

COMET MANUAL



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Comet Manual

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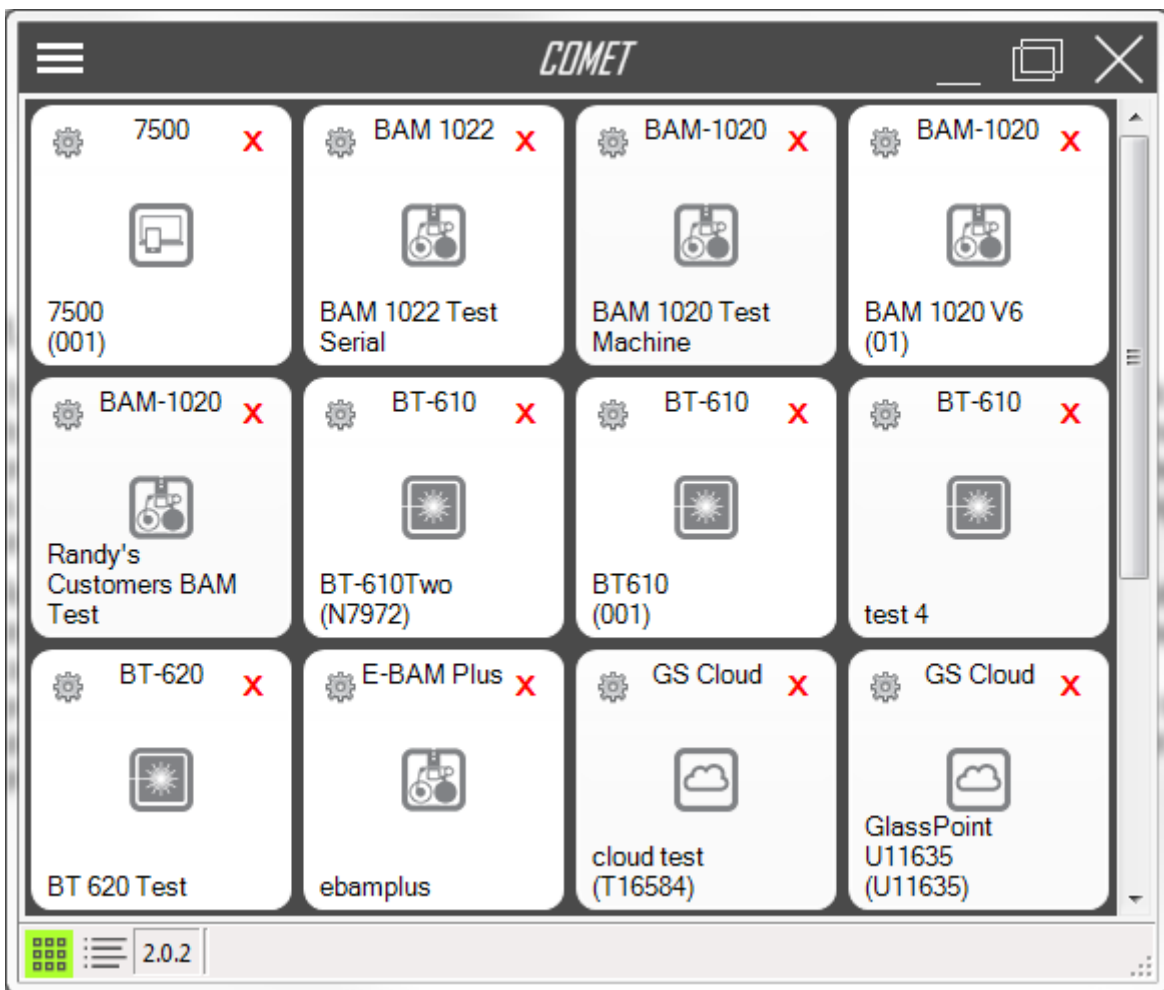
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1. Introduction

The Comet software is a utility for extracting information (data, alarms, settings, etc.) from Met One Instruments products. The software does not interface to all Met One products for the sake of simplicity, but most key products are supported. The software is designed for the user to easily access information within a product without having to know underlying communications protocol for that device.

Data is downloaded and stored into a user defined area which is then subdivided by the utility into station subdirectories. In addition to retrieving information the software has the capability to display the information, both in tabular and chart formats, as well as provide a terminal interface with the device. The software is designed as an easy to use program which simply provides a means of communicating with supported Met One products.



2. System Requirements

Disk Space: 10MB for Comet
 50MB for .NET 4

Operating Systems: Windows XP Service Pack 3 or newer
Windows Vista (32-bit and 64-bit systems)
Windows 7 (32-bit and 64-bit systems)
Windows 8 (32-bit and 64-bit systems)
Windows 10 (64-bit systems)

Minimum System Requirements:

Processor Speed: 2GHz or faster
Memory: 2GB minimum

Recommended System Requirements:

Processor Speed: 2GHz or faster for 32-bit and 64-bit systems
Memory: 4GB or more

3. Installation

All of the necessary installation files are supplied on a standard CD-ROM.

3.1. Getting Started

Insert the CD-ROM into your computer and the auto-run program will automatically begin the software installation process. If the installation program does not automatically launch upon inserting the CD-ROM, you may manually begin the installation process. Press the Windows START button and select “Run...” Press the “Browse...” button and select your CD-ROM drive. Open the “Software” folder, select the file labeled “setup.exe” and press the “Open” button. Press the “OK” button to begin the installation process.

3.2. Installation Options

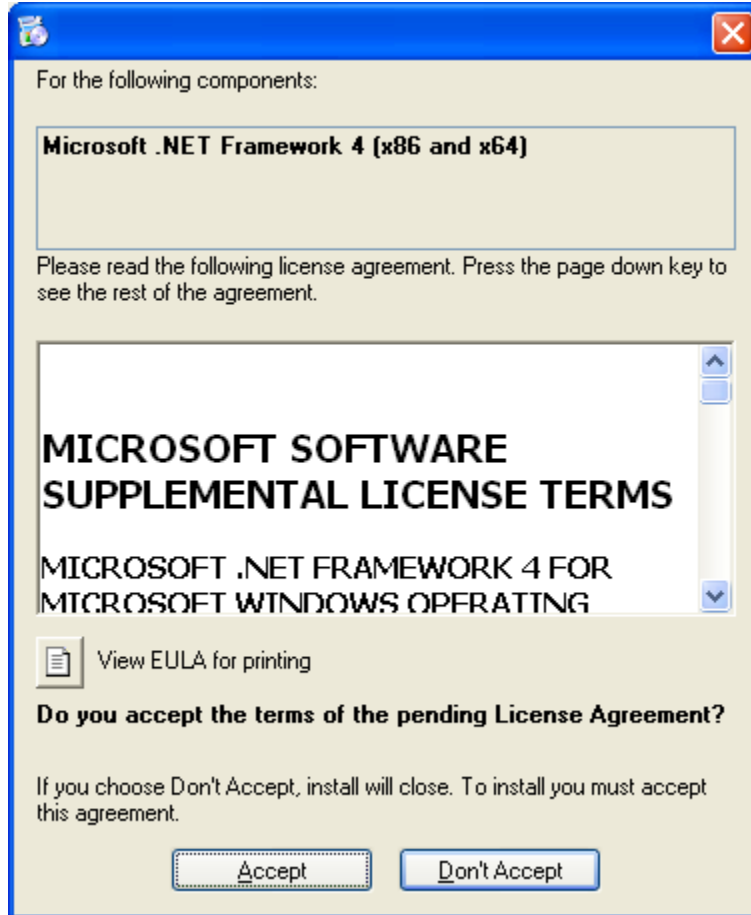
The supplied Comet CD-ROM comes with the necessary tools for connecting to your Met One product. As shown in the image below, Comet comes with the following items:

- Comet
- Comet Manual
- USB Instructions
- USB Drivers
- Ethernet Instructions
- Ethernet Configuration Tool
- Ethernet Drivers
- Adobe Acrobat Reader



3.3. .NET 4.0 Framework Installation

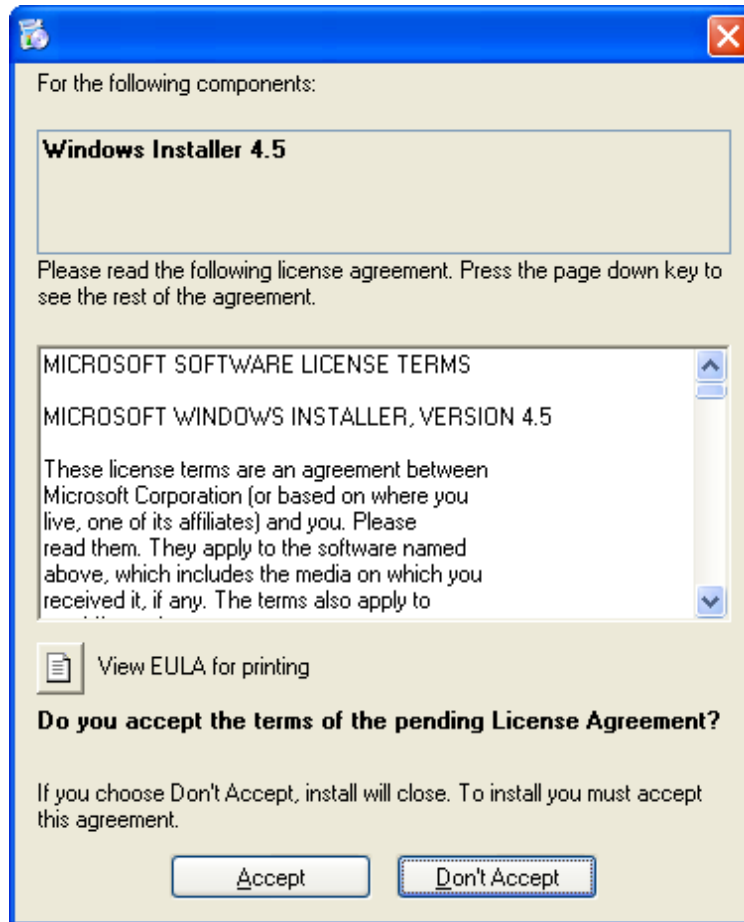
Comet uses the .NET 4.0 framework. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install the necessary files for the setup to run properly.



It will take a few minutes for .NET Framework 4.0 to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of the Comet will continue.

3.4. Windows Installer 4.5

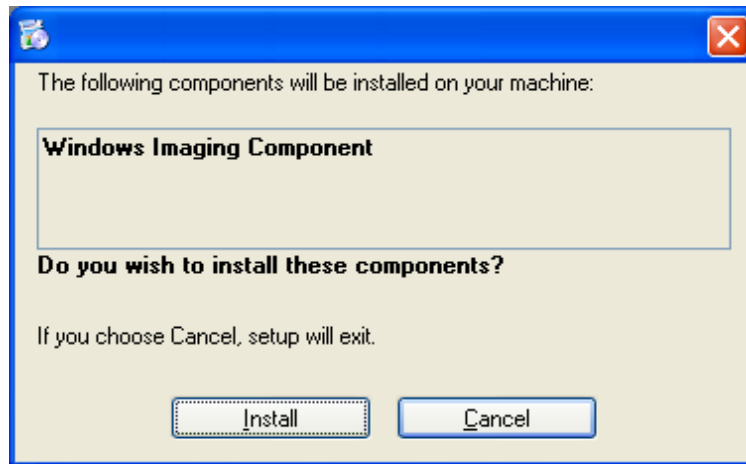
Comet uses the newest version of Windows Installer, 4.5, for properly installing Comet. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install Windows Installer 4.5.



It will take a few minutes for Windows Installer to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation will continue.

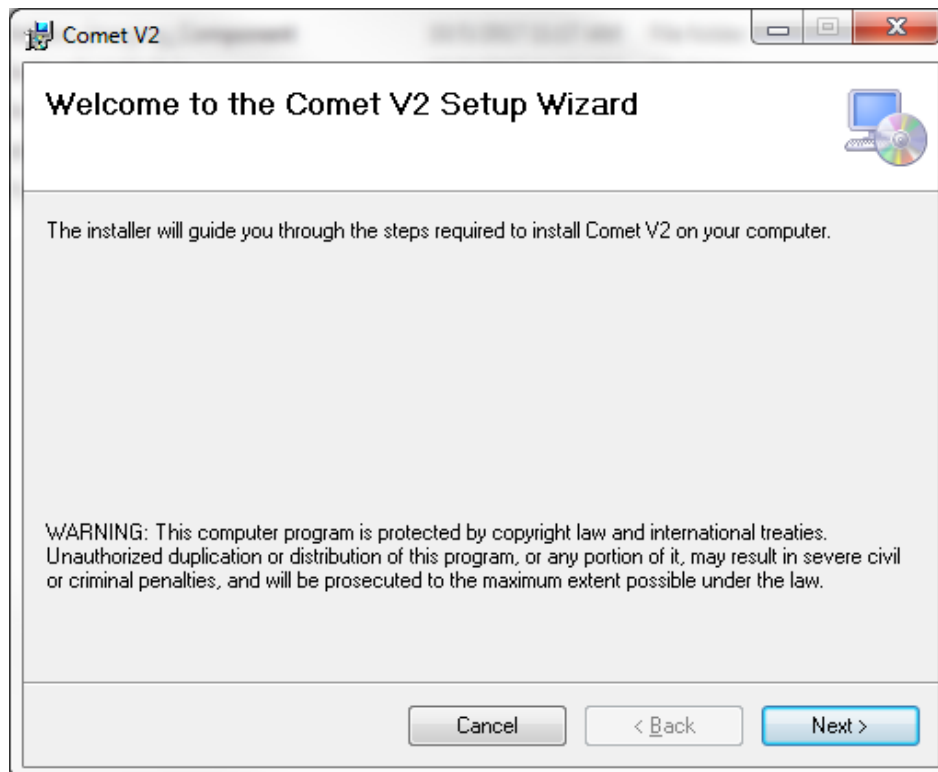
3.5. Windows Imaging Component (Windows XP Only)

On Windows XP machines, in order to properly install the .NET 4 Framework, Windows Imaging Component may be needed. The installation process will detect if you meet the requirements. If your computer does not meet these requirements, you will be prompted to install Windows Imaging Component.

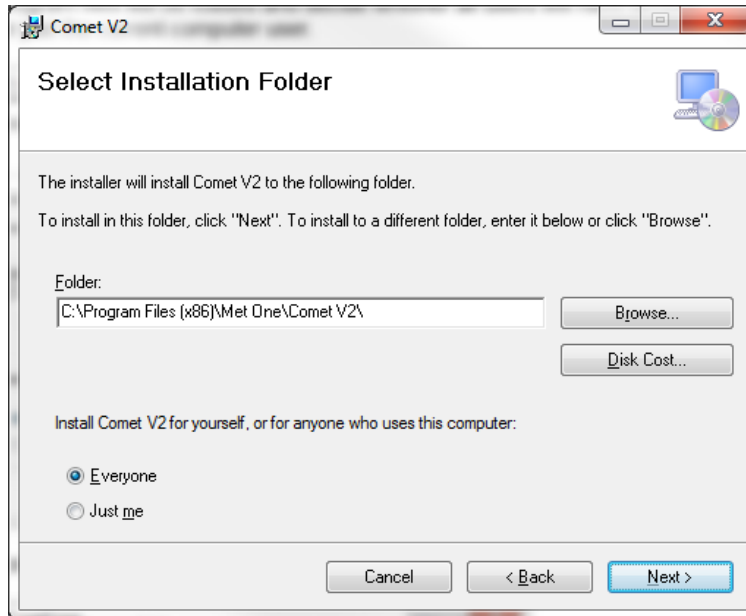


It will take a few minutes for Windows Imaging Component to install. Once completed, the setup may ask you to reboot your computer. Once rebooted, the installation of the will continue.

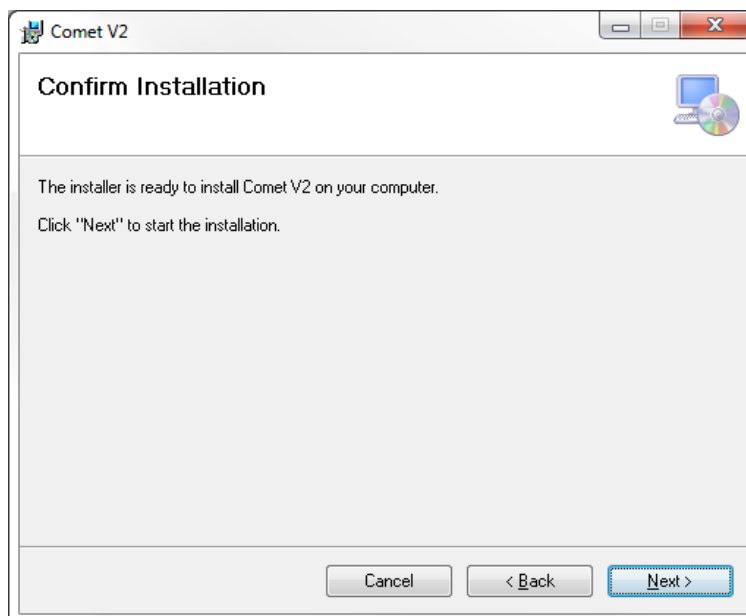
3.6. Comet Installation



Determine where the program files will be loaded and decide whether all users will have access to Comet or just the current user.

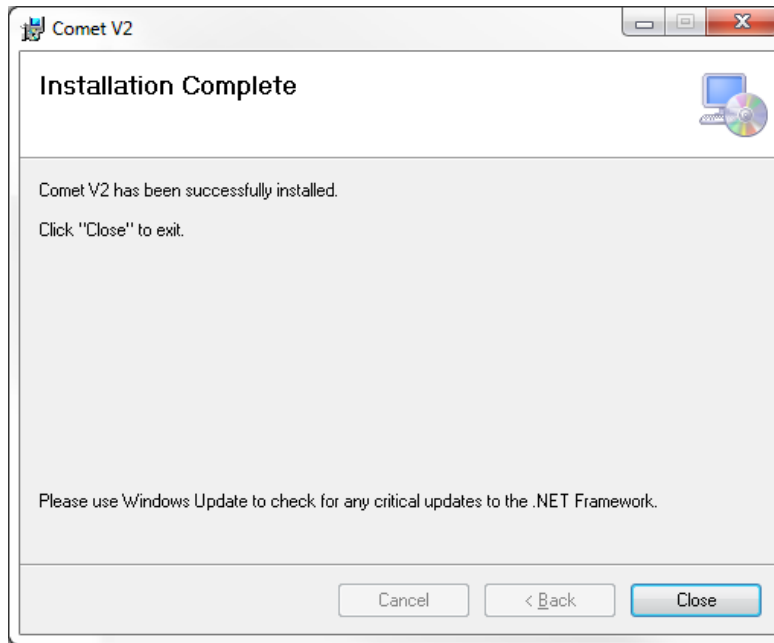


You will then need to confirm that you wish to install Comet.



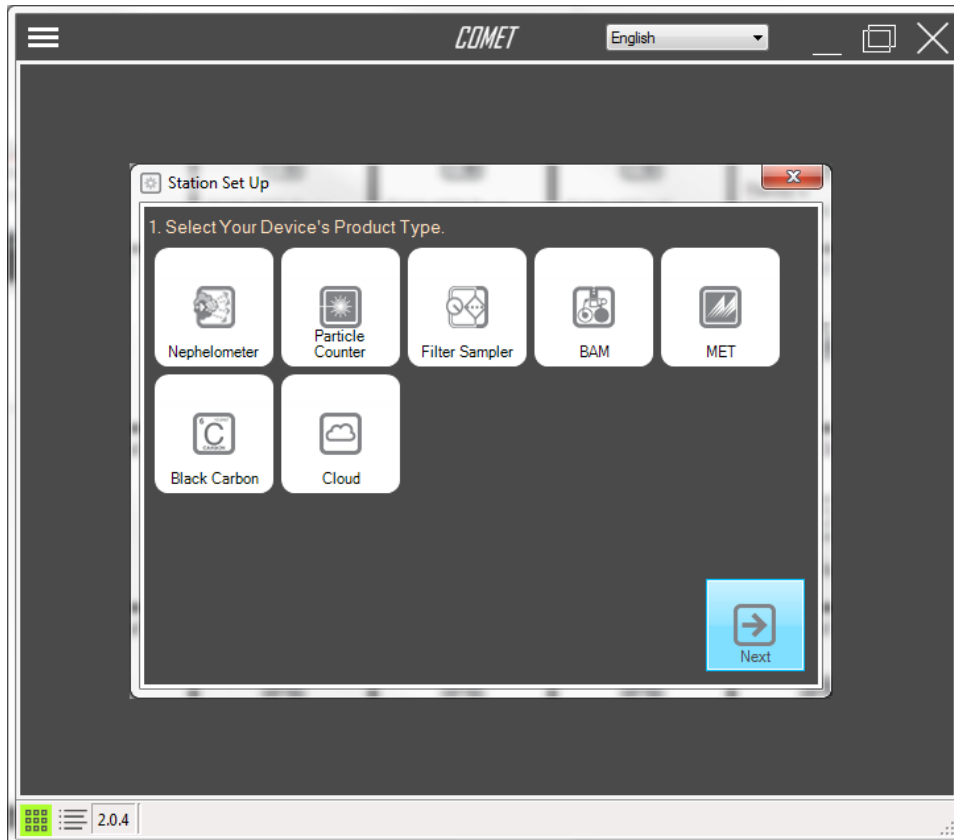
Once confirmed, Comet will be installed on your computer with the options you have chosen. After the installation has finished, the installation wizard will confirm when the process is complete.

IMPORTANT: Once installation is complete, it is important to run Windows Update and download all critical updates.



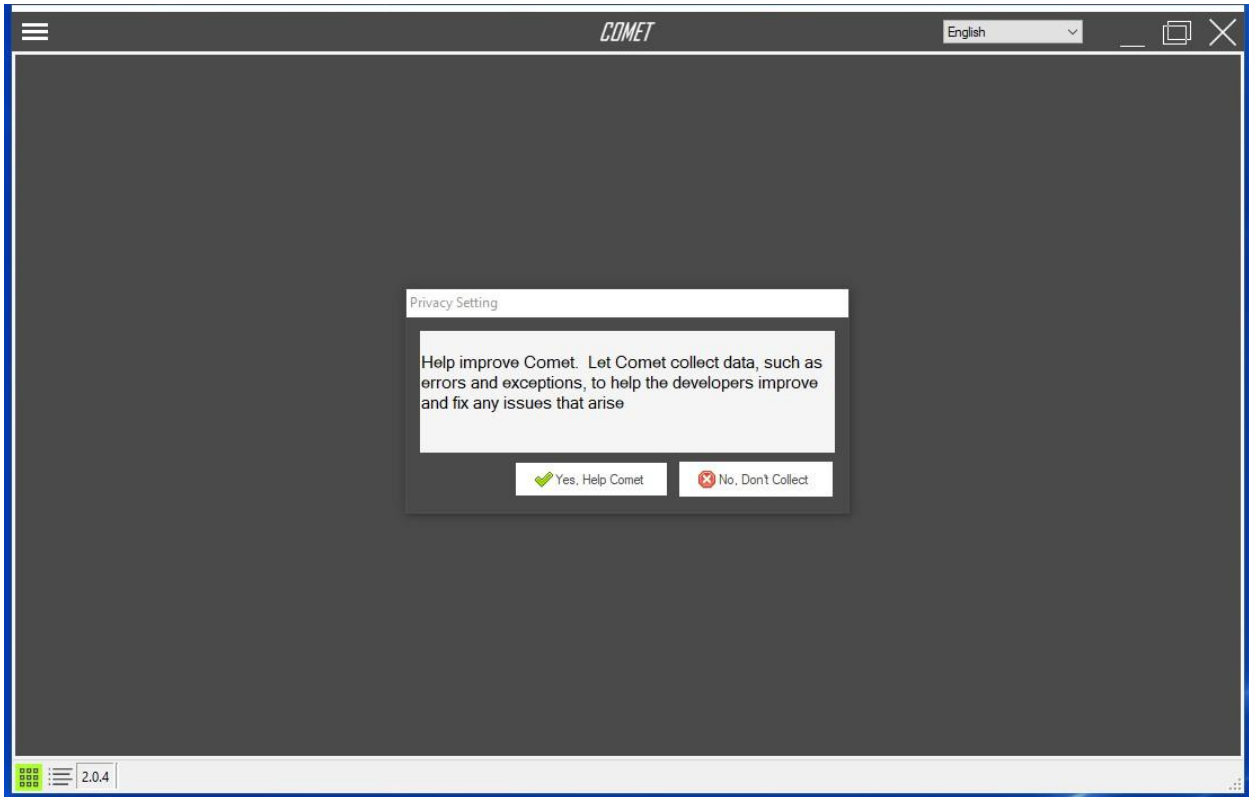
4. Getting Started

Launch Comet by clicking the icon in the start menu. The Comet start icon is located at Start ► Programs ► Met One ► Comet. Once the program has been launched, the main screen will be displayed as shown in the figure below.



4.1. Privacy Settings

The first time opening Comet, it will prompt the user for their privacy settings. Comet collects data, such as errors and exceptions and by accepting the privacy settings Met One can improve Comet and fix any issues that occur. By declining, Comet will not collect any data.



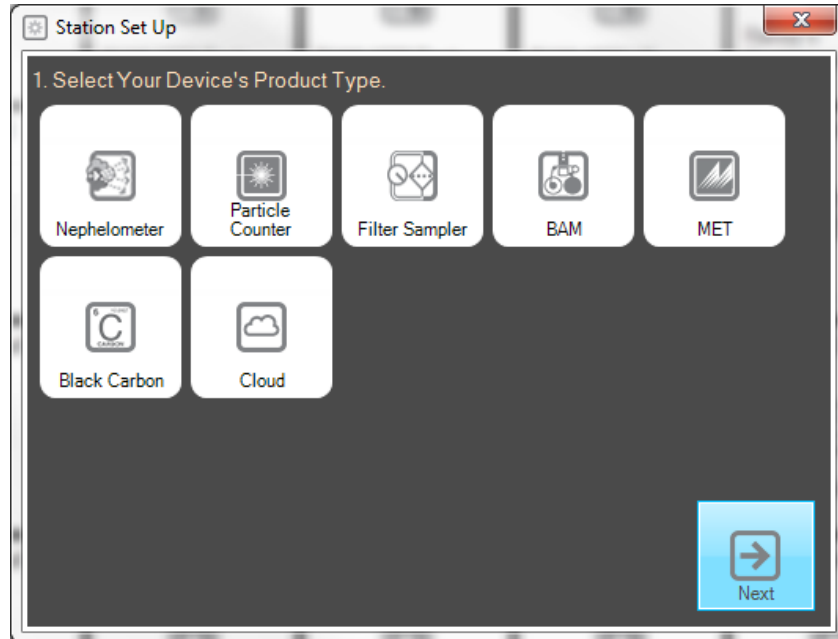
4.2. Creating a New Station

Press the menu button located in the top left corner and select 'Add New Station' to open the add station wizard.



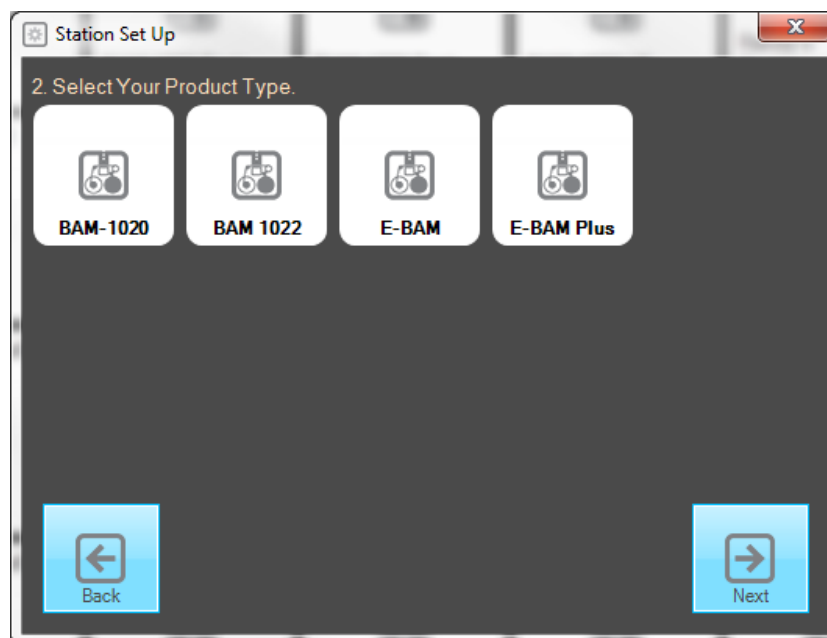
4.2.1. Product Select

The Comet software works with most Met One products. Once the add station wizard is open, users will need to select their product type. Currently, Comet supports the following products: Nephelometer, Particle Counter, Filter Sampler, BAM, MET, Black Carbon, and Cloud Services.



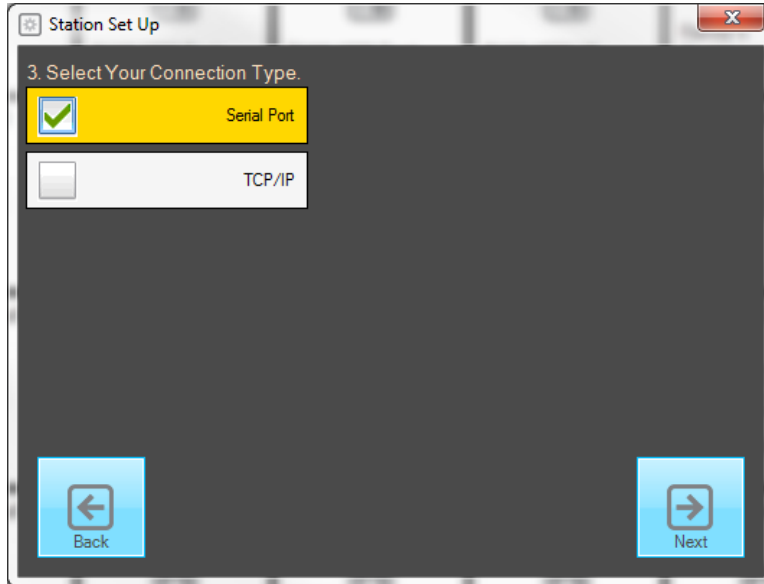
4.2.2. Product Model Select

After selecting a product, users must select the product model.

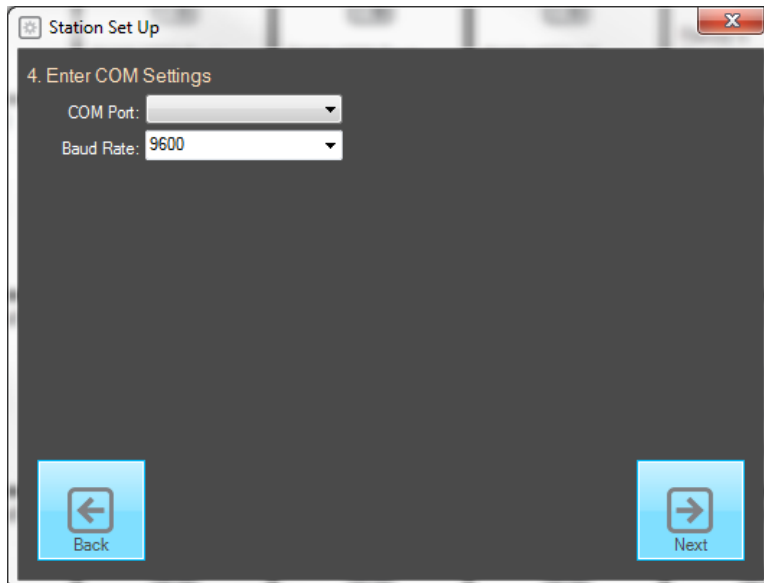


4.2.3. Connection Select

After choosing a product and model, users must enter their connection info so Comet can connect to the device.

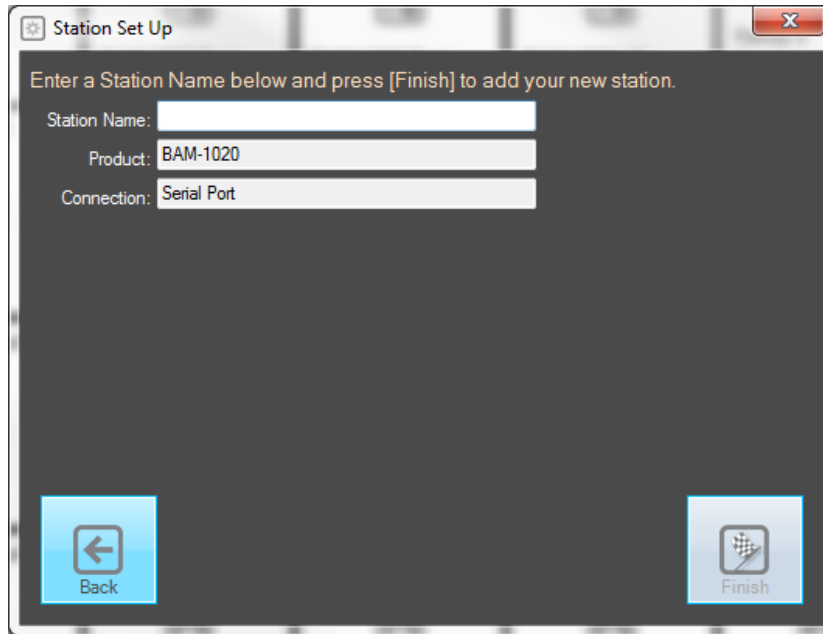


After selecting the connection type, users will be prompted for the connection settings. Selecting Serial Port, users must enter the COM port and the baud rate. Selecting TCP/IP, users must enter the IP address and port number.



4.2.4. Finish

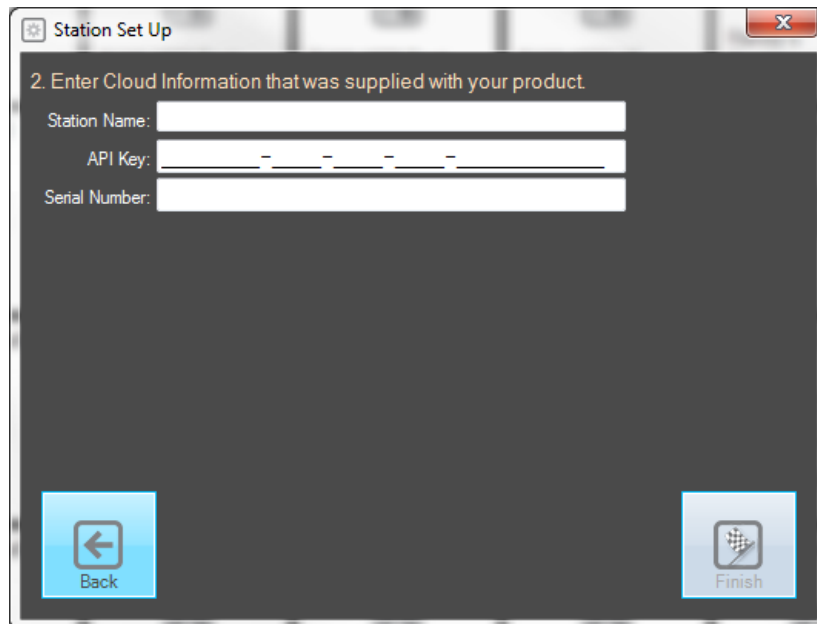
After setting up the connection information, users must confirm their settings and give the station a name. After entering a station name, the new station will be added to Comet!



The screenshot shows a window titled "Station Set Up" with a close button in the top right corner. The main text reads: "Enter a Station Name below and press [Finish] to add your new station." Below this text are three input fields: "Station Name:" (empty), "Product:" (containing "BAM-1020"), and "Connection:" (containing "Serial Port"). At the bottom of the window, there are two buttons: a "Back" button with a left-pointing arrow icon and a "Finish" button with a checkered flag icon.

4.2.5. Cloud

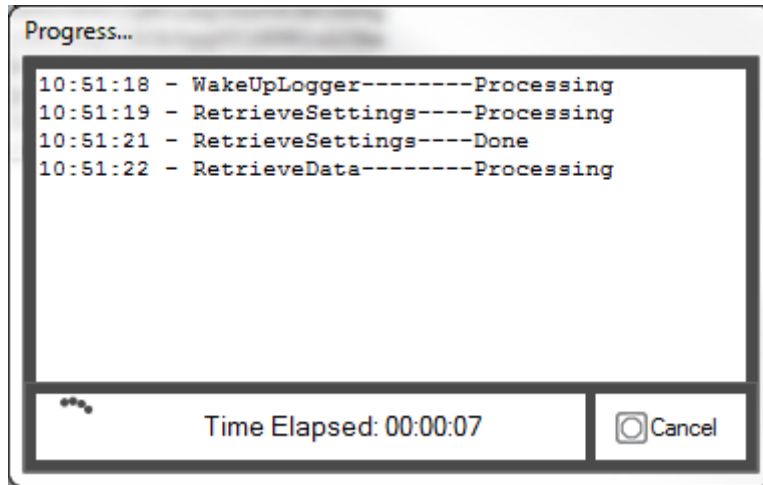
Selecting Cloud as the product, users must enter a station name, the API key, and the serial number.



The screenshot shows a window titled "Station Set Up" with a close button in the top right corner. The main text reads: "2. Enter Cloud Information that was supplied with your product." Below this text are three input fields: "Station Name:" (empty), "API Key:" (empty), and "Serial Number:" (empty). At the bottom of the window, there are two buttons: a "Back" button with a left-pointing arrow icon and a "Finish" button with a checkered flag icon.

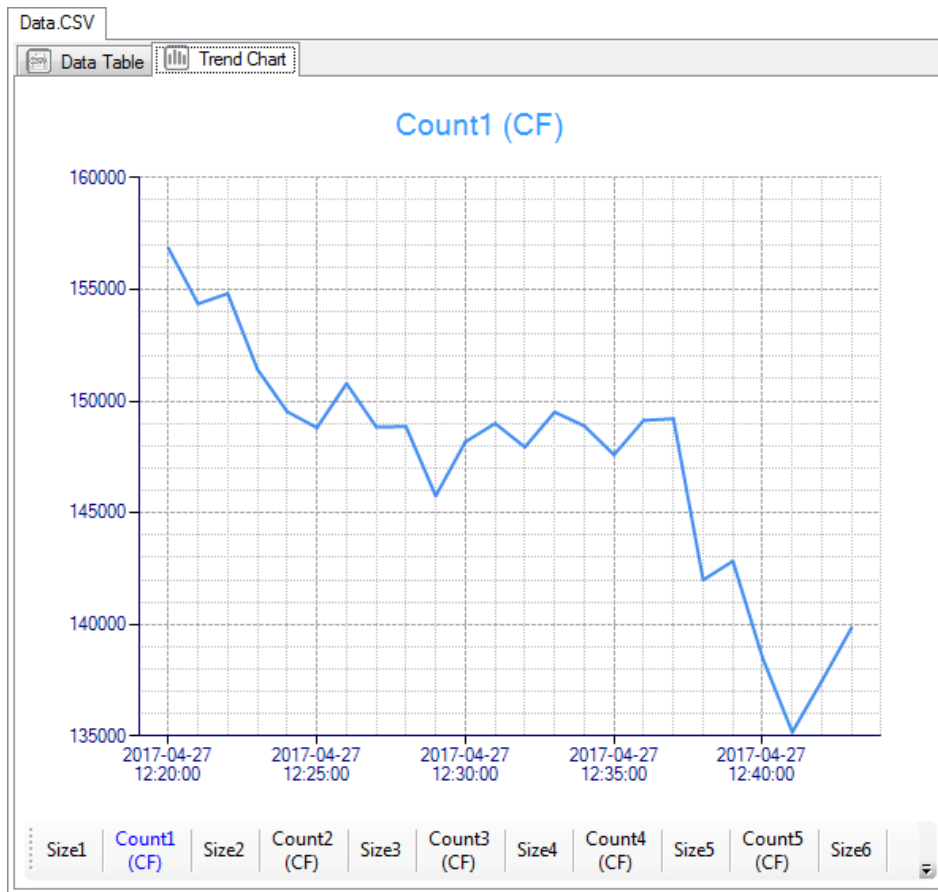
4.3. Downloading Data

Once your new station is created, simply click on the tile from the main Comet screen. This will load your new station. See section 6 for more in depth instructions for station options. Download data from your device by pressing the 'Retrieve' button located at the top. Choose your download options and press 'OK' to begin retrieving data from your device. Once finished, the data will appear in the data table tab. Alternatively, users can chart their data by selecting the trend chart tab.



Data.CSV

| Date/Time | Size1 | Count1 (CF) | Size2 | Count2 (CF) | Size3 | Count3 (CF) | Size4 | Count4 (CF) | Size5 | Count5 (CF) |
|-----------------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| 4/27/2017 12:20:00 PM | 0.3 | 156840 | 0.5 | 18550 | 1 | 2930 | 2.5 | 170 | 5 | 50 |
| 4/27/2017 12:21:00 PM | 0.3 | 154350 | 0.5 | 18740 | 1 | 2620 | 2.5 | 150 | 5 | 30 |
| 4/27/2017 12:22:00 PM | 0.3 | 154810 | 0.5 | 18980 | 1 | 3210 | 2.5 | 160 | 5 | 30 |
| 4/27/2017 12:23:00 PM | 0.3 | 151420 | 0.5 | 18650 | 1 | 2980 | 2.5 | 160 | 5 | 10 |
| 4/27/2017 12:24:00 PM | 0.3 | 149530 | 0.5 | 18670 | 1 | 3110 | 2.5 | 120 | 5 | 30 |
| 4/27/2017 12:25:00 PM | 0.3 | 148810 | 0.5 | 17940 | 1 | 3090 | 2.5 | 230 | 5 | 40 |
| 4/27/2017 12:26:00 PM | 0.3 | 150780 | 0.5 | 17700 | 1 | 3050 | 2.5 | 150 | 5 | 10 |
| 4/27/2017 12:27:00 PM | 0.3 | 148840 | 0.5 | 17820 | 1 | 2760 | 2.5 | 200 | 5 | 80 |
| 4/27/2017 12:28:00 PM | 0.3 | 148860 | 0.5 | 17990 | 1 | 2820 | 2.5 | 110 | 5 | 10 |
| 4/27/2017 12:29:00 PM | 0.3 | 145760 | 0.5 | 17420 | 1 | 2760 | 2.5 | 160 | 5 | 30 |
| 4/27/2017 12:30:00 PM | 0.3 | 148180 | 0.5 | 17410 | 1 | 2560 | 2.5 | 220 | 5 | 20 |
| 4/27/2017 12:31:00 PM | 0.3 | 149000 | 0.5 | 17400 | 1 | 3250 | 2.5 | 190 | 5 | 70 |
| 4/27/2017 12:32:00 PM | 0.3 | 147940 | 0.5 | 17380 | 1 | 2640 | 2.5 | 70 | 5 | 30 |
| 4/27/2017 12:33:00 PM | 0.3 | 149510 | 0.5 | 18190 | 1 | 2870 | 2.5 | 210 | 5 | 30 |
| 4/27/2017 12:34:00 PM | 0.3 | 148890 | 0.5 | 17980 | 1 | 2780 | 2.5 | 130 | 5 | 50 |
| 4/27/2017 12:35:00 PM | 0.3 | 147600 | 0.5 | 17460 | 1 | 2680 | 2.5 | 90 | 5 | 20 |
| 4/27/2017 12:36:00 PM | 0.3 | 149140 | 0.5 | 16300 | 1 | 2420 | 2.5 | 110 | 5 | 30 |
| 4/27/2017 12:37:00 PM | 0.3 | 149210 | 0.5 | 16580 | 1 | 2530 | 2.5 | 170 | 5 | 40 |
| 4/27/2017 12:38:00 PM | 0.3 | 142000 | 0.5 | 15670 | 1 | 2500 | 2.5 | 230 | 5 | 50 |
| 4/27/2017 12:39:00 PM | 0.3 | 142840 | 0.5 | 15570 | 1 | 2380 | 2.5 | 260 | 5 | 90 |
| 4/27/2017 12:40:00 PM | 0.3 | 138510 | 0.5 | 15040 | 1 | 2270 | 2.5 | 290 | 5 | 80 |

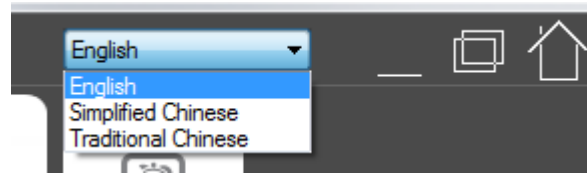


5. Comet's Menu

Comet's main menu allows users to navigate and access several features that Comet has to offer. Users can add new stations, change settings, import stations from the old Comet, check for program updates, access the about screen, and exit the program.

5.1. Language

Comet supports multi language functionality. Currently, Comet supports English, Simplified Chinese, and Traditional Chinese. To select your language, from the drop down menu at the title bar, select the desired language.



5.2. Minimize

To minimize Comet, press the minimize button located at the top right corner of Comet.



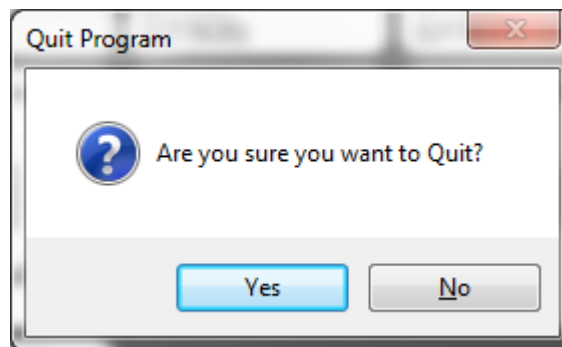
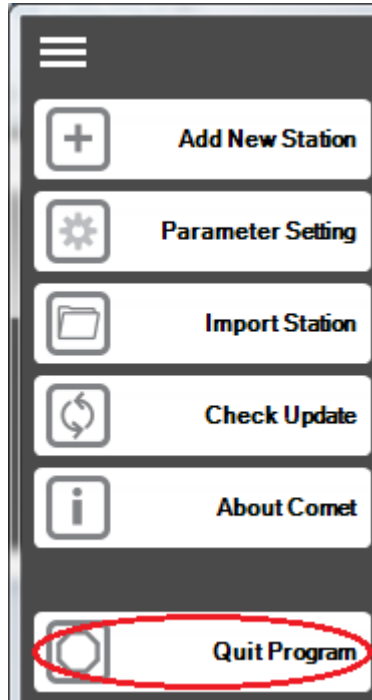
5.3. Maximize

To maximize Comet, press the maximize button located at the top right corner of Comet.



5.4. Exit

To exit Comet, press the X in the top right corner of the screen. Alternatively, from the drop down menu, select 'Quit Program' to exit Comet. Once pressed, users must confirm they want to exit Comet.



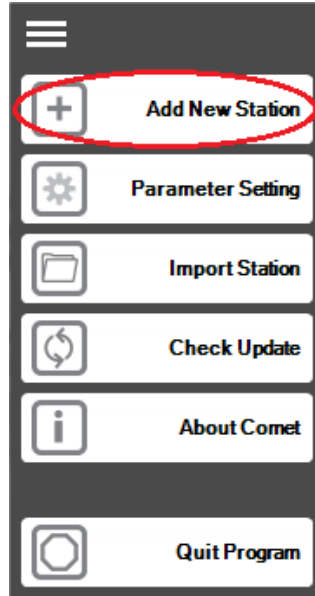
5.5. Home

Once inside a station, to exit back to the main screen, press the home button located in the top right hand corner of Comet.



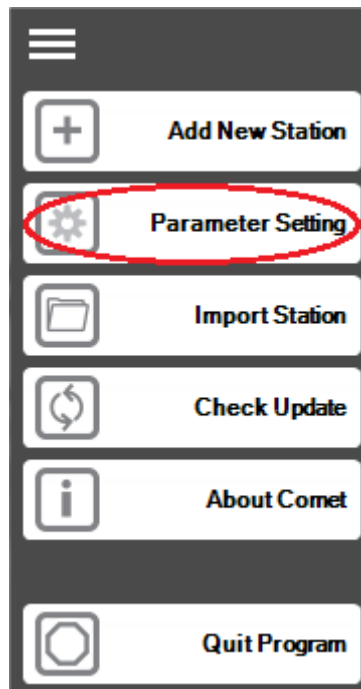
5.6. Add New Station

To add a new station to Comet, simply press the 'Add New Station' button from the drop down menu. This will launch the add station wizard. See section 3 for more detailed information on the add station wizard.



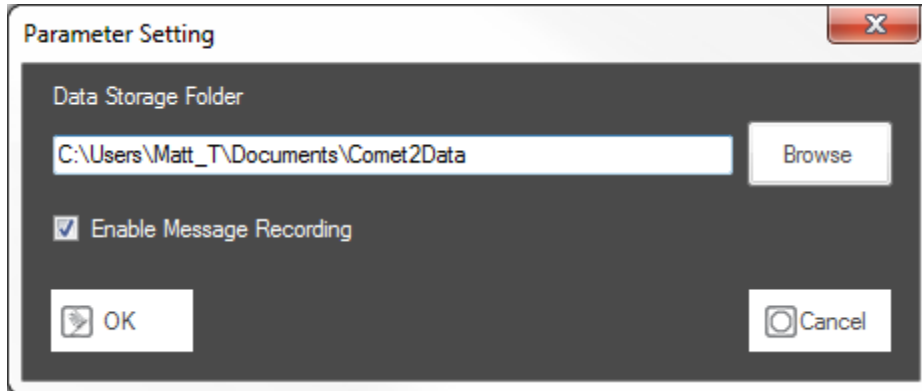
5.7. Settings

Comet has a few global settings. To change Comet's global settings, press the 'Parameter Setting' button from the drop down wizard.



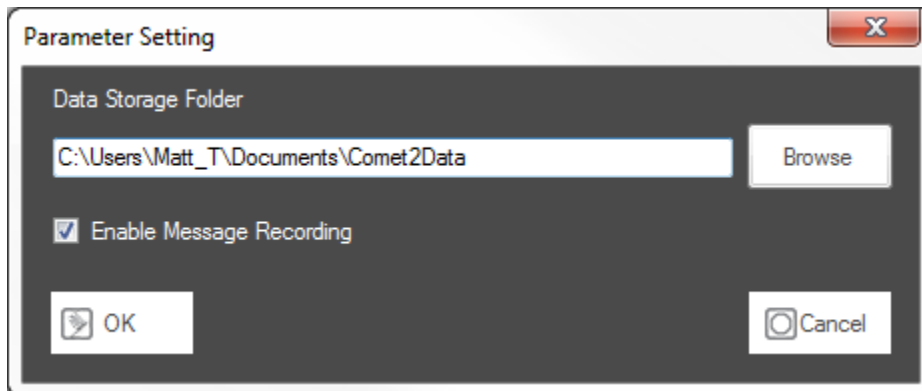
5.7.1. Data Storage Folder

Comet allows users to set their data storage file path. To change this, press the browse button and simply browse to the desired location and press ok. The default file path is the user's document area.



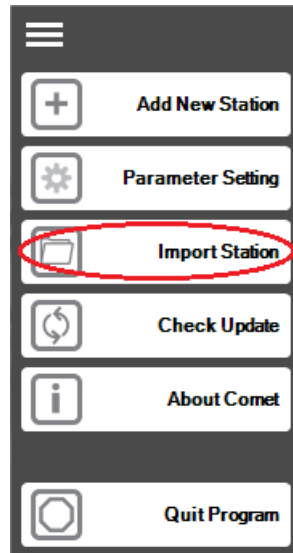
5.7.2. Message Recording

This option allows users to opt in and allow Comet to collect data such as crashes and exceptions that occur. See section 4.1 for more information.

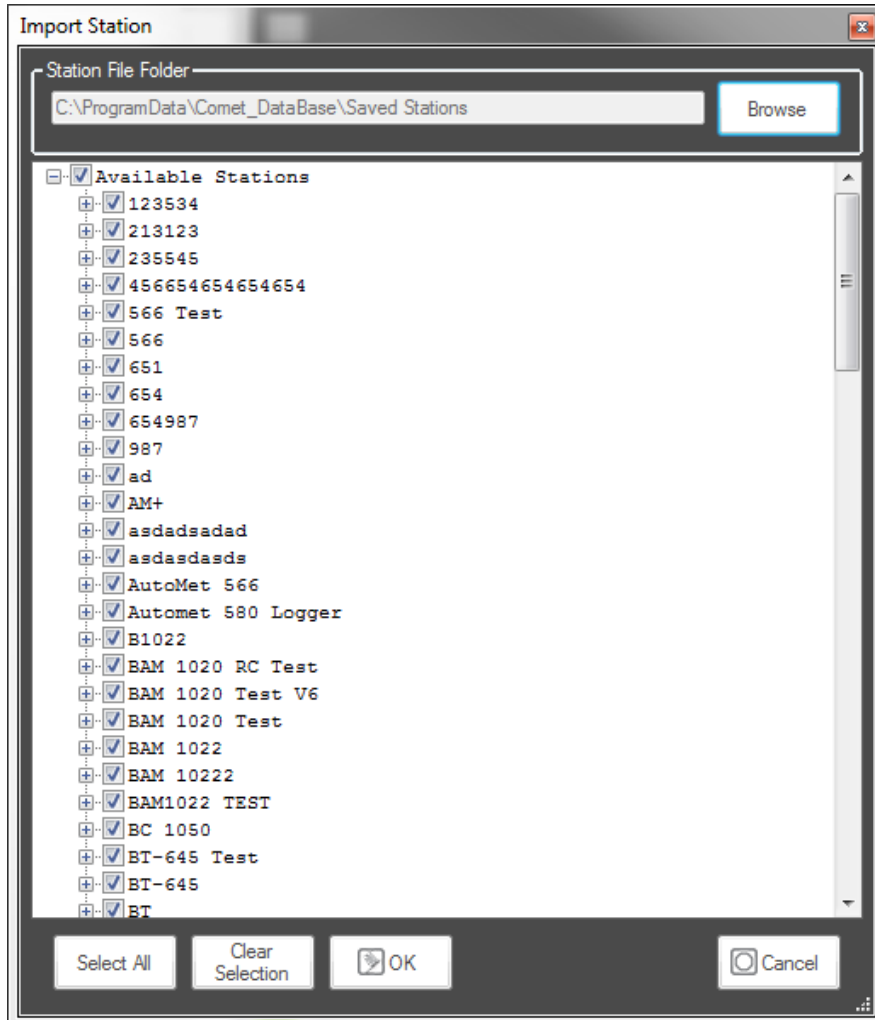


5.8. Import Stations

In the latest version of Comet, the file structure has been improved and changed for users to easily access their data. This means the old Comet's (version 1) file structure doesn't work with the latest version. The import stations button was created for users to import all their legacy stations from their old Comet. This makes it easy to get a legacy user's stations back into Comet. To access the import station dialog, press the 'Import Station' button from the drop down menu.

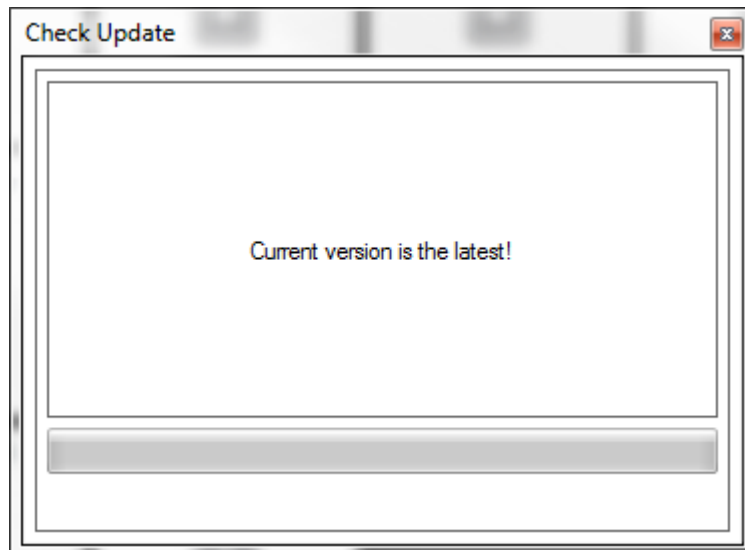
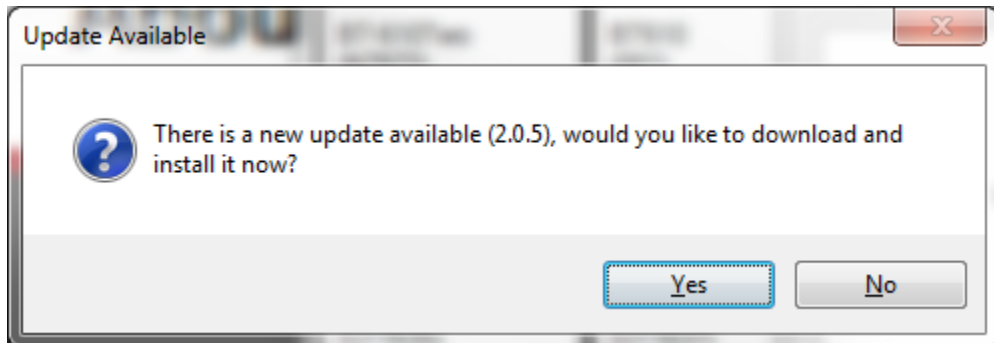
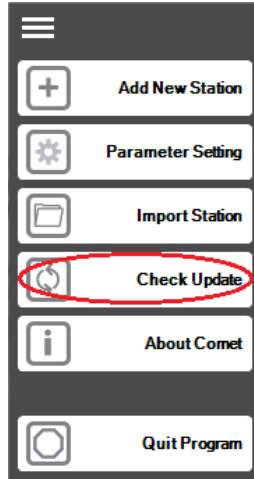


Use the browse button to browse to the legacy Comet folder. Once selected the list of legacy stations will show up as shown in the image below. Select which stations to import and press the 'OK' button to begin importing legacy stations into the new Comet format.



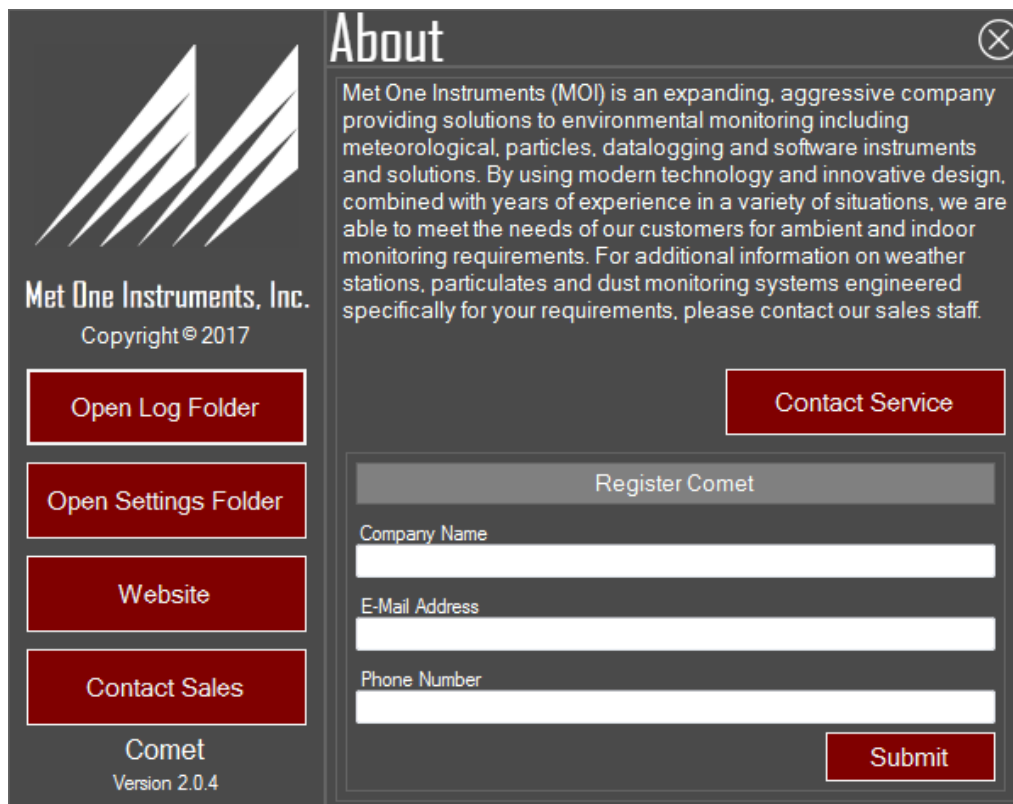
5.9. Check for Updates

Comet allows users to check for updates from within the program. This is an easy way for users to ensure they are always on the latest version of Comet. To check for updates, press the 'Check Update' button located in the drop down menu. If an update is available, it will give the user the option of updating to the latest version.



5.10. About Comet

To read the Comet about screen, press the 'About Comet' button located in the drop down menu. The about screen allows users to register their Comet. This allows Met One's service department help identify customers and is voluntary. The Comet about screen also contains an easy way to contact sales or service with the press of a button. Service may have customers go into the Comet about screen to help access diagnostic files to help with troubleshooting.



5.10.1. Open Log Folder

Press the "Open Log Folder" to navigate to Comet's logging area. In this area, Comet keeps error logs and user logs of everything that happens in Comet. When working with our service department, sending us your logs will help resolve the issues that occurred.

5.10.2. Open Settings Folder

Comet has several global settings saved in its configuration file. Press the "Open Settings Folder" to navigate to its location. This may be required by users to change certain advanced settings.

5.10.3. Website

To easily visit Met One's website, simply click the "Website" button. Clicking this button will launch the website in the users currently selected web browsers.

5.10.4.Contact Sales

For a convenient way to contact sales, simply press the “Contact Sales” button. This will open the users favorite e-mail program with Met One’s Sales email in the subject line.

5.10.5.Contact Service

For a convenient way to contact service, simply press the “Contact Service” button. This will open the users favorite e-mail program with Met One’s Service email in the subject line.

5.10.6.Register Comet

Comet allows users to register their version of Comet. If the users opts in, they will receive future updates and notices from Met One. It will also allow service to have more information when working with the customer.

6. Stations

To load a station, click on the tile of the station you would like to load. If Comet is in the list view, simply select a station from the station tree to load that station. Once loaded you will see the options below.

The screenshot displays the COMET software interface. At the top, there is a navigation bar with the 'COMET' logo, a language dropdown set to 'English', and icons for window management and home. Below this is a row of six buttons: 'Station' (with a gear icon), 'Terminal' (with a terminal icon), 'Remote Ctrl' (with a remote control icon), 'Retrieve' (with a download icon), 'Clear Data' (with a document icon), and 'Clear Alarms' (with a clock icon).

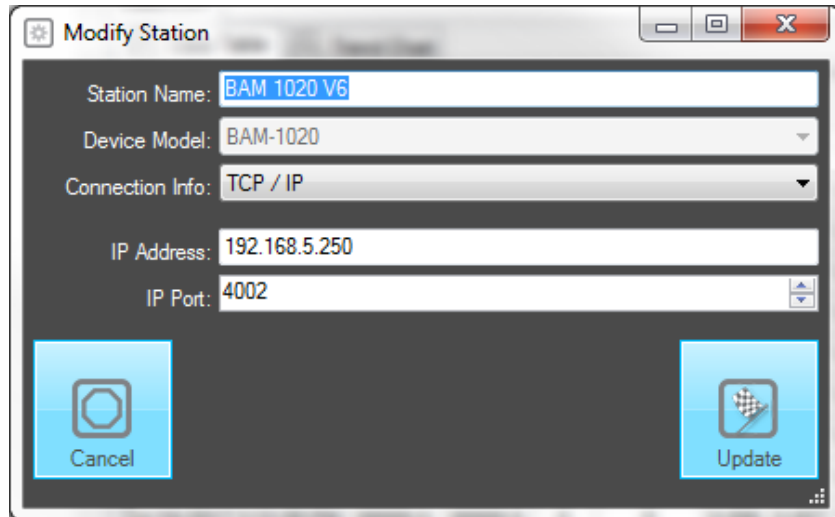
On the left side, a station tree is visible under the heading 'BAM 1020 V6 (01)'. The tree shows a hierarchy: '2017' (expanded), '04', '05', and '06'. Under '06', two time slots are listed: '13 09-45-04' (highlighted in blue) and '16 13-38-11'.

The main area displays a 'Data.CSV' window with a 'Data Table' tab selected. The table has the following columns: 'Date/Time', 'PM10S (ug/m3)', 'PM10 (ug/m3)', 'Qtot (m3)', 'Memb (mg/cm2)', and four 'no (V)' columns. The data rows show a series of measurements from 4/18/2017 2:22:00 PM to 4/18/2017 2:35:00 PM. The values for PM10S and PM10 are consistently 99999.9, while Qtot and Memb are 0. The 'no (V)' columns contain values of 0.006 and 0.007.

At the bottom, a status bar shows the version '2.0.4', the station name 'BAM-1020', and the file path: 'C:\Users\Matt T\Documents\Comet2Data\BAM-1020\BAM 1020 V6 - (20170425150212)\2017\06\13 09-45-04'.

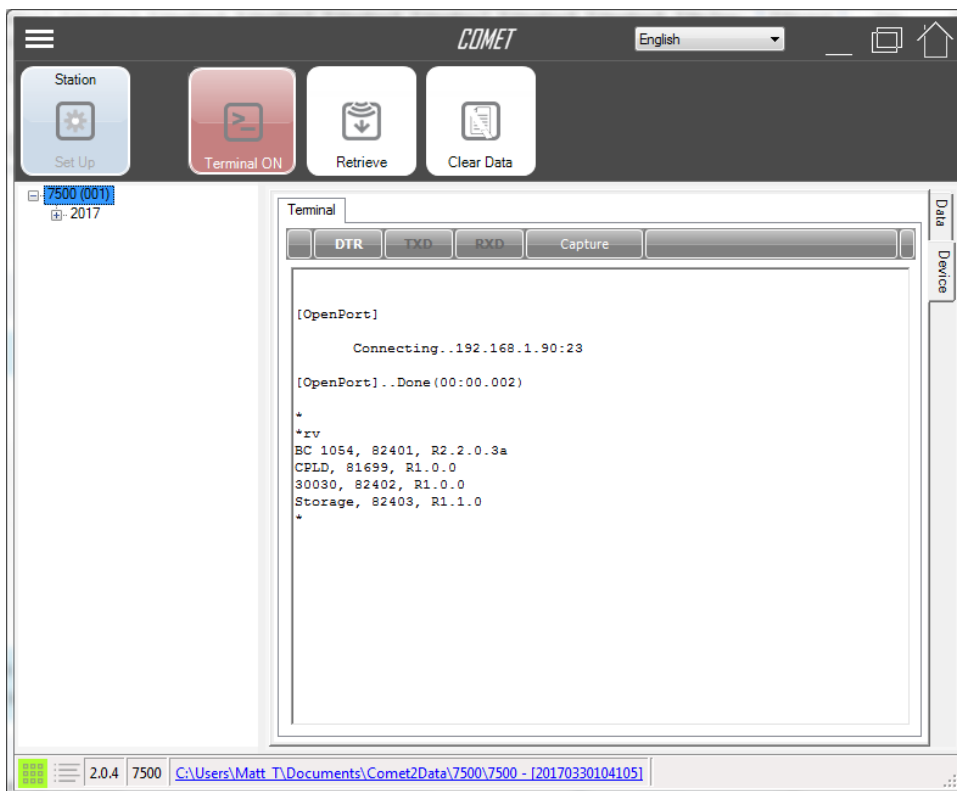
6.1. Station Setup

Pressing the station setup button will load the station's current settings. These settings can be modified by the user.



6.2. Terminal

Pressing the terminal button will open a terminal session between Comet and your device. While in terminal mode, users can send and receive commands and responses to/from their device.



6.3. Remote Control

Some Met One products have the capability to remote control to the device and interact with it as if you were there. If remote control is supported it will show up in the station options.

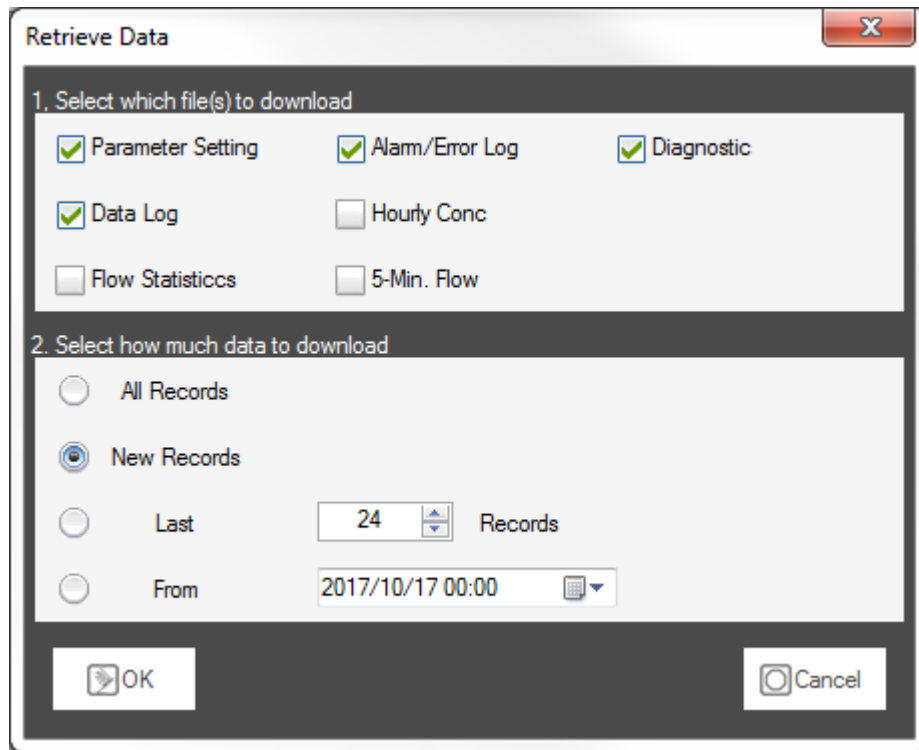
The screenshot displays the COMET software interface. At the top, there is a navigation bar with a hamburger menu, the 'COMET' logo, a language dropdown set to 'English', and icons for window management and home. Below this is a row of six buttons: 'Station' (Set Up), 'Terminal ON', 'Remote ON' (highlighted in red), 'Retrieve', 'Clear Data', and 'Clear Alarms'. The main area is divided into two panes. The left pane shows a list of stations, with 'Jeff's BAM V8' selected. The right pane is titled 'Terminal Remote Ctrl' and displays data for 'BAM 1020' as of '2017-10-18 14:39:51'. The primary reading is 'PM10 99.9999 mg/m3'. Below this is a table with the following data:

| | |
|--------|---------------|
| Status | LATCH UP |
| ConcS | 99.9999 mg/m3 |
| Flow | 0.00 LPM |
| | |
| | |

The bottom status bar shows version '2.0.4', device 'BAM-1020', and a file path: 'C:\Users\Matt T\Documents\Comet2Data\BAM-1020\Jeff's BAM V8 - [20171018143645]'.

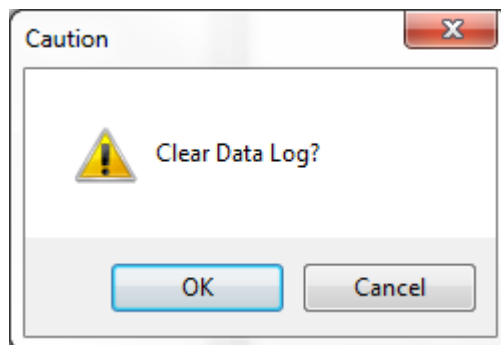
6.4. Retrieve Data

To retrieve data from the device, press the retrieve data button. Users will be prompted with the retrieve data option screen. Options are product based, but allow users to select their options and retrieve the data from the unit. The top section allows users to select which files they want to download from the device. This usually includes the settings report, the alarms report, and the data report. The bottom section allows users to determine how much or how far back they want to download data from.



6.5. Clear Data

The clear data button will prompt users to clear the data log in the device. Selecting yes will clear all the data in the unit. If the unit is password protected, Comet will ask the user for the password before clearing the data.



6.6. Clear Alarms

The clear alarms button will prompt users to clear the alarm log in the device. Selecting yes will clear all the alarms in the unit. If the unit is password protected, Comet will ask the user for the password before clearing the alarms.

