assistance in the use of the MES Developer.



This manual will hopefully provide all the technical help you need to use the MES Developer. However, if you need further assistance select “Technical Support” and you will be presented with the following information box.

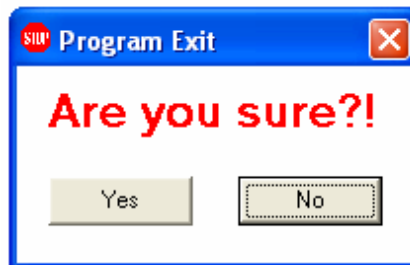


If you select “About MES Developer” you can determine which version of the software you have.



### 4.3.6 Exit Program

If you are done using the MES Developer left-click the “Yes” button which will close the program. If you aren’t ready to exit left-click the “No” button and you can continue to communicate with the MES.



## 5 Limited Warranty

**Logic Rail Technologies** warrants that the software will perform substantially in accordance with the accompanying written materials for a period of one (1) year from the date of receipt. **Logic Rail Technologies'** entire liability and your exclusive remedy shall be replacement of the software that does not meet the Limited Warranty set forth above. The software must be returned to **Logic Rail Technologies** with a copy of the receipt, a description of the problem, and return shipping and handling (\$5.00 inside U.S./\$8.00 outside U.S. - U.S. funds only). Except as written above, no other warranty or guarantee, either expressed or implied by any other person, firm or corporation, applies to this product. The Limited Warranty is void if failure of the software has resulted from accident, abuse, or misapplication. Any replacement software will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

## 6 Appendix

### 6.1 Error Messages

The following error messages can be received while the MES Developer is trying to communicate with the MES Controller:

- MES not responding!
- Serial communication overrun
- Serial packet framing error
- No acknowledgement received from MES
- Error status received from MES
- Incorrect command echoed by MES
- Serial packet checksum error

These typically indicate that the communication link between the MES Developer and the MES Controller has been lost. You should exit the program immediately (left-click on the “Close Program” button). You should then check your serial port connections to the MES Controller and your PC. Incorrect or loose connections are the most common problems. You may also wish to try a lower baud rate when you re-run the program. Turn off the power source to the MES and then turn it on again before attempting to re-run the MES Developer. Contact us for technical assistance if any errors continue to persist.