



INSTRUMENTS

Eagle 2 Maintenance Data Loader Operator's Manual

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www.rkiinstruments.com

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| | |
|----------------------------|-----------------|
| Absorbent cartridges | Batteries |
| Pump diaphragms and valves | Filter elements |
| Fuses | |

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repairs procedures not in accordance with the instruction manual. This warranty indicates the full extent of our liability, and we are not responsible for removal or replacement costs, local repair costs, transportation costs, or contingent expenses incurred without our prior approval.

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We do not assume indemnification for any accident or damage caused by the operation of this gas monitor and our warranty is limited to replacement of parts or our complete goods.

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Introduction

CAUTION: *Read and understand this manual before using the Eagle 2 Maintenance Data Loader Program. Also read and understand the Eagle 2 Operator's Manual included with the Eagle 2 portable gas monitor.*

Using an advanced detection system consisting of up to six gas sensors, the Eagle 2 Personal Gas Monitor detects the presence of combustible gases, oxygen (O₂), carbon monoxide (CO), and hydrogen sulfide (H₂S) simultaneously. The Eagle 2's compact size and easy-to-use design make it ideally suited for a wide range of applications as described in the Eagle 2 Operator's Manual. Please read the Eagle 2 Operator's Manual first before using the Eagle 2 Maintenance Data Loader Program.

The Eagle 2 Maintenance Data Loader Program allows you to change various instrument parameters not accessible in the Eagle 2's user interface. It also allows you to save parameter configuration files based on instruments' parameter settings that can be viewed or used to update another instrument's parameter settings.

The purpose of this manual is to explain how to use the Eagle 2 Maintenance Data Loader Program. You will learn how to:

- install and launch the program
- install the downloading cable (if needed)
- connect to the Eagle 2 with the program
- change parameters in the Eagle 2
- save parameter configuration files that can be opened, viewed, and edited in a word processing program
- save parameter configuration files that can be uploaded to an instrument to change its parameter settings
- upload parameter configuration files to an instrument to change its parameter settings

Before you get started, be sure to review system requirements in the

next section.

CAUTION: *The Eagle 2 detects oxygen deficiency and elevated levels of oxygen, combustible gases, carbon monoxide, and hydrogen sulfide, all of which can be dangerous or life threatening. When using the Eagle 2, you must follow the instructions and warnings in the Eagle 2 Operator's Manual to assure proper and safe operation of the unit and to minimize the risk of personal injury.*

CAUTION: *The operator of this instrument is advised that if the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.*

System Requirements

To use the Eagle 2 Maintenance Data Loader Program, your personal computer must meet the following requirements:

- **Operating Systems:** Windows[®] 7, Windows[®] 8, or Windows[®] 10.
- **Processor:** IBM[®] compatible PC running Pentium[®] 2 or higher.
- **Memory:** 32 MB RAM minimum
- **Available Hard Disk Space:** 32 MB minimum
- **Infrared port or USB port and a USB/IrDA adapter cable**

Installing the Eagle 2 Maintenance Data Loader Program

1. Launch Windows®.
2. Exit from all applications and open windows.
3. Go to www.rkiinstruments.com/eagle2.
4. Click on the **Download** tab.
5. Click the **Eagle 2 Maintenance Data Loader** link.
6. A .zip file will begin to download. Select whether you want to open or save the .zip file.
7. Extract the contents of the .zip file.
8. Double click the **setup.exe** file.
9. After a few seconds, a screen appears indicating that the InstallShield Wizard is preparing to install the E2 Maintenance Setup, then the E2 Maintenance InstallShield Wizard window appears to guide you through installation.

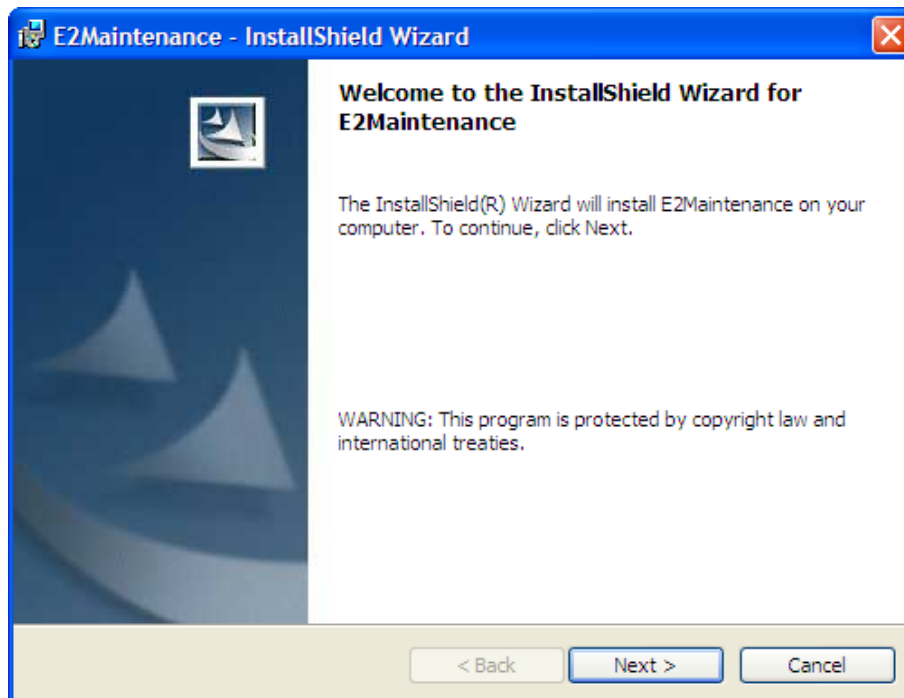


Figure 1: Eagle 2 User Setup Installation Program

10. Follow the on-screen instructions in the InstallShield Wizard Window to install the program.
11. If the InstallShield Wizard finds versions of Windows[®] files on your computer newer than those in the downloaded .zip file, it will ask you if you want to keep these newer files. Click **Yes**.
12. When the InstallShield Wizard indicates that installation is complete, click the **Finish** button.

IrDA Downloading Cable

The Eagle 2 communicates with a computer via an on-board infrared communication port that complies with IrDA protocol standards.

NOTE: If your computer has a built-in infrared port, you do not need an adapter cable to download data.

If your computer does not have an infrared port, you will need to install an IrDA/USB adapter cable on your computer to use the Eagle 2 Maintenance Data Loader Program with your Eagle 2. The IrDA/USB cable is available from RKI Instruments, Inc. See the Spare Parts List at the end of this manual for the RKI part number. This cable can also be found on many electronic supply websites.

Some versions of Windows[®] already have several infrared device drivers loaded in Windows[®] and will automatically recognize a cable during the installation process and guide you in installing the drivers. Other versions of Windows[®] will require you to load device drivers provided by the manufacturer of the cable during the installation process. RKI makes no warranty for the operation or compatibility of the drivers with any particular device.

Installing an IrDA Adapter Cable

After installing the Eagle 2 Maintenance Data Loader Program, connect the IrDA/USB cable to your computer and follow the manufacturer's instructions for installing the cable on your computer. Make sure the cable is compatible with your Windows[®] operating system.

If you do not have instructions from the cable manufacturer for installing your cable, see your Windows documentation. In general, you must go to the Control Panel and use the Add Hardware Wizard to install the cable drivers.

Windows[®] Wireless Link Operation Note

When using an IrDA adapter cable and the Eagle 2 Maintenance Data Loader Program on a Windows[®] computer, it is necessary to make a special setting in the Wireless Link Configuration window for proper communication between the Eagle 2 and the Eagle 2 Maintenance Data Loader Program. This must be done before attempting to use the program. Follow these steps to make this setting:

1. Click **Start** on the Windows[®] Icon Tray.
2. If **Control Panel** is available to select in the **Start** menu, select it. The Control Panel will appear.

If **Control Panel** is not selectable in the Start menu but **Settings** is, select **Settings**, then select **Control Panel**. The Control Panel will appear.

3. Double click on **Wireless Link**. The Wireless Link Configuration window will appear.
4. Click on the Image Transfer tab.
5. Deselect the selection box for "Use Wireless Link to transfer images from a digital camera to your computer."

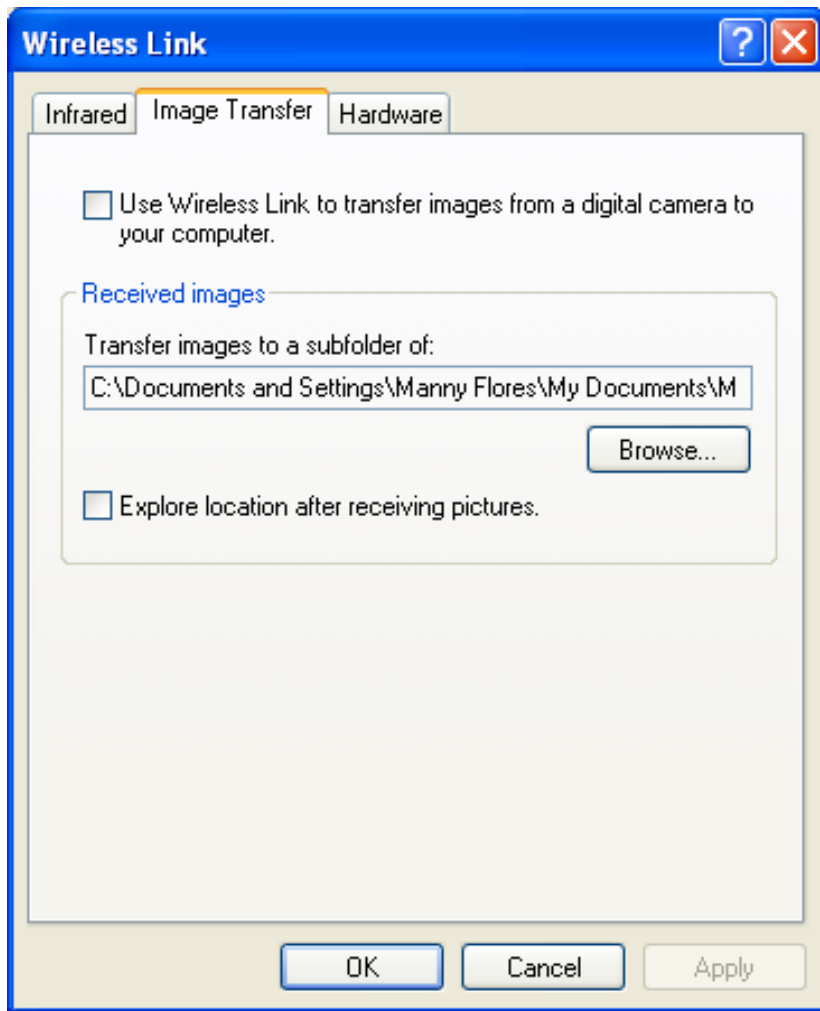


Figure 2: Image Transfer Tab

6. Click **OK**.
7. Close the Control Panel window.

Launching the Program

1. For Windows[®] 7 computers, click the **Start** icon in the Windows[®] Icon Tray, then select **Programs**, then select **E2 Maintenance**. Your operating system may also have a shortcut installed in the **Start** menu.

For Windows[®] 8 and Windows[®] 10 computers, click the **Start** icon in the Windows[®] Icon Tray, then click the downward-pointing arrow icon in the lower left corner of the screen, then select **E2 Maintenance** from the list of apps.

2. The Main Window will appear.

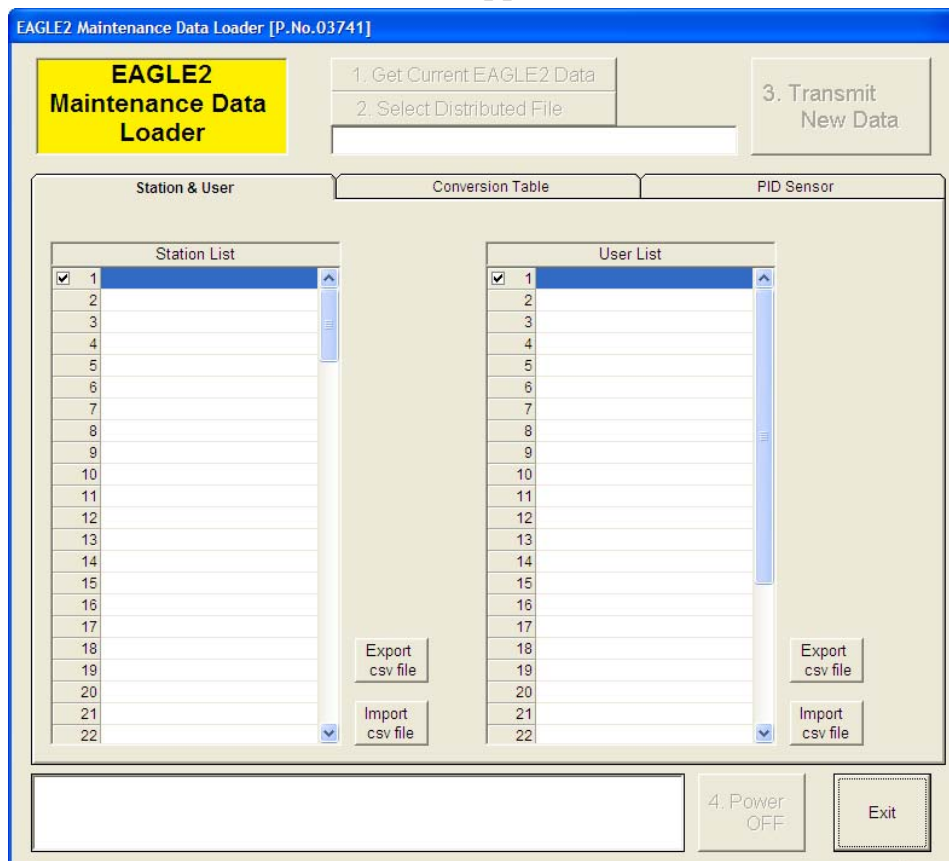


Figure 3: The Main Window

3. For convenience, make a shortcut of the Eagle 2 Maintenance Data Loader Program and place it on the Windows[®] desktop. See your Windows[®] documentation for information about making shortcuts.

Connecting an Eagle 2 to the Maintenance Data Loader Program

Follow these steps to connect an Eagle 2 to the Maintenance Data Loader Program:

1. Launch the Eagle 2 Maintenance Data Loader Program as described in “Launching the Program” on page 7. The Main Window displays.

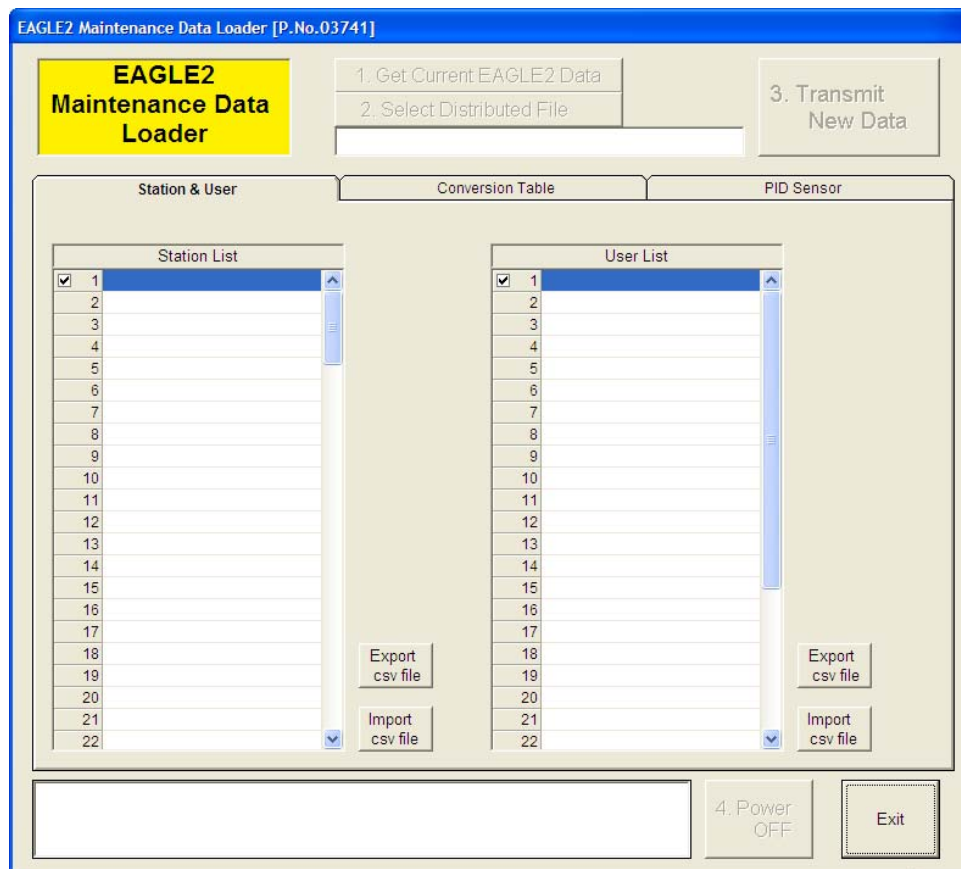


Figure 4: The Main Window

2. Place the Eagle 2 within an inch or two of the infrared port on your computer aligning the infrared port on the front of the Eagle 2 with the infrared port on your computer.
If your computer does not have a built in infrared port, place the Eagle 2 within an inch or two of the infrared port on the IrDA adapter cable as shown in Figure 5 below, aligning the infrared port on the front of the Eagle 2 with the infrared port on the cable.

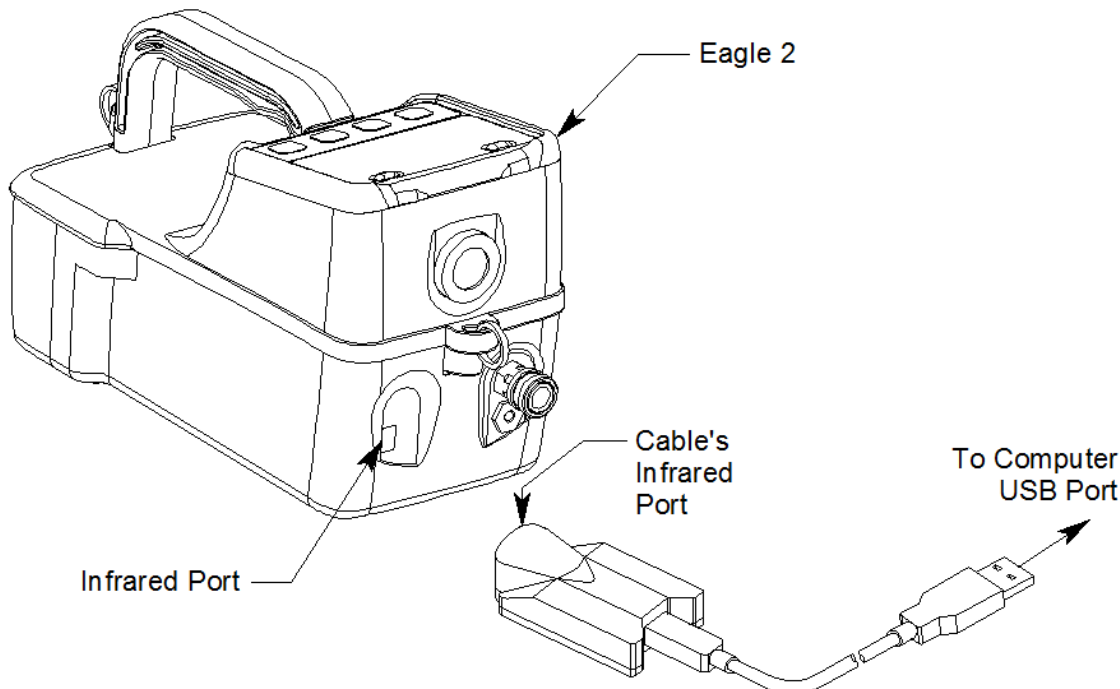


Figure 5: Aligning the Eagle 2 with the Cable Infrared Port

3. Press and hold the POWER ENTER RESET button on the Eagle 2 until you hear a beep, then release it. The Eagle 2 will begin its power up sequence. If a successful connection between the Eagle 2 and the computer occurs, the **Get Current EAGLE 2 Data** control button becomes active.

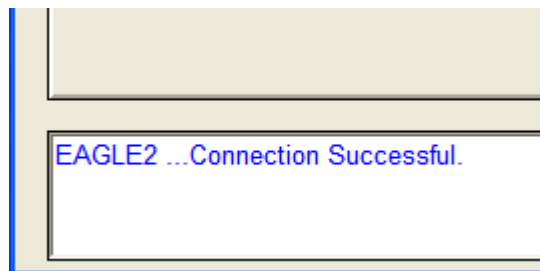


Figure 6: Connection Message

You can now retrieve the connected instrument's configuration information using the **Get Current EAGLE 2 Data** command button. You must retrieve the connected instrument's configuration information before you can perform operations such as saving the instrument's user and station IDs, catalytic combustible user defined relative response gas list, or PID user defined relative response gas list parameter configuration to a file and changing the instrument's parameter configuration.

Control Buttons

There are 5 control buttons on the main screen: **Get Current EAGLE 2 Data**, **Select Distributed File**, **Transmit New Data**, **Power OFF**, and **Exit**. These buttons are used for communication between the Eagle 2 and the Eagle 2 Maintenance Data Loader Program.

Get Current EAGLE 2 Data

Use **Get Current EAGLE 2 Data** to load a connected instrument's user and station IDs, catalytic combustible user defined gases, and PID user defined gas parameter configuration into the Maintenance Data Loader Program so they can be updated if desired. Follow these steps to retrieve a connected instrument's parameter configuration and update parameters that are available in the Eagle 2 Status area:

1. Launch the Eagle 2 Maintenance Data Loader Program as described in "Launching the Program" on page 7.
2. Connect the Eagle 2 to the Maintenance Data Loader Program as described in "Connecting an Eagle 2 to the Maintenance Data Loader Program" on page 8.

3. Click **Get Current EAGLE 2 Data** to retrieve the instrument's user and station ID, catalytic combustible user defined gases, and PID user defined gas parameter configuration. The program indicates that it is downloading information from the instrument.

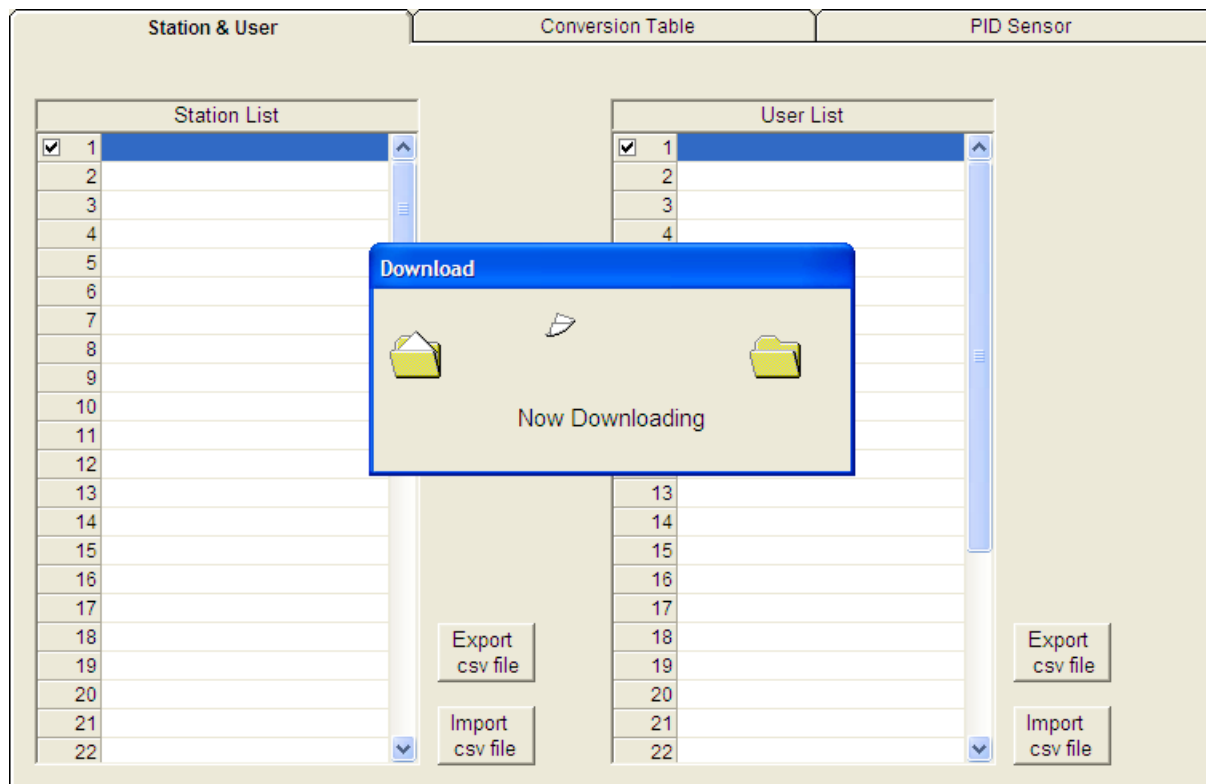


Figure 7: Instrument Information Downloading

4. The instrument's user and station ID, catalytic combustible user defined gases, and PID user defined gas parameter configuration are now loaded in the Maintenance Data Loader Program and the parameters are available for updating.

Select Distributed File

This control button only becomes active after data has been downloaded to the Maintenance Data Loader Program. The function controlled by this button is not needed for normal field use of the program. This function and the text field below it are for use by field service personnel with a factory program at their disposal to generate a distributed file.

Transmit New Data

After information has been updated in the parameter tabs, this button is used to upload that data to the Eagle 2.

NOTE: The Transmit New Data button transfers data from all tabs at once. To prevent the transmitting of empty parameter fields, it is advisable that you download data from the instrument before pressing the Transmit New Data button.

Power OFF

This button is used to turn off the Eagle 2 after all desired updates have been made.

Exit

This button closes the Eagle 2 Maintenance Data Loader Program. Be sure to turn off the Eagle 2 instrument before closing the Maintenance Data Loader Program to prevent the Eagle 2 from remaining on and draining battery voltage.

Station & User Tab

The Station & User tab displays a list of Station IDs and User IDs. The first time the Eagle 2 is connected to the Maintenance Data Loader Program, this list will be blank. No Station IDs or User IDs are loaded into the Eagle 2 at the factory. These are user-defined parameters that may only be configured using the Maintenance Data Loader Program. Up to 128 Station IDs and up to 32 User IDs may be defined.

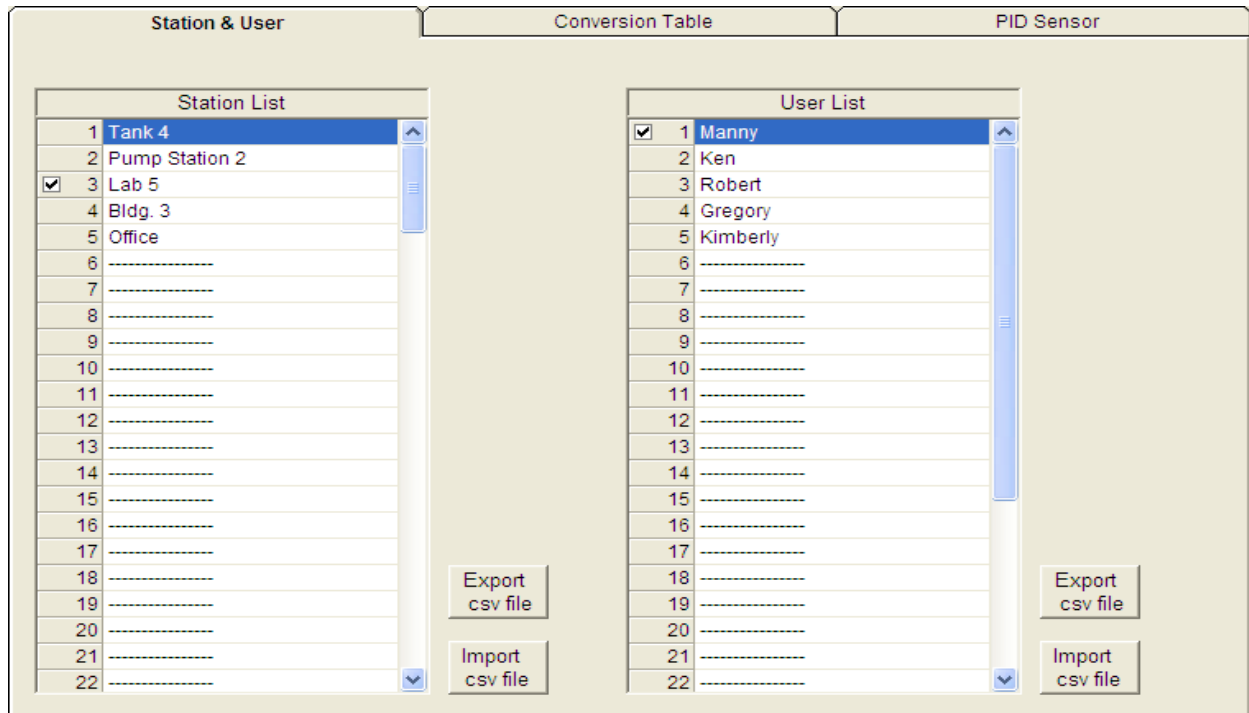


Figure 8: Station & User Tab

CSV Files

To edit the Station ID or User ID list, you will need to import a csv (comma separated values) file into the program. A Station csv file and a User csv file are provided with the program. In addition, you can generate csv files for editing from the program. To access them, you must press the “Export csv file” button for the Station and User IDs in the Station and User tab.

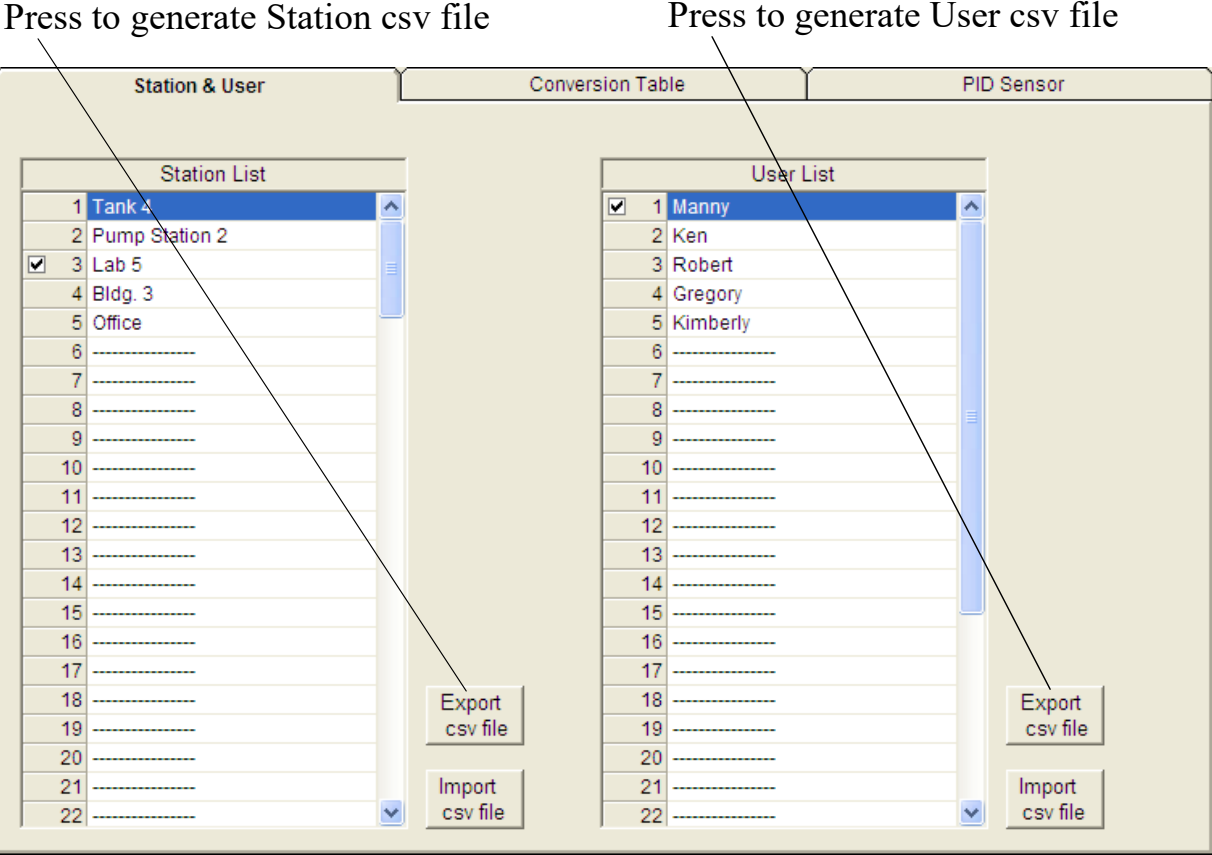


Figure 9: Station csv File

The csv files can be opened, edited, and saved using a word processing program such as Word, WordPad, or Notepad. The Station and User csv files consist of the Station or User ID number and its associated name. Below is an example of a Station csv file opened in WordPad.

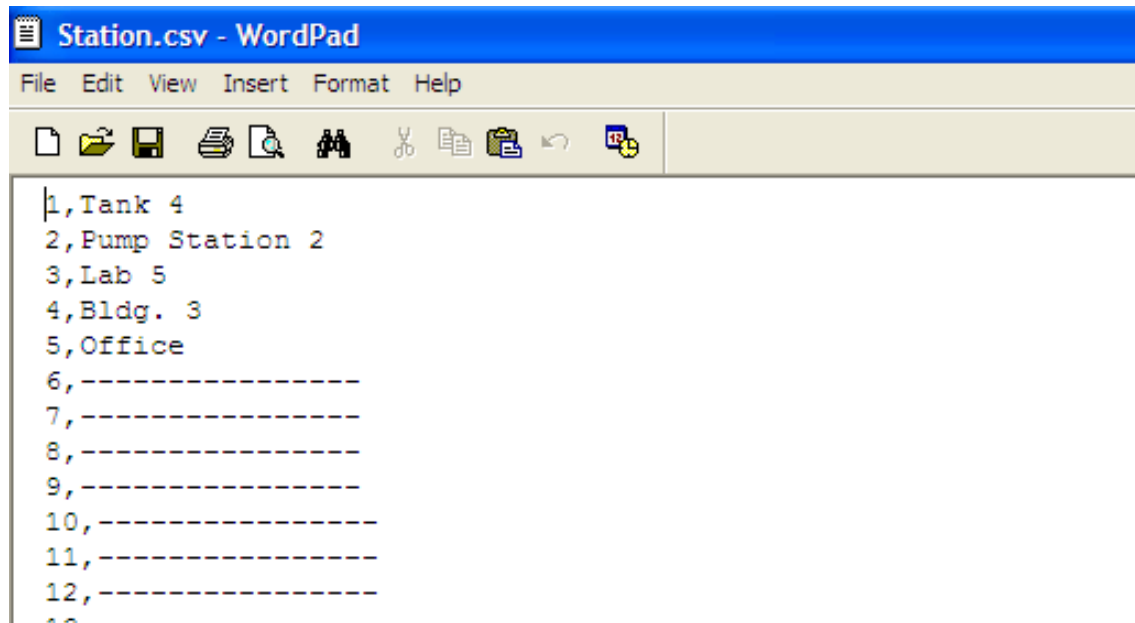


Figure 10: Station csv File

Any existing Station or User IDs will be displayed. Undefined Station or User IDs will appear as dashes. To edit a Station or User ID, delete either the existing name or the dashes and replace them with the desired name. The name may consist of any letter, number, or character. If desired, you can save multiple Station and User ID files.

Loading User and Station IDs

To load new User and Station IDs, do the following:

1. Launch the Eagle 2 Maintenance Data Loader Program and connect and instrument as described in “Connecting an Eagle 2 to the Maintenance Data Loader Program” on page 8.
2. Download the instrument data to the program by pressing **Get Current EAGLE 2 Data**.
3. Locate an existing Station or User csv file or generate a new one for editing. To generate a new one, press “Export csv file” in the Station and User tab for both the Station ID and User ID lists and save the files in a convenient place.

4. Open the saved files in Word, WordPad, or Notepad, enter new Station or User IDs, and save the files.
5. In the Station and User tab, press “Import csv file” for both the Station ID and User ID and select the respective newly edited csv file for each.

Press to import Station csv file

Press to import User csv file

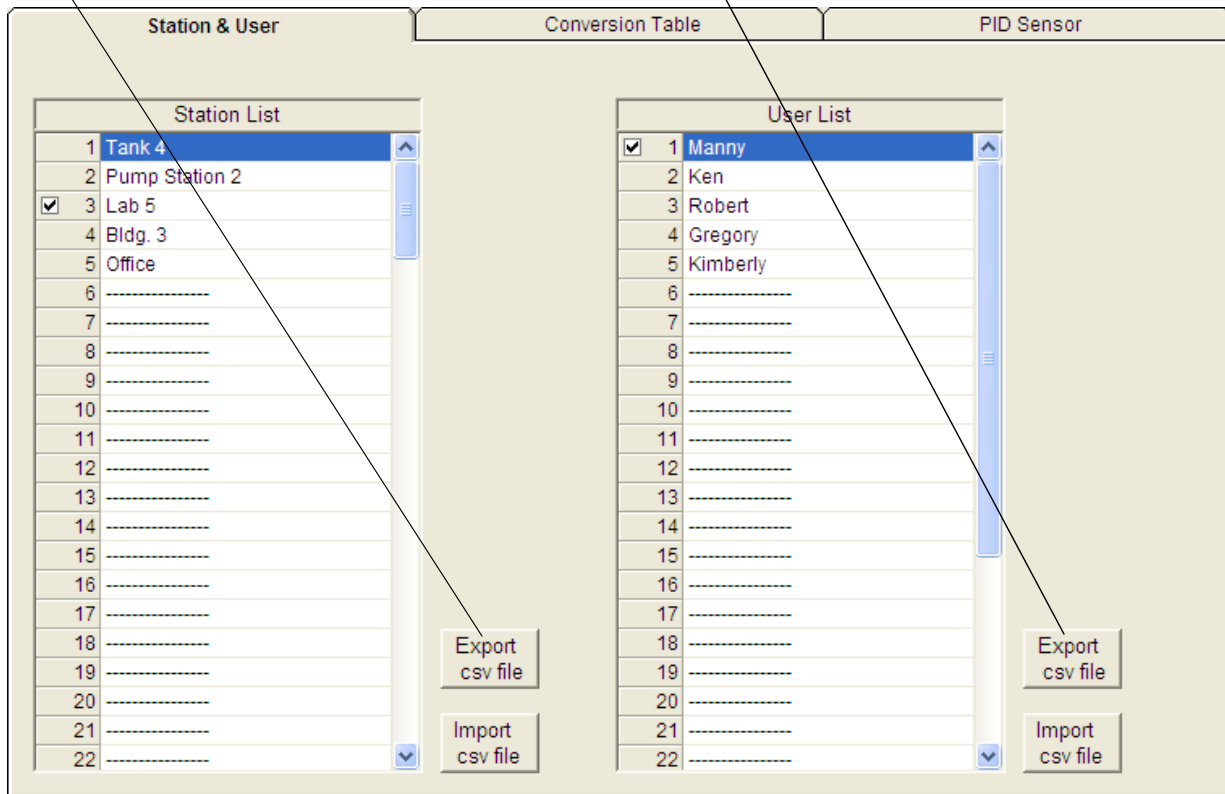


Figure 11: Import csv File

6. Once the Station ID and User ID lists have been generated, select the Station or User ID that will be loaded in the Eagle 2 as the current one by clicking on it. A check mark will appear next to the appropriate Station or User ID.
7. To upload the new information from the Management Data Loader Program to the Eagle 2, press **Transmit New Data**.
8. Turn off the Eagle 2 by pressing the **Power OFF** button

Conversion Table Tab

The Conversion Table tab is used to view the pre-defined relative response gases for the catalytic combustible channel and to edit or add user-defined gases. The pre-defined gases can be found in the Pre-Defined Table tab while the user-defined gases can be found under the User-Defined Table tab.

The screenshot shows a software interface with three tabs: 'Station & User', 'Conversion Table' (selected), and 'PID Sensor'. Inside the 'Conversion Table' tab, there are two sub-tabs: 'Pre-Defined Table' and 'User Defined Table'. The 'Pre-Defined Table' is active, displaying a table with 8 columns: 'No', 'Name', 'Long Name', 'Factor', '1st', '2nd', 'Ratio', and 'Volt'. An 'Available Count' field shows '29'. The table lists 17 gases with their respective properties.

| No | Name | Long Name | Factor | 1st | 2nd | Ratio | Volt |
|----|------|---------------------|--------|------|-------|-------|--------|
| 1 | ACT | ACETONE | 1.40 | 2500 | 12500 | 25000 | Normal |
| 2 | BNZ | BENZENE | 1.75 | 1200 | 6000 | 12000 | Normal |
| 3 | BAR | BUTYL ACRYLATE | 3.95 | 1700 | 8500 | 17000 | Normal |
| 4 | BAC | BUTYL ACETATE | 3.38 | 1300 | 6500 | 13000 | Normal |
| 5 | 2BA | 2-BUTYL ALCOHOL | 1.94 | 1700 | 8500 | 17000 | Normal |
| 6 | 1BA | 1-BUTYL ALCOHOL | 2.65 | 1400 | 7000 | 14000 | Normal |
| 7 | CYH | CYCLOHEXANE | 1.82 | 1300 | 6500 | 13000 | Normal |
| 8 | CUM | CUMENE | 3.90 | 900 | 4500 | 9000 | Normal |
| 9 | EDC | ETHYLENE DICHLORIDE | 2.75 | 6000 | 31000 | 62000 | Normal |
| 10 | ETA | ETHYL ALCOHOL | 1.38 | 3250 | 16500 | 33000 | Normal |
| 11 | ECL | ETHYL CHLORIDE | 1.26 | 3750 | 19000 | 38000 | Normal |
| 12 | EAC | ETHYL ACRYLATE | 2.45 | 1400 | 7000 | 14000 | Normal |
| 13 | HEX | HEXANE | 2.44 | 1100 | 5500 | 11000 | Normal |
| 14 | H2 | HYDROGEN | 1.16 | 4000 | 20000 | 40000 | Normal |
| 15 | IBU | ISOBUTANE | 1.61 | 1800 | 9000 | 18000 | Normal |
| 16 | IPA | ISOPROPANOL | 2.22 | 2000 | 10000 | 20000 | Normal |
| 17 | CH4 | METHANE | 1.00 | 5000 | 25000 | 50000 | Normal |

Figure 12: Conversion Table

There are 8 columns in both the Pre-Defined Table tab and the User-Defined Table tab:

- No
This column represents the gas number. The gas numbers are 1-30.
- Name
This is what will appear in the Relative Response list of gases. The name can be up to 3 characters long and the characters must be upper case letters or numbers. No special characters may be used in the Name column.
- Long Name
The Long Name column is used to better describe the target gas. It

may contain any character in upper- or lower-case.

- **Factor**
This value is the response factor for the listed gas relative to methane. The factor for each pre-defined gas is factory defined. The factor for any user-defined gases must be obtained through testing as described in “Obtaining a Relative Response Factor” on page 28. Even if not all of the user-defined catalytic combustible channels are being defined, the Factor column must have a valid number entered. A valid number for the Factor is a value between 0.01 and 25.00.
- **1st**
This column is for the low alarm point of each gas in ppm units.
- **2nd**
This column is for the high alarm point of each gas in ppm units.
- **Ratio**
The ratio is the ppm value of the LEL for each gas. This value is specific to each gas and can be easily determined. The maximum value it may be set to is 150,000 ppm. If an invalid number is entered, the box will turn red when the csv file is imported back into the Maintenance Data Loader Program.

NOTE: If you define a gas whose LEL is above 50,000 ppm, the %LEL reading in Measuring Mode will reflect the defined ppm ratio, but the ppm reading in Measuring Mode will not indicate above 50,000 ppm. For example, if you set the ratio to be 150,000 ppm and set the catalytic combustible channel to display the reading in ppm, the gas reading will not indicate higher than 50,000 ppm, the equivalent of 33 %LEL and 5% volume for this ratio, but will continue to indicate %LEL readings up to 100 %LEL and %volume readings up to 15 %volume, the equivalent of 150,000 ppm, if the display units are changed to %LEL or %volume. In addition, all adjustable ppm parameters cannot be set higher than 50,000 ppm.

- Volt
This value determines the sensor voltage for the catalytic combustible sensor. It can be set to 1.3 or 2.4. When set to 1.3, the sensor is in methane elimination mode. When set to 2.4, the sensor is reading at full response. Even if not all of the user-defined catalytic combustible channels are being defined, the Volt column must have a valid number entered. A valid number for the Volt column is either 1.3 or 2.4.

While the pre-defined gases may not be edited, the 5 user-defined gases may be edited by doing the following:

1. With the Maintenance Data Loader Program running, click on the Conversion Data tab and then click on the User-Defined Table tab.

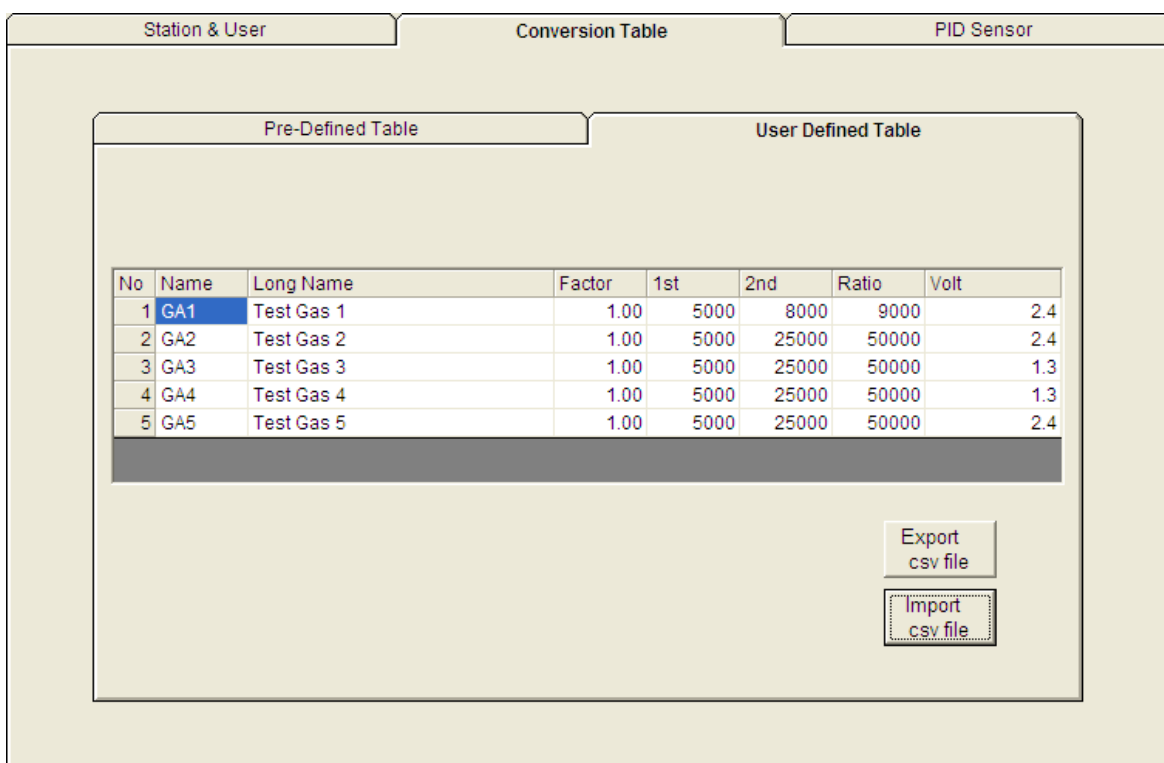


Figure 13: User-Defined Table

NOTE: Make sure you have downloaded the data from the EAGLE 2 to avoid erasing its data when updating the instrument using the **Transmit New Data** button.

2. If no user-defined gases have been previously defined for the connected instrument, the columns in User-Defined Table will be

- blank. Any previously defined gases will appear.
- Export the current data by pressing the “Export csv file” button. Choose the file path you wish to save the file in.
 - Open the csv file using Notepad, Word, or WordPad. The example below shows a csv file opened in WordPad. The list of gases are associated with the numbers 1-5.

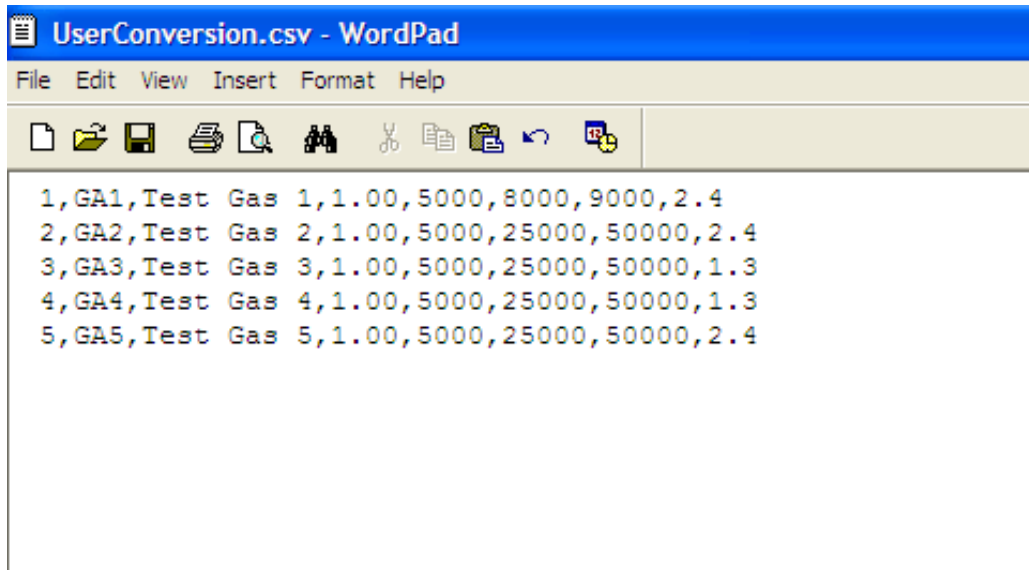


Figure 14: CSV File

If there were no previously defined gases, the csv file will appear as the following:

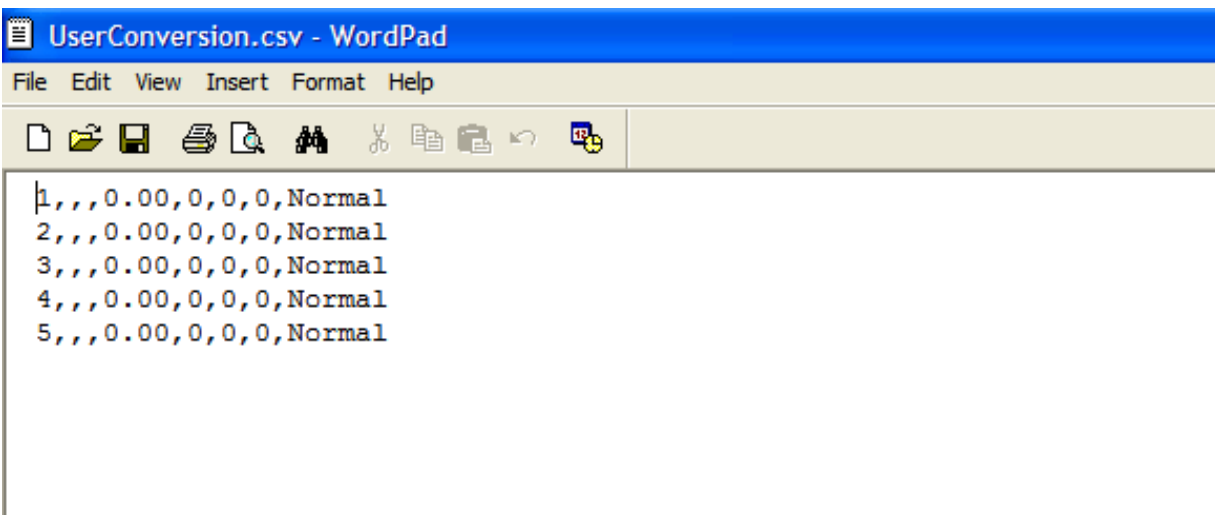


Figure 15: Blank CSV File

- The values in the csv file are all separated by commas. These values are in the same order as the columns in the Maintenance

Data Loader Program. The first value is the gas number, the second is the gas name, etc.

6. Edit the values you wish to change and save and close the file.
7. Return to the Maintenance Data Loader Program with the User-Defined Table tab still up and press “Import csv file”.
8. Choose the file you just edited and press “Open”.
9. The values you entered in the csv file will appear in the User-Defined Table.
10. If the program finds anything wrong with the values that were entered, the box containing those values will turn red. Make sure that you have entered valid characters for each field.
11. Once all of the data you wish to enter has been entered and is correct, transmit the new data to the connected instrument by pressing **Transmit New Data**.

PID Sensor Tab

The PID Sensor tab is used to view the pre-defined relative response gases and to view or define the 1 user-defined relative response gas. Every gas has a low and high range which are displayed in the Low Range tab and High Range tab, respectively.

| Station & User | | | Conversion Table | | | | PID Sensor | | | | | | |
|----------------|------|---------------------|------------------|-------|------|-----------|------------|-------|-------|-------|---------|--------|--|
| High Range | | | | | | Low Range | | | | | | | |
| No | Name | Long Name | FullScale | Point | Unit | Digit | 1st | 2nd | STEL | TWA | AutoCal | Factor | |
| 1 | ACT | ACETONE | 1000 | 1/1 | ppm | 1 | 500 | 750 | 750 | 500 | 500 | 0.70 | |
| 2 | BNZ | BENZENE | 1000 | 1/1 | ppm | 1 | 50 | 250 | ***** | ***** | 50 | 0.50 | |
| 3 | DSL | DIESEL FUEL NO 1 | 1500 | 1/1 | ppm | 1 | 200 | 300 | ***** | 200 | 200 | 0.80 | |
| 4 | ETA | ETHANOL | 15000 | 1/1 | ppm | 10 | 1000 | 1500 | ***** | 1000 | 1000 | 8.70 | |
| 5 | GSL | GASOLINE | 2000 | 1/1 | ppm | 1 | 300 | 500 | 500 | 300 | 300 | 1.10 | |
| 6 | IBL | ISOBUTYLENE | 2000 | 1/1 | ppm | 1 | 400 | 1000 | ***** | ***** | 100 | 1.00 | |
| 7 | IPA | ISOPROPANOL | 5000 | 1/1 | ppm | 2 | 200 | 400 | 400 | 200 | 200 | 4.40 | |
| 8 | JP5 | JP-5 FUEL | 1000 | 1/1 | ppm | 1 | 140 | 210 | ***** | 14 | 140 | 0.70 | |
| 9 | MEK | METHYL ETHYL KETONE | 1500 | 1/1 | ppm | 1 | 200 | 300 | 300 | 200 | 200 | 0.80 | |
| 10 | TOL | TOLUENE | 1000 | 1/1 | ppm | 1 | 50 | 150 | 150 | 50 | 50 | 0.50 | |
| 11 | HEX | N-HEXANE | 5000 | 1/1 | ppm | 2 | 500 | 1000 | 1000 | 500 | 500 | 4.20 | |
| 12 | PRL | PROPYLENE | 2500 | 1/1 | ppm | 1 | 500 | 750 | ***** | 500 | 500 | 1.40 | |
| 13 | STY | STYRENE | 500.0 | 1/10 | ppm | 0.2 | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | 0.40 | |
| 14 | PCE | TETRACHLOROETHYLENE | 1000 | 1/1 | ppm | 1 | 25 | 100 | 100 | 25 | 25 | 0.70 | |
| 15 | TCE | TRICHLOROETHYLENE | 1000 | 1/1 | ppm | 1 | 50 | 100 | 100 | 50 | 50 | 0.70 | |
| 16 | VCM | VINYL CHLORIDE | 4000 | 1/1 | ppm | 2 | 100 | 500 | ***** | ***** | 100 | 2.10 | |
| 17 | PID | PID | 2000 | 1/1 | ppm | 1 | ***** | ***** | ***** | ***** | ***** | 1.00 | |

Figure 16: PID Sensor

There are 13 columns in both the High and Low Range tabs:

- **No**
This column represents the gas number. They are numbered 1-17.
- **Name**
This is what will appear in the Relative Response list of gases. The name can be up to 3 characters long and the characters must be upper case letters or numbers. No special characters may be used in the Name column.
- **Long Name**
The Long Name column is used to better describe the target gas. It may contain any character in upper- or lower-case.

- Full Scale
This is the full scale value for the target gas.
- Point
The point value indicates to what decimal place the gas readings are shown. A value of 1/1 indicates a reading to the “ones” place while a value of 1/100 indicates a reading to the “hundredths” place.
- Unit
The unit describes what units the gas reading is provided in. All units are in ppm. While this parameter may be changed in the csv file, units of ppm are the only acceptable units and changing this parameter to %LEL or %vol will change the unit box to red.
- Digit
The digit is the increment of the gas readings.
- 1st
This column is for the low alarm point of each gas in ppm units.
- 2nd
This column is for the high alarm point of each gas in ppm units.
- STEL
The STEL column displays the STEL values for each gas.
- TWA
The TWA column displays the TWA values for each gas.
- AutoCal
The AutoCal values are those that come up during the auto calibration procedure. They are default values that may be changed if the gas concentration in the calibration cylinder is different.
- Factor
This value is the Relative Response Factor for the PID channel. The factor for each pre-defined gas is factory defined. The factor for the user defined gas must be obtained from Table 4 on page 29 or through testing as described in “Obtaining a Relative Response Factor” on page 28. A valid character for the Factor is a value between 0.01 and 25.00.

There are limitations for the full scale and increment values that depend on the factor for both the high range and the low range. Table 2 and Table 3 below list these limitations.

Table 1: High Range PID

| Factor | Full Scale (ppm) | Increment |
|---------------|-------------------------|------------------|
| 0.25-0.49 | 500 | 0.2 |
| 0.50-0.74 | 1000 | 1 |
| 0.75-0.99 | 1500 | 1 |
| 1.00-1.24 | 2000 | 1 |
| 1.25-1.49 | 2500 | 1 |
| 1.50-1.99 | 3000 | 2 |
| 2.00-2.49 | 4000 | 2 |
| 2.50-4.99 | 5000 | 2 |
| 5.00-7.49 | 10000 | 10 |
| 7.50-9.99 | 15000 | 10 |
| 10.00-14.49 | 20000 | 10 |
| 15.00-24.49 | 30000 | 20 |
| 25.00 | 50000 | 20 |

Table 2: Low Range PID

| Factor | Full Scale (ppm) | Increment |
|---------------|-------------------------|------------------|
| 0.20-0.29 | 10.00 | 0.01 |
| 0.30-0.39 | 15.00 | 0.01 |
| 0.40-0.49 | 20.00 | 0.01 |
| 0.50-0.59 | 25.00 | 0.01 |
| 0.60-0.79 | 30.00 | 0.02 |
| 0.80-0.99 | 40.00 | 0.02 |

Table 2: Low Range PID

| Factor | Full Scale (ppm) | Increment |
|-----------|------------------|-----------|
| 1.00-1.99 | 50.00 | 0.02 |
| 2.00-2.99 | 100.0 | 0.1 |
| 3.00-3.99 | 150.0 | 0.1 |
| 4.00-5.99 | 200.0 | 0.1 |
| 6.00-7.99 | 300.0 | 0.2 |
| 8.00-9.99 | 400.0 | 0.2 |
| 10.00 | 500.0 | 0.2 |

While the pre-defined gases may not be edited, the 1 user-defined gas may be edited by doing the following:

1. With Maintenance Data Loader Program running, click on the PID Sensor tab and then click on the High Range tab.

| High Range | | | Low Range | | | | | | | | | |
|------------|------|---------------------|-----------|-------|------|-------|-------|-------|-------|-------|---------|--------|
| No | Name | Long Name | FullScale | Point | Unit | Digit | 1st | 2nd | STEL | TWA | AutoCal | Factor |
| 1 | ACT | ACETONE | 1000 | 1/1 | ppm | 1 | 500 | 750 | 750 | 500 | 500 | 0.70 |
| 2 | BNZ | BENZENE | 1000 | 1/1 | ppm | 1 | 50 | 250 | ***** | ***** | 50 | 0.50 |
| 3 | DSL | DIESEL FUEL NO 1 | 1500 | 1/1 | ppm | 1 | 200 | 300 | ***** | 200 | 200 | 0.80 |
| 4 | ETA | ETHANOL | 15000 | 1/1 | ppm | 10 | 1000 | 1500 | ***** | 1000 | 1000 | 8.70 |
| 5 | GSL | GASOLINE | 2000 | 1/1 | ppm | 1 | 300 | 500 | 500 | 300 | 300 | 1.10 |
| 6 | IBL | ISOBUTYLENE | 2000 | 1/1 | ppm | 1 | 400 | 1000 | ***** | ***** | 100 | 1.00 |
| 7 | IPA | ISOPROPANOL | 5000 | 1/1 | ppm | 2 | 200 | 400 | 400 | 200 | 200 | 4.40 |
| 8 | JP5 | JP-5 FUEL | 1000 | 1/1 | ppm | 1 | 140 | 210 | ***** | 14 | 140 | 0.70 |
| 9 | MEK | METHYL ETHYL KETONE | 1500 | 1/1 | ppm | 1 | 200 | 300 | 300 | 200 | 200 | 0.80 |
| 10 | TOL | TOLUENE | 1000 | 1/1 | ppm | 1 | 50 | 150 | 150 | 50 | 50 | 0.50 |
| 11 | HEX | N-HEXANE | 5000 | 1/1 | ppm | 2 | 500 | 1000 | 1000 | 500 | 500 | 4.20 |
| 12 | PRL | PROPYLENE | 2500 | 1/1 | ppm | 1 | 500 | 750 | ***** | 500 | 500 | 1.40 |
| 13 | STY | STYRENE | 500.0 | 1/10 | ppm | 0.2 | 2.0 | 4.0 | 4.0 | 2.0 | 2.0 | 0.40 |
| 14 | PCE | TETRACHLOROETHYLENE | 1000 | 1/1 | ppm | 1 | 25 | 100 | 100 | 25 | 25 | 0.70 |
| 15 | TCE | TRICHLOROETHYLENE | 1000 | 1/1 | ppm | 1 | 50 | 100 | 100 | 50 | 50 | 0.70 |
| 16 | VCM | VINYL CHLORIDE | 4000 | 1/1 | ppm | 2 | 100 | 500 | ***** | ***** | 100 | 2.10 |
| 17 | PID | PID | 2000 | 1/1 | ppm | 1 | ***** | ***** | ***** | ***** | ***** | 1.00 |

Figure 17: High Range Tab

NOTE: Make sure you have downloaded the data from the EAGLE 2 to avoid erasing its data when updating the instrument using the Transmit New Data button.

2. If no user-defined PID gas has been previously defined for the connected instrument, the name and long name will both appear as PID for the High Range and Low Range tabs. The full scale, digit, and factor values will appear as shown in Table 4 below. The rest of the fields will contain asterisks (*****).

Table 3: Default Values for User Defined PID Gas

| | Full Scale (ppm) | Digit | Factor |
|------------|------------------|-------|--------|
| High Range | 2000 | 2 | 1.00 |
| Low Range | 50.00 | 0.02 | 1.00 |

3. Export the current data by pressing the “Export csv file” button. Choose the file path you wish to save the file in.

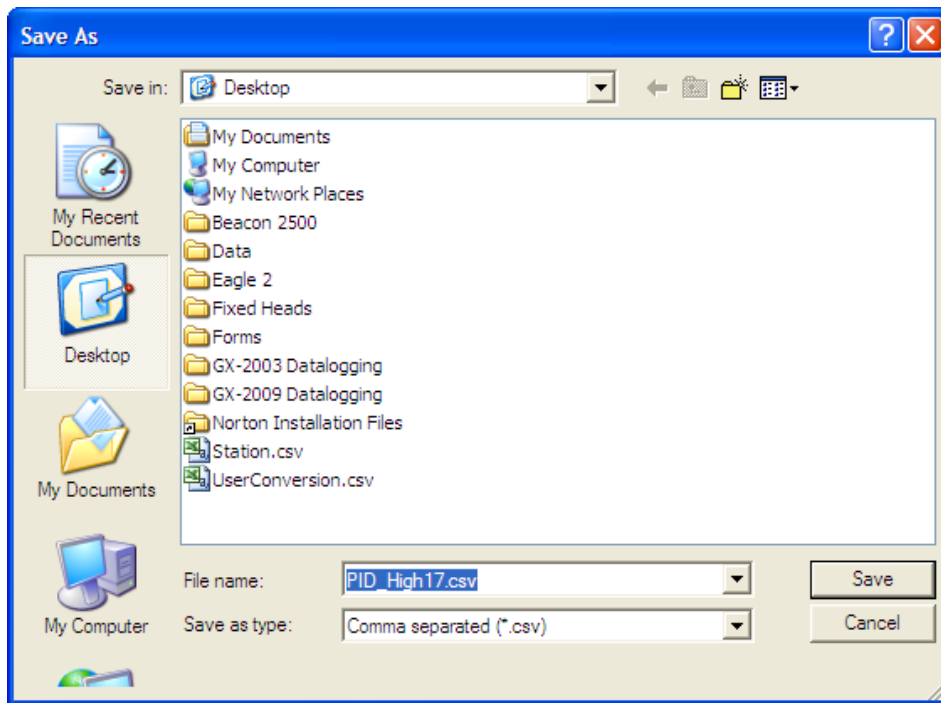


Figure 18: Save As

4. Open the csv file using Notepad, Word, or WordPad. The example below shows a csv file opened in WordPad. The user defined PID gas is number 17.

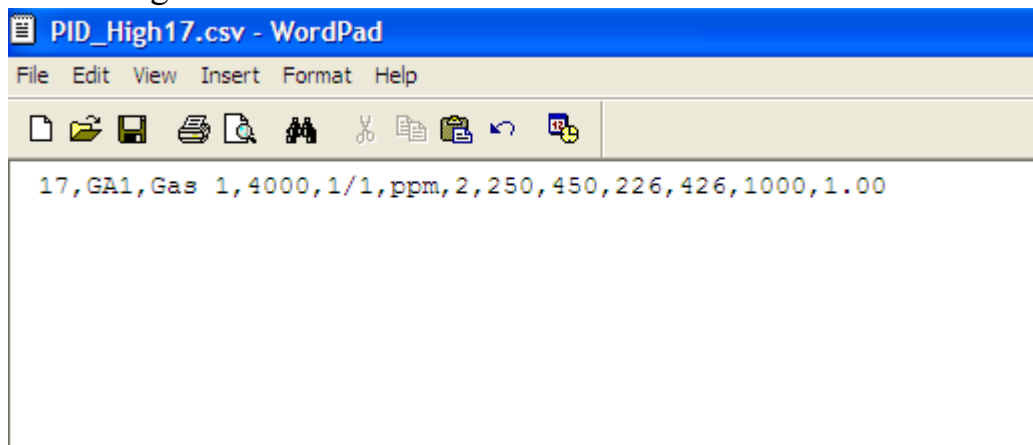


Figure 19: CSV File

5. The values in the csv file are all separated by commas. These values are in the same order as the columns in the Maintenance Data Loader Program. The first value is the gas number, the second is the gas name, etc.
6. Edit the values you wish to change and save the file.
7. Return to the Maintenance Data Loader Program with the High Range tab still up and press "Import csv file".
8. Choose the file you just edited and press "Open".
9. The values you entered in the csv file will appear in the High Range tab.
10. If the program finds anything wrong with the values that were entered, the box containing those values will turn red. Make sure that you have entered valid characters for each field.

NOTE: The Name and Long Name for the Low Range and High Range tabs must agree. If they do not, the program will keep the Low Range Name and Long Name and change the High Range to agree with it.

11. Repeat step 1-step 10 for the Low Range tab.
12. Once all of the data you wish to enter has been entered and is

correct, transmit the new data to the connected instrument by pressing “Transmit New Data”.

Obtaining a Relative Response Factor

If the gas that you want to monitor on the catalytic combustible or PID channel is not included in the catalytic or PID relative response lists, you may define up to 5 gases for the catalytic combustible channel using the Conversion Table tab and 1 gas for the PID channel using the PID Sensor tab. Testing must be done using the desired target gas in order to obtain the response factor value for the catalytic combustible channel. To determine the relative response factor value for the PID channel, first look in Table 4 for the desired gas. If the desired gas does not appear in the table, you must obtain the response factor through the testing procedure described below.

To determine the relative response factor value for the catalytic or PID channels, do the following:

1. For determining the catalytic combustible channel relative response factor, calibrate the catalytic combustible channel to methane. For determining the PID channel relative response factor, calibrate the PID channel to isobutylene.
2. Obtain a gas sample of known concentration for the target gas you wish to define. The sample needs to be at least 10% of the full scale but RKI Instruments, Inc. recommends using 50% of the full scale. If the concentration tested results in an overscale reading, test a lower concentration.
3. Apply the gas sample to the EAGLE 2 and take note of the reading. If the gas sample is of 50 %LEL concentration and the EAGLE 2 display shows a reading of 25 %LEL, then the factor for that gas is 2. Conversely, if the gas sample is of 50 %LEL concentration and the EAGLE 2 display shows a reading of 100 %LEL, then the factor for that gas is 0.5. This conversion factor value is what you will enter in the Factor column of the gas you are defining.

Table 4 below has 4 columns:

- Gas/VOC-The most common name for the VOC (volatile organic

compound)

- CAS No.-Sometimes it is easier to identify a VOC from the internationally recognized CAS (Chemical Abstracts Service) number
- Formula-Molecular formula for each VOC
- Response Factor (RF)-The relative response factor for each gas. This is the value that is plugged into the Eagle 2 Maintenance Data Loader Program.

Some abbreviations that appear in the table are:

- ZR-No response
- NV-Cannot be measured

Table 4: Response Factors Relative to Isobutylene

| Gas/ VOC | CAS No. | Formula | Relative Response |
|--------------------------|-----------|---|-------------------|
| Acetaldehyde | 75-07-0 | C ₂ H ₄ O | 4.9 |
| Acetic Acid | 64-17-7 | C ₂ H ₄ O ₂ | 36 |
| Acetic Anhydride | 108-24-7 | C ₄ H ₆ O ₃ | 4 |
| Acetone | 67-64-1 | C ₃ H ₆ O | 0.7 |
| Acetonitrile | 75-05-8 | CH ₃ CN | ZR |
| Acetylene | 74-86-2 | C ₂ H ₂ | ZR |
| Acrolein | 107-02-8 | C ₃ H ₄ O | 4 |
| Acrylic Acid | 79-10-7 | C ₃ H ₄ O ₂ | 2.7 |
| Acrylonitrile | 107-13-1 | C ₃ H ₃ N | ZR |
| Allyl alcohol | 107-18-6 | C ₃ H ₆ O | 2.1 |
| Allyl chloride | 107-05-1 | C ₃ H ₅ Cl | 4.5 |
| Ammonia | 7664-41-7 | NH ₃ | 8.5 |
| Amyl acetate, n- | 628-63-7 | C ₇ H ₁₄ O ₂ | 1.8 |
| Amyl alcohol | 71-41-0 | C ₅ H ₁₂ O | 3.2 |
| Aniline | 62-53-3 | C ₆ H ₇ N | 0.5 |
| Anisole | 100-66-3 | C ₇ H ₈ O | 0.5 |
| Arsine | 7784-42-1 | AsH ₃ | 2.5 |
| Asphalt, petroleum fumes | 8052-42-4 | | 1 |
| Benzaldehyde | 100-52-7 | C ₇ H ₆ O | 0.9 |
| Benzene | 71-43-2 | C ₆ H ₆ | 0.5 |
| Benzenethiol | 108-98-5 | C ₆ H ₅ SH | 0.7 |
| Benzonitrile | 100-47-0 | C ₇ H ₅ N | 0.7 |
| Benzyl alcohol | 100-51-6 | C ₇ H ₈ O | 1.3 |
| Benzyl chloride | 100-44-7 | C ₇ H ₇ Cl | 0.6 |
| Benzyl formate | 104-57-4 | C ₈ H ₈ O ₂ | 0.8 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|----------------------------------|------------|----------|-------------------|
| Biphenyl | 92-52-4 | C12H10 | 0.4 |
| Bis(2,3-epoxypropyl) ether | 7/5/38 | C6H10O3 | 3 |
| Boron trifluoride | 7637 07 2 | BF3 | ZR |
| Bromine | 7726-95-6 | Br2 | 20 |
| Bromine pentafluoride | 7789-30-2 | BrF5 | ZR |
| Bromobenzene | 108-86-1 | C6H5Br | 0.7 |
| Bromochloromethane | 74-97-5 | CH2ClBr | ZR |
| Bromoethane | 74-96-4 | C2H5Br | 5 |
| Bromoethyl methyl ether, 2- | 6482-24-2 | C3H7OBr | 2.5 |
| Bromoform | 75-25-2 | CHBr3 | 2.8 |
| Bromopropane, 1- | 106-94-5 | C3H7Br | 1.3 |
| Bromotrifluoromethane | 75-63-8 | CF3Br | ZR |
| Butadiene | 106-99-0 | C4H6 | 0.8 |
| Butadiene diepoxide, 1,3- | 1464-53-5 | C4H6O2 | 4 |
| Butane, n- | 106-97-8 | C4H10 | 46 |
| Butanol, 1- | 71-36-3 | C4H10O | 4 |
| Buten-3-ol, 1- | 598-32-3 | C4H8O | 1.2 |
| Butene, 1- | 106-98-9 | C4H8 | 1.3 |
| Butoxyethanol, 2- | 111-76-2 | C6H14O2 | 1.1 |
| Butyl acetate, n- | 123-86-4 | C6H12O2 | 2.4 |
| Butyl acrylate, n- | 141-32-2 | C7H12O2 | 1.5 |
| Butyl lactate | 138-22-7 | C7H14O3 | 2.5 |
| Butyl mercaptan | 109-79-5 | C4H10S | 0.5 |
| Butylamine, 2- | 513-49-5 | C4H11N | 0.9 |
| Butylamine, n- | 109-73-9 | C4H11N | 1 |
| Camphene | 565-00-4 | C10H16 | 0.5 |
| Carbon dioxide | 124-38-9 | CO2 | ZR |
| Carbon disulfide | 75-15-0 | CS2 | 1.4 |
| Carbon monoxide | 630-08-0 | CO | ZR |
| Carbon tetrabromide | 558-13-4 | CBr4 | 3 |
| Carbon tetrachloride | 56-23-5 | CCl4 | ZR |
| Carbonyl sulphide | 463-58-1 | COS | ZR |
| Carvone, R- | 6485-40-1 | C10H14O | 1 |
| Chlorine | 7782-50-5 | Cl2 | ZR |
| Chlorine dioxide | 10049-04-4 | ClO2 | 1 |
| Chlorine trifluoride | 7790-91-2 | ClF3 | ZR |
| Chloro-1,1,1,2-tetrafluoroethane | 2837-89-0 | C2HClF4 | ZR |
| Chloro-1,1,1-trifluoroethane, 2- | 75-88-7 | C2H2ClF3 | ZR |
| Chloro-1,1,2,2-tetrafluoroethane | 354-25-6 | C2HClF4 | ZR |
| Chloro-1,1,2-trifluoroethane, 1- | 421-04-5 | C2H2ClF3 | ZR |
| Chloro-1,1-difluoroethane, 1- | 75-68-3 | C2H3ClF2 | ZR |
| Chloro-1,1-difluoroethane, 1- | 75-68-3 | C2H3ClF2 | ZR |
| Chloro-1,1-difluoroethane, 2- | 338-65-8 | C2H3ClF2 | ZR |
| Chloro-1,2,2-trifluoroethane | 431-07-2 | C2H2ClF3 | ZR |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|---|------------|---------------|-------------------|
| Chloro-1,3-butadiene, 2- | 126-99-8 | C4H5Cl | 3.2 |
| Chloro-1-fluoroethane, 1- | 1615-75-4 | C2H4ClF | ZR |
| Chloro-2-fluoroethane, 1- | 762-50-5 | C2H4ClF | ZR |
| Chloroacetaldehyde | 107-20-0 | C2H3OCl | ZR |
| Chlorobenzene | 108-90-7 | C6H5Cl | 0.5 |
| Chlorodifluoromethane | 75-45-6 | CHClF2 | ZR |
| Chloroethane | 75-00-3 | C2H5Cl | ZR |
| Chloroethanol 2- | 107-07-3 | C2H5ClO | 10 |
| Chloroethyl methyl ether, 2- | 627-42-9 | C3H7ClO | 2.6 |
| Chlorofluoromethane | 593-70-4 | CH2ClF | ZR |
| Chloroform | 67-66-3 | CHCl3 | ZR |
| Chloromethane | 74-87-3 | CH3Cl | ZR |
| Chloropentafluoroethane | 76-15-3 | C2ClF5 | ZR |
| Chlorotoluene, o- | 95-49-8 | C7H7Cl | 0.5 |
| Chlorotoluene, p- | 108-41-8 | C7H7Cl | 0.5 |
| Chlorotrifluoroethylene | 79-38-9 | C2ClF3 | 1 |
| Chlorotrifluoromethane | 75-72-9 | CClF3 | ZR |
| Citral | 5392-40-5 | C10H16O | 1 |
| Citronellol | 26489-01-0 | C10H20O | 1 |
| Cresol, m- | 108-39-4 | C7H8O | 1.1 |
| Cresol, o- | 95-48-7 | C7H8O | 1.1 |
| Cresol, p- | 106-44-5 | C7H8O | 1.1 |
| Crotonaldehyde | 4170-30-3 | C4H6O | 1 |
| Cumene | 98-82-8 | C9H12 | 0.6 |
| Cyanamide | 420-04-2 | CH2N2 | ZR |
| Cyanogen bromide | 506-68-3 | CNBr | ZR |
| Cyanogen chloride | 506-77-4 | CNCl | ZR |
| Cyclohexane | 110-82-7 | C6H12 | 1.3 |
| Cyclohexanol | 108-93-0 | C6H12O | 2.9 |
| Cyclohexanone | 108-94-1 | C6H10O | 1.1 |
| Cyclohexene | 110-83-8 | C6H10 | 0.8 |
| Cyclohexylamine | 108-91-8 | C6H13N | 1 |
| Cyclopentane | 287-92-3 | C5H10 | 4 |
| Decane, n- | 124-18-5 | C10H22 | 1 |
| Diacetone alcohol | 123-42-2 | C6H12O2 | 0.8 |
| Dibenzoyl peroxide | 94-36-0 | C14H10O4 | 0.8 |
| Diborane | 19287-45-7 | B2H6 | ZR |
| Dibromochloromethane | 124-48-1 | CHBr2Cl | 10 |
| Dibromodifluoromethane | 75-61-6 | CF2Br2 | ZR |
| Dibromoethane 1,2- | 106-93-4 | C2H4Br2 | 2 |
| Dibromotetrafluoroethane , 1,2- | 124-73-2 | C2F4Br2 | ZR |
| Dibutyl hydrogen phosphate | 107-66-4 | HC8H18 PO4 | 4 |
| Dichloro-1,1,1-trifluoroethane, 2,2- | 306-83-2 | C2HCl2F3 | ZR |

31 • Obtaining a Relative Response Factor

| Gas/ VOC | CAS No. | Formula | Relative Response |
|--------------------------------------|------------|--|-------------------|
| Dichloro-1,1-difluoroethane, 1,2- | 1649-08-7 | C ₂ H ₂ Cl ₂ F ₂ | ZR |
| Dichloro-1,2,2-trifluoroethane, 1,2- | 354-23-4 | C ₂ HCl ₂ F ₃ | ZR |
| Dichloro-1,2-difluoroethane, 1,2- | 631-06-1 | C ₂ H ₂ Cl ₂ F ₂ | ZR |
| Dichloro-1-fluoroethane, 1,1- | 1717-00-6 | C ₂ H ₃ Cl ₂ F | ZR |
| Dichloro-1-fluoroethane, 1,1- | 1717-00-6 | C ₂ H ₃ Cl ₂ F | ZR |
| Dichloro-1-fluoroethane, 1,2- | 430-57-9 | C ₂ H ₃ Cl ₂ F | ZR |
| Dichloro-1-propene, 2,3- | 78-88-6 | C ₃ H ₄ Cl ₂ | 1.4 |
| Dichloro-2,2,-difluoroethane, 1,1- | 79-35-6 | C ₂ H ₂ Cl ₂ F ₂ | ZR |
| Dichloroacetylene | 7572-29-4 | C ₂ Cl ₂ | 5 |
| Dichlorobenzene o- | 95-50-1 | C ₆ H ₄ Cl ₂ | 0.5 |
| Dichlorodifluoromethane | 75-71-8 | CCl ₂ F ₂ | ZR |
| Dichloroethane 1,2- | 107-06-2 | C ₂ H ₄ Cl ₂ | ZR |
| Dichloroethane, 1,1- | 75-34-3 | C ₂ H ₄ Cl ₂ | ZR |
| Dichloroethene, 1,1- | 75-35-4 | C ₂ H ₂ Cl ₂ | 1 |
| Dichloroethene, cis-1,2- | 156-59-2 | C ₂ H ₂ Cl ₂ | 0.8 |
| Dichloroethene, trans-1,2- | 540-59-0 | C ₂ H ₂ Cl ₂ | 0.7 |
| Dichloroethylene 1,2- | 540-59-0 | C ₂ H ₂ Cl ₂ | 0.8 |
| Dichlorofluoromethane | 75-43-4 | CHFCI ₂ | ZR |
| Dichloromethane | 75-09-2 | CH ₂ Cl ₂ | 39 |
| Dichloropropane, 1,2- | 78-87-5 | C ₃ H ₆ Cl ₂ | ZR |
| Dichlorotetrafluoroethane, 1,1- | 374-07-2 | C ₂ Cl ₂ F ₄ | ZR |
| Dichlorotetrafluoroethane, 1,2- | 76-14-2 | C ₂ Cl ₂ F ₄ | ZR |
| Dicyclopentadiene | 77-73-6 | C ₁₀ H ₁₂ | 0.9 |
| Diesel Fuel | 68334-30-5 | | 0.8 |
| Diethyl ether | 60-29-7 | C ₄ H ₁₀ O | 0.9 |
| Diethyl maleate | 141-05-9 | C ₈ H ₁₂ O ₄ | 2 |
| Diethyl phthalate | 84-66-2 | C ₁₂ H ₁₄ O ₄ | 1 |
| Diethyl sulphate | 64-67-5 | C ₄ H ₁₀ SO ₄ | 3 |
| Diethyl sulphide | 352-93-2 | C ₄ H ₁₀ S | 0.6 |
| Diethylamine | 109-89-7 | C ₄ H ₁₁ N | 1 |
| Diethylaminoethanol, 2- | 100-37-8 | C ₆ H ₁₅ ON | 2.7 |
| Diethylaminopropylamine, 3- | 104-78-9 | C ₇ H ₁₈ N ₂ | 1 |
| Difluoroethane, 1,1- | 75-37-6 | C ₂ H ₄ F ₂ | ZR |
| Difluoroethane, 1,2- | 624-72-6 | C ₂ H ₄ F ₂ | ZR |
| Difluoromethane | 75-10-5 | CH ₂ F ₂ | ZR |
| Dihydrogen selenide | 7783 07 5 | H ₂ Se | 1 |
| Dihydroxybenzene, 1,2 | 120-80-9 | C ₆ H ₆ O ₂ | 1 |
| Dihydroxybenzene, 1,3 | 108-46-3 | C ₆ H ₆ O ₂ | 1 |
| Diisobutylene | 107-39-1 | C ₈ H ₁₆ | 0.6 |
| Diisopropyl ether | 108-20-3 | C ₆ H ₁₄ O | 0.7 |
| Diisopropylamine | 108-18-9 | C ₆ H ₁₅ N | 0.7 |
| Diketene | 674-82-8 | C ₄ H ₄ O ₂ | 2.2 |
| Dimethoxymethane | 109-87-5 | C ₃ H ₈ O ₂ | 1.4 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|-----------------------------------|------------|---|-------------------|
| Dimethyl cyclohexane, 1,2- | 583-57-3 | C ₈ H ₁₆ | 1.1 |
| Dimethyl disulphide | 624-92-0 | C ₂ H ₆ S ₂ | 0.2 |
| Dimethyl ether | 115-10-6 | C ₂ H ₆ O | 1.3 |
| Dimethyl phthalate | 131-11-3 | C ₁₀ H ₁₀ O ₄ | 1 |
| Dimethyl sulphate | 77-78-1 | C ₂ H ₆ O ₄ S | ZR |
| Dimethyl sulphide | 75-18-3 | C ₂ H ₆ S | 0.5 |
| Dimethylacetamide N,N- | 127-19-5 | C ₄ H ₉ NO | 1.3 |
| Dimethylamine | 124-40-3 | C ₂ H ₇ N | 1.4 |
| Dimethylaminoethanol | 108-01-0 | C ₄ H ₁₁ NO | 1.5 |
| Dimethylaniline, NN- | 121-69-7 | C ₈ H ₁₁ N | 0.6 |
| Dimethylbutyl acetate | 108-84-9 | C ₈ H ₁₆ O ₂ | 1.6 |
| Dimethylethylamine, NN- | 598-56-1 | C ₄ H ₁₁ N | 0.8 |
| Dimethylformamide | 68-12-2 | C ₃ H ₇ NO | 0.9 |
| Dimethylheptan-4-one, 2,6- | 108-83-8 | C ₉ H ₁₈ O | 0.8 |
| Dimethylhydrazine, 1,1- | 57-14-7 | C ₂ H ₈ N ₂ | 1 |
| Dinitrobenzene, m- | 99-65-0 | C ₆ H ₄ N ₂ O ₄ | 3 |
| Dinitrobenzene, o- | 528-29-0 | C ₆ H ₄ N ₂ O ₄ | ZR |
| Dinitrobenzene, p- | 100-25-4 | C ₆ H ₄ N ₂ O ₄ | 5 |
| Dinonyl phthalate | 84-76-4 | C ₂₆ H ₄₂ O ₄ | 1 |
| Dioxane 1,2- | | C ₄ H ₈ O ₂ | 1.5 |
| Dioxane 1,4- | 123-91-1 | C ₄ H ₈ O ₂ | 1.5 |
| Dipentene | 138-86-3 | C ₁₀ H ₁₆ | 0.9 |
| Diphenyl ether | 101-84-8 | C ₁₂ H ₁₀ O | 0.8 |
| Disulphur decafluoride | 5714-22-7 | S ₂ F ₁₀ | ZR |
| Disulphur dichloride | 10025-67-9 | S ₂ Cl ₂ | 3 |
| Di-tert-butyl-p-cresol | 2409-55-4 | C ₁₁ H ₁₆ O | 1 |
| Divinylbenzene | 1321-74-0 | C ₁₀ H ₁₀ | 0.4 |
| Dodecanol | 112-53-8 | C ₁₂ H ₂₆ O | 0.9 |
| Enflurane | 13838-16-9 | C ₄ H ₂ F ₅ ClO | ZR |
| Epichlorohydrin | 106-89-8 | C ₃ H ₅ ClO | 8 |
| Epoxypropyl isopropyl ether, 2,3- | 4016-14-2 | C ₆ H ₁₂ O ₂ | 1.1 |
| Ethane | 74-84-0 | C ₂ H ₆ | ZR |
| Ethanol | 64-17-5 | C ₂ H ₆ O | 8.7 |
| Ethanolamine | 141-43-5 | C ₂ H ₇ NO | 3 |
| Ethoxy-2-propanol, 1- | 1569-02-4 | C ₅ H ₁₀ O ₂ | 2 |
| Ethoxyethanol, 2- | 110-80-5 | C ₄ H ₁₀ O ₂ | 29.8 |
| Ethoxyethyl acetate, 2- | 111-15-9 | C ₆ H ₁₂ O ₃ | 3 |
| Ethyl (S)-(-)-lactate | 97-64-3 | C ₅ H ₁₀ O ₃ | 3 |
| Ethyl acetate | 141-78-6 | C ₄ H ₈ O ₂ | 3.6 |
| Ethyl acrylate | 140-88-5 | C ₅ H ₈ O ₂ | 2 |
| Ethyl amine | 75-04-7 | C ₂ H ₇ N | 1 |
| Ethyl benzene | 100-41-4 | C ₈ H ₁₀ | 0.5 |
| Ethyl butyrate | 105-54-4 | C ₆ H ₁₂ O ₂ | 1 |
| Ethyl chloroformate | 541-41-3 | C ₃ H ₅ O ₂ Cl | 80 |
| Ethyl cyanoacrylate | 7085-85-0 | C ₆ H ₇ O ₂ N | 1.5 |
| Ethyl decanoate | 110-38-3 | C ₁₂ H ₂₄ O ₂ | 1.8 |
| Ethyl formate | 109-94-4 | C ₃ H ₆ O ₂ | 30 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|---------------------------------------|------------|---|-------------------|
| Ethyl hexanoate | 123-66-0 | C ₈ H ₁₆ O ₂ | 2.6 |
| Ethyl hexanol, 2- | 105-76-7 | C ₈ H ₁₈ O | 1.5 |
| Ethyl hexyl acrylate, 2- | 103-11-7 | C ₁₁ H ₂₀ O ₂ | 1 |
| Ethyl mercaptan | 75-08-1 | C ₂ H ₆ S | 0.7 |
| Ethyl octanoate | 106-32-1 | C ₁₀ H ₂₀ O ₂ | 2.3 |
| Ethylene | 74-85-1 | C ₂ H ₄ | 8 |
| Ethylene dinitrate | 628-96-6 | C ₂ H ₄ O ₆ N ₂ | ZR |
| Ethylene glycol | 107-21-1 | C ₂ H ₆ O ₂ | 20 |
| Ethylene oxide | 75-21-8 | C ₂ H ₄ O | 15 |
| Ferrocene | 102-54-5 | C ₁₀ H ₁₀ Fe | 0.8 |
| Fluorine | 7782-41-4 | F ₂ | ZR |
| Fluoroethane | 353-33-6 | C ₂ H ₅ F | ZR |
| Fluoromethane | 593-53-3 | CH ₃ F | ZR |
| Formaldehyde | 50-00-0 | CH ₂ O | ZR |
| Formamide | 75-12-7 | CH ₃ ON | 2 |
| Formic acid | 64-18-6 | CH ₂ O ₂ | ZR |
| Furfural | 98-01-1 | C ₅ H ₄ O ₂ | 1.4 |
| Furfuryl alcohol | 98-00-0 | C ₅ H ₆ O ₂ | 2 |
| Gasoline vapors | 8006-61-9 | | 1.1 |
| Gasoline vapors | 8006-61-9 | | 0.8 |
| Gasoline vapors 92 octane | 8006-61-9 | | 0.8 |
| Germane | 7782-65-2 | GeH ₄ | 10 |
| Glutaraldehyde | 111-30-8 | C ₅ H ₈ O ₂ | 0.9 |
| Halothane | 151-67-7 | CF ₃ CHBrCl | ZR |
| Helium | | He | ZR |
| Heptan-2-one | 110-43-0 | C ₇ H ₁₄ O | 0.7 |
| Heptan-3-one | 106-35-4 | C ₇ H ₁₄ O | 0.8 |
| Heptane n- | 142-82-5 | C ₇ H ₁₆ | 2.1 |
| Hexachloroethane | 67-72-1 | C ₂ Cl ₆ | ZR |
| Hexafluoroethane | 76-16-4 | C ₂ F ₆ | ZR |
| Hexamethyldisilazane, 1,1,1,3,3,3- | 999-97-3 | C ₆ H ₁₉ NSi ₂ | 1 |
| Hexamethyldisiloxane. | 107-46-0 | C ₆ H ₁₈ OSi ₂ | 0.3 |
| Hexan-2-one | 591-78-6 | C ₆ H ₁₂ O | 0.8 |
| Hexane n- | 110-54-3 | C ₆ H ₁₄ | 4.2 |
| Hexene, 1- | 592-41-6 | C ₆ H ₁₂ | 0.9 |
| Hydrazine | 302-01-2 | H ₄ N ₂ | 3 |
| Hydrazoic acid | 7782-79-8 | HN ₃ | ZR |
| Hydrogen | 1333-74-0 | H ₂ | ZR |
| Hydrogen bromide | 10035-10-6 | HBr | ZR |
| Hydrogen chloride | 7647-01-0 | HCl | ZR |
| Hydrogen cyanide | 74-90-8 | HCN | ZR |
| Hydrogen fluoride | 7664-39-3 | HF | ZR |
| Hydrogen peroxide | 7722-84-1 | H ₂ O ₂ | 4 |
| Hydrogen sulfide | 6/4/83 | H ₂ S | 4 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|--------------------------------|------------|--|-------------------|
| Hydroquinone | 123-31-9 | C ₆ H ₆ O ₂ | 0.8 |
| Hydroxypropyl acrylate 2- | 999-61-1 | C ₆ H ₁₀ O ₃ | 1.5 |
| Iminodi(ethylamine) 2,2- | 111-40-0 | C ₄ H ₁₃ N ₃ | 0.9 |
| Iminodiethanol 2,2'- | 111-42-2 | C ₄ H ₁₁ NO ₂ | 1.6 |
| Indene | 95-13-6 | C ₉ H ₈ | 0.5 |
| Iodine | 7553-56-2 | I ₂ | 0.2 |
| Iodoform | 75-47-8 | CHI ₃ | 1.5 |
| Iodomethane | 74-88-4 | CH ₃ I | 0.4 |
| Isomyl acetate | 123-92-2 | C ₇ H ₁₄ O ₂ | 1.6 |
| Isobutane | 75-28-5 | C ₄ H ₁₀ | 8 |
| Isobutanol | 78-83-1 | C ₄ H ₁₀ O | 3.5 |
| Isobutyl acetate | 110-19-0 | C ₆ H ₁₂ O ₂ | 2.3 |
| Isobutyl acrylate | 106-63-8 | C ₇ H ₁₂ O ₂ | 1.3 |
| Isobutylene | 115-11-7 | C ₄ H ₈ | 1 |
| Isobutyraldehyde | 78-84-2 | C ₄ H ₈ O | 1.2 |
| Isocyanates, all | | | NV |
| Isodecanol | 25339-17-7 | C ₁₀ H ₂₂ O | 0.9 |
| isoflurane | 26675-46-7 | C ₃ H ₂ ClF ₅ O | ZR |
| Isononanol | 2452-97-9 | C ₉ H ₂₀ O | 1.5 |
| Isooctane | 565-75-3 | C ₈ H ₁₈ | 1.1 |
| Isooctanol | 26952-21-6 | C ₈ H ₁₈ O | 1.7 |
| Isopentane | 78-78-4 | C ₅ H ₁₂ | 6 |
| Isophorone | 78-59-1 | C ₉ H ₁₄ O | 0.8 |
| Isoprene | 78-79-5 | C ₅ H ₈ | 0.7 |
| Isopropanol | 67-63-0 | C ₃ H ₈ O | 4.4 |
| Isopropyl acetate | 108-21-4 | C ₅ H ₁₀ O ₂ | 2.2 |
| Isopropyl chloroformate | 108-23-6 | C ₄ H ₇ O ₂ Cl | 1.6 |
| Jet Fuel JP-4 | | | 0.8 |
| Jet Fuel JP-5 | | | 0.7 |
| Jet Fuel JP-8 | | | 0.7 |
| Kerosene | 8008-20-6 | | 0.8 |
| Ketene | 463-51-4 | C ₂ H ₂ O | 3 |
| Liquefied petroleum gas | 68476-85-7 | | ZR |
| Maleic anhydride | 108-31-6 | C ₄ H ₂ O ₃ | 2 |
| Mercaptoacetic acid | 68-11-1 | C ₂ H ₄ O ₂ S | 1 |
| Mercury | 7439-97-6 | Hg | NV |
| Mercury alkyls | | | NV |
| Mesitylene | 108-67-8 | C ₉ H ₁₂ | 0.3 |
| Methacrylic acid | 79-41-4 | C ₄ H ₆ O ₂ | 2.3 |
| Methacrylonitrile | 126-98-7 | C ₄ H ₅ N | 5 |
| Methane | 74-82-8 | CH ₄ | ZR |
| Methanol | 67-56-1 | CH ₄ O | 200 |
| Methoxyethanol, 2- | 109-86-4 | C ₃ H ₈ O ₂ | 2.7 |
| Methoxyethoxyethanol, 2- | 111-77-3 | C ₅ H ₁₂ O ₃ | 1.4 |
| Methoxymethylethoxy-2-propanol | 34590-94-8 | C ₇ H ₁₆ O ₃ | 1.3 |
| Methoxypropan-2-ol | 107-98-2 | C ₄ H ₁₀ O ₂ | 3 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|---------------------------------------|------------|----------|-------------------|
| Methoxypropyl acetate | 108-65-6 | C6H12O3 | 1.2 |
| Methyl acetate | 79-20-9 | C3H6O2 | 5.2 |
| Methyl acrylate | 96-33-3 | C4H6O2 | 3.4 |
| Methyl bromide | 74-83-9 | CH3Br | 1.9 |
| Methyl cyanoacrylate | 137-05-3 | C5H5O2N | 5 |
| Methyl ethyl ketone | 78-93-3 | C4H8O | 0.8 |
| Methyl ethyl ketone peroxides | 1338-23-4 | C8H18O2 | 0.8 |
| Methyl formate | 107-31-3 | C2H4O2 | ZR |
| Methyl isobutyl ketone | 108-10-1 | C6H12O | 0.8 |
| Methyl isocyanate | 624-83-9 | C2H3NO | ZR |
| Methyl isothiocyanate | 556-61-6 | C2H3NS | 0.6 |
| Methyl mercaptan | 74-93-1 | CH4S | 0.7 |
| Methyl methacrylate | 80-62-6 | C5H8O2 | 1.6 |
| Methyl propyl ketone | 107-87-9 | C5H10O | 0.8 |
| Methyl salicylate | 119-36-8 | C8H8O3 | 1.2 |
| Methyl sulphide | 75-18-3 | C2H6S | 0.5 |
| Methyl t-butyl ether | 1634-04-4 | C5H12O | 0.8 |
| Methyl-2-propen-1-ol, 2- | 51-42-8 | C4H8O | 1.1 |
| Methyl-2-pyrrolidinone, N- | 872-50-4 | C5H9NO | 0.9 |
| Methyl-4,6-dinitrophenol, 2- | 534-52-1 | C7H6N2O5 | 3 |
| Methyl-5-hepten-2-one, 6- | 110-93-0 | C8H14O | 0.8 |
| Methylamine | 74-89-5 | CH5N | 1.4 |
| Methylbutan-1-ol, 3- | 123-51-3 | C5H12O | 3.4 |
| Methylcyclohexane | 108-87-2 | C7H14 | 1.1 |
| Methylcyclohexanol, 4- | 589-91-3 | C7H14O | 2.4 |
| Methylcyclohexanone 2- | 583-60-8 | C7H12O | 1 |
| Methylheptan-3-one, 5- | 541-85-5 | C8H16O | 0.8 |
| Methylhexan-2-one, 5- | 110-12-3 | C7H14O | 0.8 |
| Methylhydrazine | 60-34-4 | CH6N2 | 1.3 |
| Methyl-N-2,4, 6-tetranitroaniline, N- | 479-45-8 | C7H5N5O8 | 3 |
| Methylpent-3-en-2-one, 4- | 141-79-7 | C6H10O | 0.7 |
| Methylpentan-2-ol, 4- | 108-11-2 | C6H14O | 2.8 |
| Methylpentane-2,4-diol, 2- | 107-41-5 | C6H14O2 | 4 |
| Methylpropan-2-ol, 2- | 75-65-0 | C4H10O | 3.5 |
| Methylstyrene | 25013-15-4 | C9H10 | 0.5 |
| Mineral oil | 8042-47-5 | | 0.8 |
| Mineral spirits | 64475-85-0 | | 0.8 |
| Naphthalene | 91-20-3 | C10H8 | 0.4 |
| Nitric oxide | 10102-43-9 | NO | 8 |
| Nitroaniline 4- | 100-01-6 | C6H6N2O2 | 0.8 |
| Nitrobenzene | 98-95-3 | C6H5NO2 | 1.7 |
| Nitroethane | 79-24-3 | C2H5NO2 | ZR |
| Nitrogen dioxide | 10102-44-0 | NO2 | 10 |
| Nitrogen trichloride | 10025-85-1 | NCI3 | 1 |
| Nitrogen trifluoride | 7783-54-2 | NF3 | ZR |
| Nitromethane | 75-52-5 | CH3NO2 | ZR |
| Nitropropane, 1- | 108-03-2 | C3H7NO2 | ZR |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|------------------------------|------------|----------|-------------------|
| Nitropropane, 2- | 79-46-9 | C3H7NO2 | ZR |
| Nitrous oxide | 10024-97-2 | N2O | ZR |
| Nonane, n- | 111-84-2 | C9H20 | 1.3 |
| Norbornadiene, 2,5- | 121-46-0 | C7H8 | 0.6 |
| Octachloronaphthalene | 2234-13-1 | C10Cl8 | 1 |
| Octane, n- | 111-65-9 | C8H18 | 1.6 |
| Octene, 1- | 111-66-0 | C8H16 | 0.7 |
| Oxalic acid | 144-62-7 | C2H2O4 | ZR |
| Oxalonnitrile | 460-19-5 | C2N2 | ZR |
| Oxydiethanol 2,2- | 111-46-6 | C4H10O3 | 4 |
| Oxygen | | O2 | ZR |
| Ozone | 10028-15-6 | O3 | ZR |
| Paraffin wax, fume | 8002-74-2 | | 1 |
| Paraffins, normal | 64771-72-8 | | 1 |
| Pentacarbonyl iron | 13463-40-6 | FeC5O5 | 1 |
| Pentachloroethane | 76-01-7 | C2HCl5 | ZR |
| Pentachlorofluoroethane | 354-56-3 | C2Cl5F | ZR |
| Pentafluoroethane | 354-33-6 | C2HF5 | ZR |
| Pentan-2-one | 107-87-9 | C5H10O | 0.8 |
| Pentan-3-one | 96-22-0 | C5H10O | 0.8 |
| Pentandione, 2,4- | 123-54-6 | C5H8O2 | 0.8 |
| Pentane, n- | 109-66-0 | C5H12 | 7.9 |
| Peracetic acid | 79-21-0 | C2H4O3 | 2 |
| Perchloryl fluoride | 7616-94-6 | ClO3F | ZR |
| Perfluoropropane | 76-19-7 | C3F8 | ZR |
| Petroleum ether | | | 0.9 |
| Phenol | 108-95-2 | C6H6O | 1.2 |
| Phenyl propene, 2- | 98-83-9 | C9H10 | 0.4 |
| Phenyl-2,3-epoxypropyl ether | 122-60-1 | C9H10O2 | 0.8 |
| Phenylenediamine, p- | 106-50-3 | C6H8N2 | 0.6 |
| Phosgene | 75-44-5 | COCl2 | ZR |
| Phosphine | 7803-51-2 | PH3 | 2 |
| Picoline, 3- | 108-99-6 | C6H7N | 0.9 |
| Pinene, alpha | 80-56-8 | C10H16 | 0.3 |
| Pinene, beta | 127-91-3 | C10H16 | 0.3 |
| Piperidine | 110-89-4 | C5H11N | 0.9 |
| Piperylene | 504-60-9 | C5H8 | 0.7 |
| Prop-2-yn-1-ol | 107-19-7 | C3H4O | 1.3 |
| Propan-1-ol | 71-23-8 | C3H8O | 4.8 |
| Propane | 74-98-6 | C3H8 | ZR |
| Propane-1,2-diol, total | 57-55-6 | C3H8O2 | 10 |
| Propene | 115-07-1 | C3H6 | 1.4 |
| Propionaldehyde | 123-38-6 | C3H6O | 1.7 |
| Propionic acid | 79-09-4 | C3H6O2 | 8 |
| Propyl acetate, n- | 109-60-4 | C5H10O2 | 2.5 |
| Propylene dinitrate | 6423-43-4 | C3H6N2O6 | ZR |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|--|------------|-----------|-------------------|
| Propylene oxide | 75-56-9 | C3H6O | 7 |
| Propyleneimine | 75-55-8 | C3H7N | 1.3 |
| Pyridine | 110-86-1 | C5H5N | 0.8 |
| Pyridylamine 2- | 504-29-0 | C5H6N2 | 0.8 |
| Silane | 7803-62-5 | SiH4 | ZR |
| Sodium fluoroacetate | 62-74-8 | C2H2O2FNa | ZR |
| Styrene | 100-42-5 | C8H8 | 0.4 |
| Sulphur dioxide | 9/5/46 | SO2 | ZR |
| Sulphur hexafluoride | 2551-62-4 | SF6 | ZR |
| Sulphur tetrafluoride | 7783-60-0 | SF4 | ZR |
| Sulphuric acid | 7664-93-9 | H2SO4 | ZR |
| Sulphuryl fluoride | 2699-79-8 | SO2F2 | ZR |
| Terphenyls | | C18H14 | 0.6 |
| Terpinolene | 586-62-9 | C10H16 | 0.5 |
| Tert-butanol | 75-65-0 | C4H10O | 2.6 |
| Tetrabromoethane, 1,1,2,2- | 79-27-6 | C2H2Br4 | 2 |
| Tetracarbonylnickel | 13463-39-3 | NiC4O4 | 1 |
| Tetrachloro-1,2-difluoroethane, 1,1,2,2- | 76-12-0 | C2Cl4F2 | ZR |
| Tetrachloro-1-fluoroethane, 1,1,2,2- | 354-14-3 | C2HCl4F | ZR |
| Tetrachloro-2,2-difluoroethane, 1,1,1,2- | 76-11-9 | C2Cl4F2 | ZR |
| Tetrachloro-2-fluoroethane, 1,1,1,2- | 354-11-0 | C2HCl4F | ZR |
| Tetrachloroethane, 1,1,1,2- | 630-20-6 | C2H2Cl4 | ZR |
| Tetrachloroethane, 1,1,2,2- | 79-34-5 | C2H2Cl4 | ZR |
| Tetrachloroethylene | 127-18-4 | C2Cl4 | 0.7 |
| Tetrachloronaphthalenes, all isomers | 20020-02-4 | C10H4Cl4 | 1 |
| Tetraethyl orthosilicate | 78-10-4 | C8H20O4Si | 2 |
| Tetraethyllead | 78-00-2 | C8H20Pb | ZR |
| Tetrafluoroethane, 1,1,1,2- | 811-97-2 | C2H2F4 | ZR |
| Tetrafluoroethane, 1,1,2,2- | 359-35-3 | C2H2F4 | ZR |
| Tetrafluoroethylene | 116-14-3 | C2F4 | 1 |
| Tetrafluoromethane | 75-73-0 | CF4 | ZR |
| Tetrahydrofuran | 109-99-9 | C4H8O | 1.6 |
| Tetramethyl orthosilicate | 681-84-5 | C4H12O4Si | ZR |
| Tetramethyl succinonitrile | 3333-52-6 | C8H12N2 | 1 |
| Therminol | | | 1 |
| Thionyl chloride | 9/7/19 | SOCl2 | ZR |
| Toluene | 108-88-3 | C7H8 | 0.5 |
| Toluene-2,4-diisocyanate | 584-84-9 | C9H6N2O2 | 1.6 |
| Toluenesulphonyl chloride, p- | 98-59-9 | C7H7SO2Cl | 3 |
| Toluidine, o- | 95-53-4 | C7H9N | 0.5 |
| Tributyl phosphate | 126-73-8 | C12H27O4P | 5 |

| Gas/ VOC | CAS No. | Formula | Relative Response |
|--------------------------------------|-----------|--|-------------------|
| Tributylamine | 102-82-9 | C ₁₂ H ₂₇ N | 1 |
| Trichloro-1,1-difluoroethane, 1,2,2- | 354-21-2 | C ₂ HCl ₃ F ₂ | ZR |
| Trichloro-1,2-difluoroethane, 1,1,2- | 354-15-4 | C ₂ HCl ₃ F ₂ | ZR |
| Trichloro-2,2-difluoroethane, 1,1,1- | 354-12-1 | C ₂ HCl ₃ F ₂ | ZR |
| Trichloro-2-fluoroethane, 1,1,2- | 359-28-4 | C ₂ H ₂ Cl ₃ F | ZR |
| Trichlorobenzene 1,2,4- | 120-82-1 | C ₆ H ₃ Cl ₃ | 0.6 |
| Trichloroethane, 1,1,1- | 71-55-6 | C ₂ H ₃ Cl ₃ | ZR |
| Trichloroethane, 1,1,2- | 79-00-5 | C ₂ H ₃ Cl ₃ | ZR |
| Trichloroethylene | 79-01-6 | C ₂ HCl ₃ | 0.7 |
| Trichlorofluoromethane | 75-69-4 | CCl ₃ F | ZR |
| Trichloronitromethane | 76-06-2 | CCl ₃ NO ₂ | ZR |
| Trichlorophenoxyacetic acid, 2,4,5- | 93-76-5 | C ₈ H ₅ O ₃ Cl ₃ | 1 |
| Trichloropropane 1,2,3- | 96-18-4 | C ₃ H ₅ Cl ₃ | ZR |
| Trichlorotrifluoroethane, 1,1,1- | 354-58-5 | C ₂ Cl ₃ F ₃ | ZR |
| Trichlorotrifluoroethane, 1,1,2- | 76-13-1 | C ₂ Cl ₃ F ₃ | ZR |
| Triethylamine | 121-44-8 | C ₆ H ₁₅ N | 0.9 |
| Trifluoroethane, 1,1,1- | 420-46-2 | C ₂ H ₃ F ₃ | ZR |
| Trifluoroethane, 1,1,2- | 430-66-0 | C ₂ H ₃ F ₃ | ZR |
| Trifluoroethanol, 2,2,2- | 75-89-8 | C ₂ H ₃ F ₃ O | ZR |
| Trifluoromethane | 75-46-7 | CHF ₃ | ZR |
| Trimethylamine | 53-50-3 | C ₃ H ₉ N | 0.5 |
| Trimethylbenzene mixtures | | C ₉ H ₁₂ | 0.3 |
| Trimethylbenzene, 1,3,5- | 108-67-8 | C ₉ H ₁₂ | 0.3 |
| Trinitrotoluene 2,4,6- | 118-96-7 | C ₇ H ₅ N ₃ O ₆ | ZR |
| Turpentine | 8006-64-2 | C ₁₀ H ₁₆ | 0.6 |
| TVOC | | | 1 |
| Undecane, n- | 1120-21-4 | C ₁₁ H ₂₄ | 0.9 |
| Vinyl acetate | 108-05-2 | C ₄ H ₆ O ₂ | 1.1 |
| Vinyl bromide | 593-60-2 | C ₂ H ₃ Br | 1 |
| Vinyl chloride | 75-01-4 | C ₂ H ₃ Cl | 2.1 |
| Vinyl-2-pyrrolidinone, 1- | 88-12-0 | C ₆ H ₉ NO | 0.9 |
| Xylene mixed isomers | 1330-20-7 | C ₈ H ₁₀ | 0.4 |
| Xylene, m- | 108-38-3 | C ₈ H ₁₀ | 0.4 |
| Xylene, o- | 95-47-6 | C ₈ H ₁₀ | 0.6 |
| Xylene, p- | 106-42-3 | C ₈ H ₁₀ | 0.6 |
| Xylidine, all | 1300-73-8 | C ₈ H ₁₁ N | 0.7 |

Spare Parts List

Table 5: Spare Parts List

| Part Number | Description |
|--------------------|---|
| 47-5084RK | USB/IrDA adapter module (without USB cable) |
| 47-5084RK-01 | USB/IrDA adapter assembly (with module and USB cable) |
| 47-5085RK | Cable, USB A to USB mini, 6 feet, for USB/IrDA adapter module |
| 71-0154RK | EAGLE 2 Operator's Manual |
| 71-0191RK | EAGLE 2 Maintenance Data Loader Program Operator's Manual (this document) |
| 71-8003RK | Eagle 2 Product CD, Includes the Eagle 2 Data Logger Management Program, the Eagle 2 Maintenance Program, and Operator's Manuals for each |