



User Manual

Version 1.3

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Overview

TED Footprints is data-logging software designed to provide very detailed information about your use of electricity. **TED Footprints** is available as an option for TED and requires an unlock key to activate the data port.

How does **TED Footprints** work? Simply connect TED to your PC via USB or Serial connection (depending on the model of TED that you have), and **TED Footprints** will begin tracking and logging your usage every second.

Some additional key dynamics:

- Dashboard view of real-time usage, displaying all data stored within TED on your PC
- View data in kW, Dollar, or in CO2 format at the push of a button
- Logs Time of Use in kWh, Dollars and Voltage
- Graphs/charts all logged data in kWh, Dollars, or Voltage
- Graphs/charts are printable
- Calendar for viewing is flexible: view day, week, month, year.
- Data is logged in background
- Data is also logged in Excel format for further user analysis or graphing/charting
- Load-Profile major appliances, such as Water Heater, HVAC system, or other heavy loads. Records time-of-use, run-time and cost-to-run specified loads.

TED Footprints consists of three separate applications.

- TED Logging Service (TEDService) – The TED Logging service is a Windows service that receives data from the RDU and stores it into a local database. By default, this service is started when Windows boots up and will continue logging until the PC is shut down or the service is manually stopped.
- TED Footprints Viewer – This is the desktop interface to the logged Footprints data. It provides a live dashboard of all current measurements as well as access to historical and load profile information
- TED Footprints Watcher – This is a small “*always on top*” dialog box that will present you with the current voltage, dollar, and CO2 emission information.

Installation

Do not plug in the RDU to the PC USB port until after the TED Footprints software is installed.

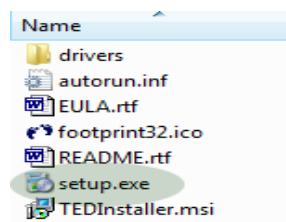
Step 1 – Install the TED hardware

Prior to installing the TED Footprints software, please be sure to install the TED Measuring Transmit Unit (MTU) and TED Receiving Display Unit (RDU) hardware and validate that it is operational. More information on installing this hardware is available in the *TED Installation and Operations Manual* that was supplied with the hardware.

Step 2 – Install the TED Footprints Software

Now that the RDU Driver has been installed, you are ready to install the TED Footprints Software. **Be sure to disable any anti-virus or firewall software prior to starting the installation process.**

The installation process should start automatically once you insert the **TED Footprints mini-cd** into your PC's CD-ROM drive (it may take 30-45 seconds to start up). If the installer does not automatically start, you can manually start it by opening up the CD-ROM with *Windows Explorer* and then clicking **SETUP.EXE**.



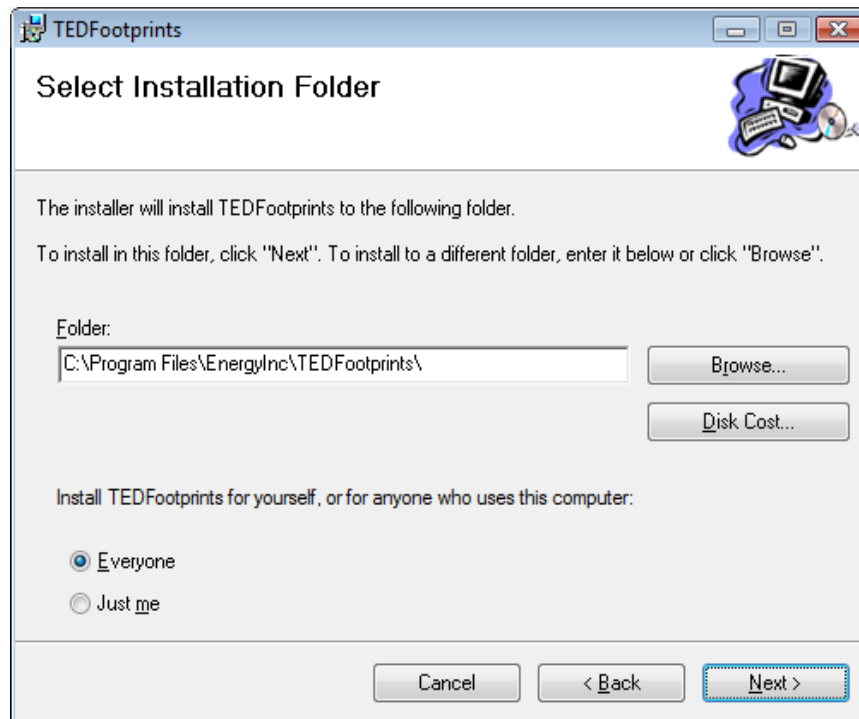
NOTE: During installation, your PC will be checked to make sure it is running the latest version of the **Microsoft .NET Framework**. If it is not installed, you will be prompted to download and install the .NET framework.

After checking to ensure your PC is running the latest version of the **Microsoft .NET Framework**, you will be prompted with the **TED Footprints Installation Wizard**.

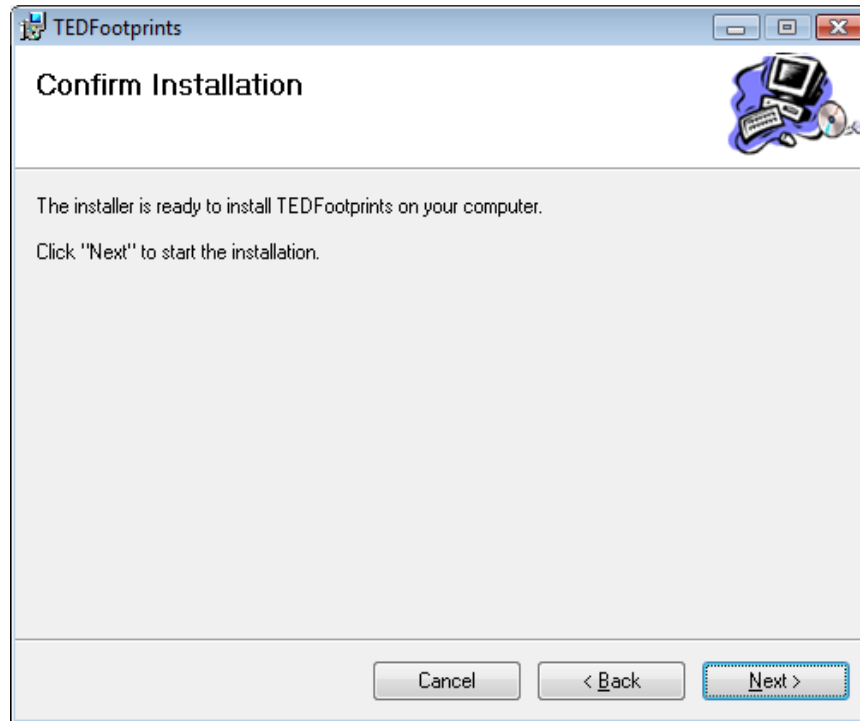


On the Welcome screen, click "Next".

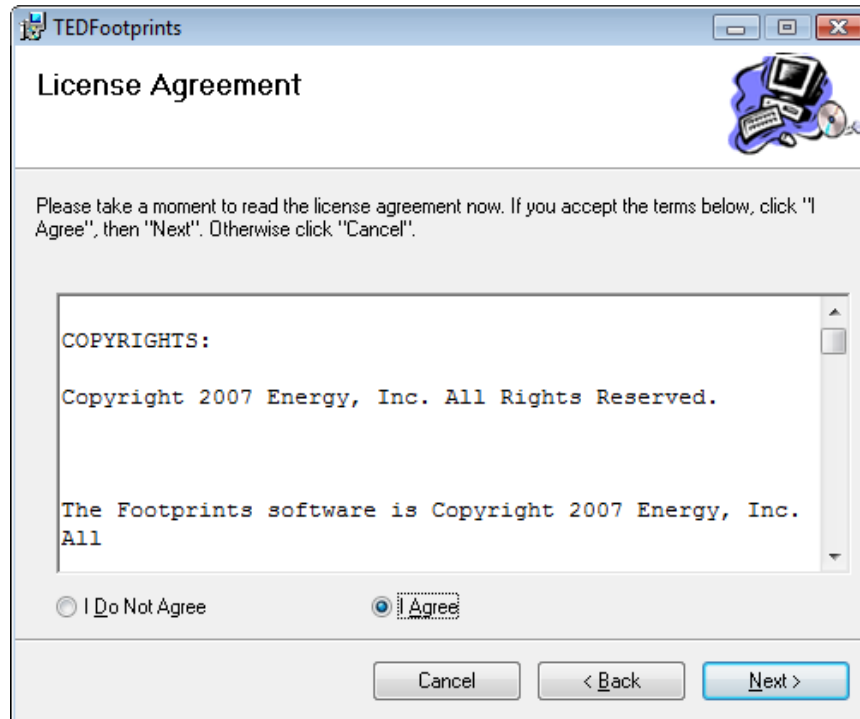
The second screen of the installation wizard will prompt you for the directory where TED Footprints will be installed:



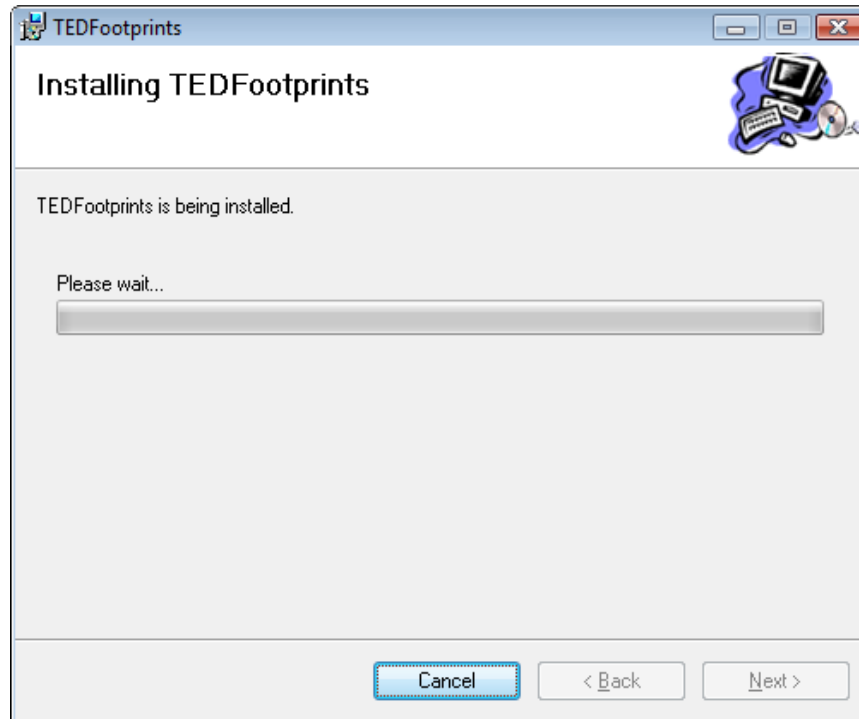
Once you have chosen which directory to install the application, click “Next”.



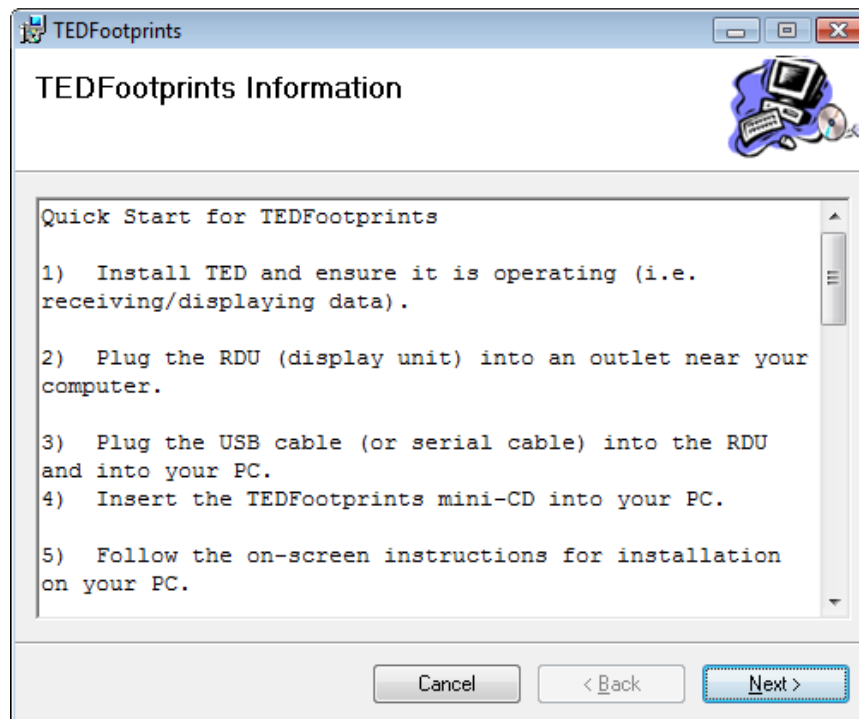
Confirm that you are ready to install footprints and click “Next”



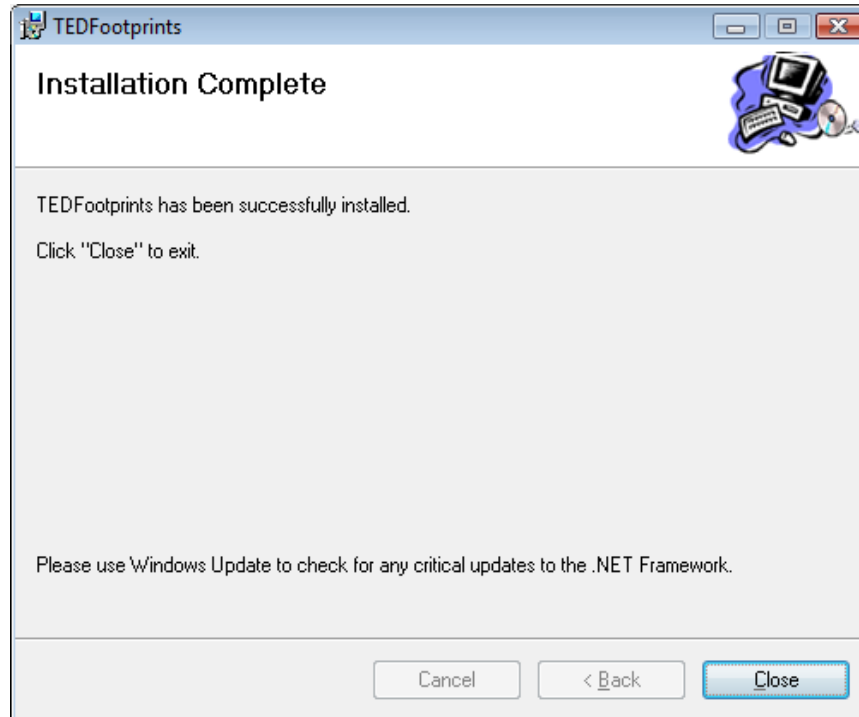
You will then be prompted to accept the EULA license agreement. Check the “I Agree” box and click “Next”.



After the EULA has been Accepted, TED Footprints will then be installed.



After installation is complete, you will be presented with the “Quick Start” guide. Click “Next”.



After installation is complete you will be given a confirmation that installation is complete. Click “Close” to exit the installer.

Step 3 – Plug the USB cable (or serial cable) into the RDU and into your PC.

Once the USB cable is plugged into the PC, the TED RDU device will be detected and the driver should be installed automatically.

If you are prompted for a FTDI Driver, cancel out of the driver installation wizard and run ***CDM 2.02.06.exe*** that is provided in the ***/drivers*** directory of the TED Footprints CD (however, do not install and run the TED Footprints installer (setup.exe) at this point). After the drivers have been loaded, unplug the USB cable from your PC, reboot the PC, and reconnect the RDU USB cable after reboot.

To validate that the TED RDU drivers are installed, open up the Windows Device manager. For more information about the Windows Device Manager please visit the following link: <http://support.microsoft.com/kb/307970>

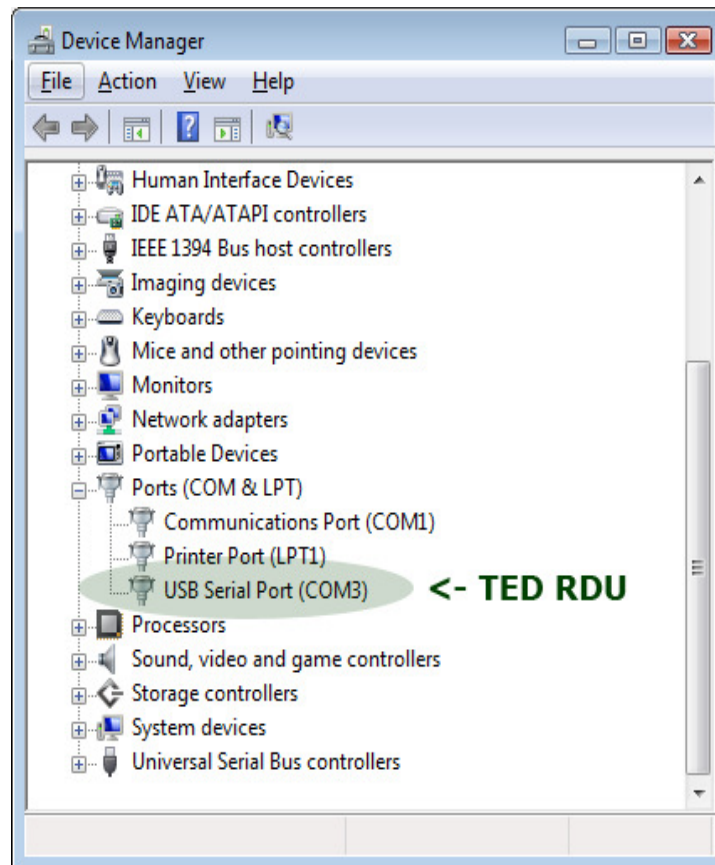
To open the Device Manager on Windows XP:

1. Click **Start**
2. Click **Control Panel**
3. Click **Performance and Maintenance** (this step is skipped in “Classic View”)
4. Click **System**.
5. On the **Hardware** tab, click **Device Manager**.

To open the Device Manager on Windows Vista:

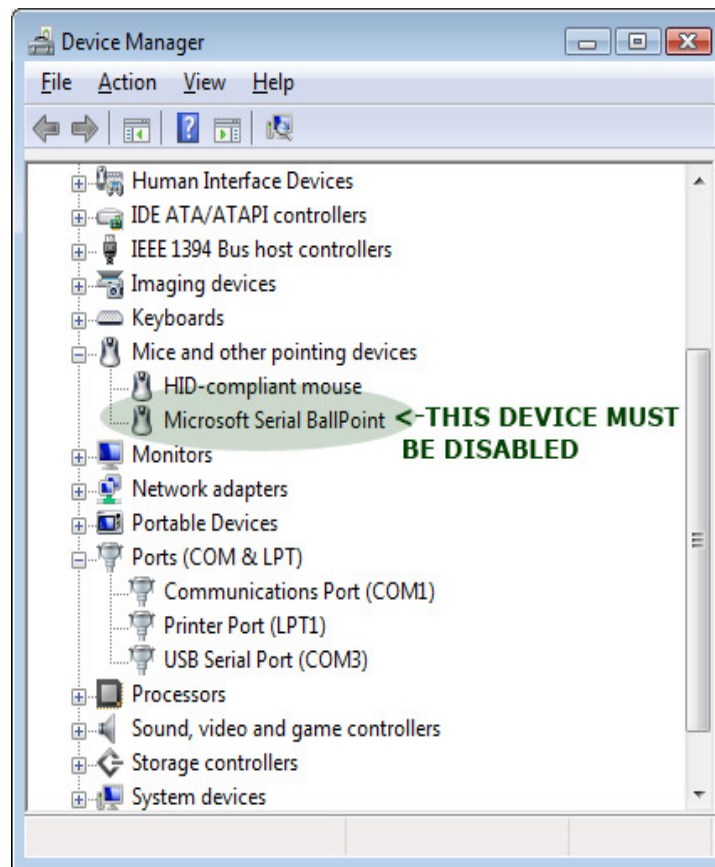
1. Click **Start**
2. Click **Control Panel**
3. Click **System and Maintenance**
4. Click **Device Manager**.

Once the Device Manager is opened, you should see the TED RDU listed under the *Ports (COM & LPT)* devices. It will be displayed as a **USB SERIAL PORT**. Be sure to make a note of the Serial Port it is assigned to (COM3 in the example below). You will need this later when installing the Footprints software.



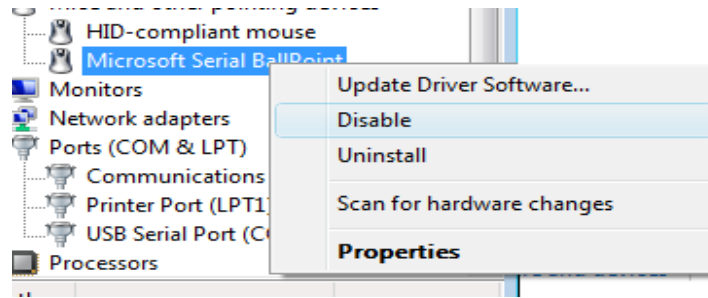
NOTE: On *some* systems, immediately after the TED RDU drivers have been installed, you will need to disable a second device driver that was also installed on your PC. Because it uses the same USB chipset, the **Microsoft Serial Ballpoint** device may also show up in the device manager. This driver **MUST** be disabled prior to operating TED Footprints. **TED Footprints will not work until this driver has been *disabled*.** Do not delete this device as it will re-install automatically after the next PC reboot.

If the **Microsoft Serial Ballpoint** does not show up on your system, you will not need to disable this device.



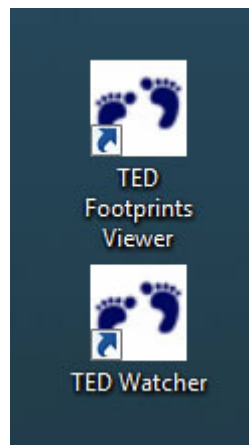
To disable the Microsoft Serial Ballpoint device:

- *Right* click on the device in the Windows Device Manager.
- Select "Disable" from the pop-up menu.
- Click "Yes" to confirm when the confirmation dialog pops up.



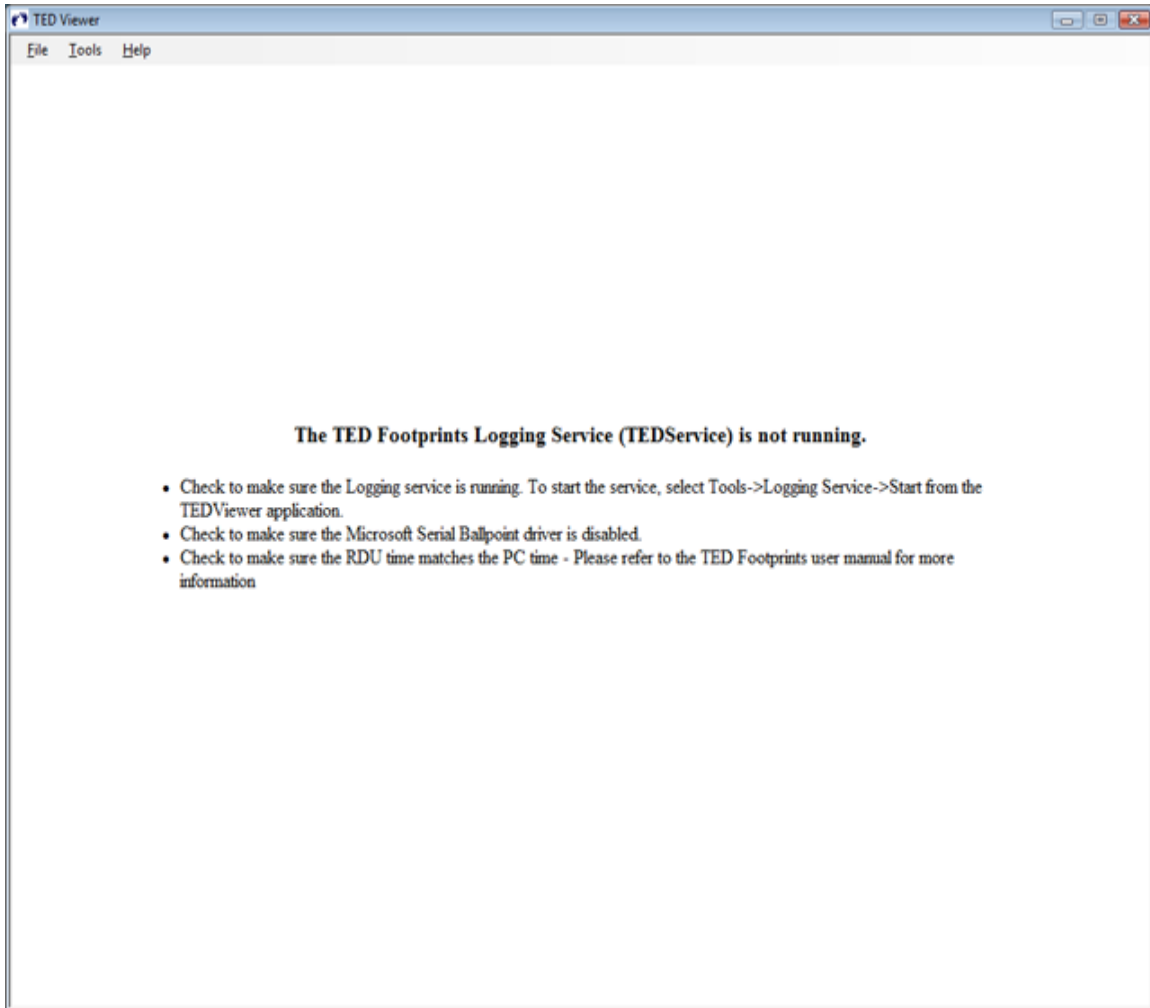
Step 4 – Running TED Footprints for the First Time

After TED Footprints is installed, you will notice two icons added to your desktop.



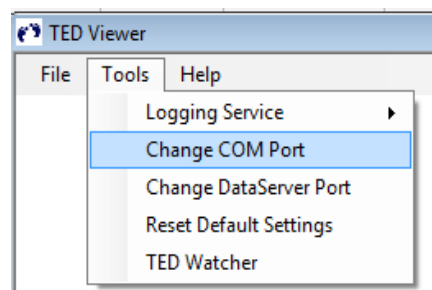
Click on the ***TED Footprints Viewer*** to begin the configuration process.

When the Viewer is run initially, you will be presented with the following screen:

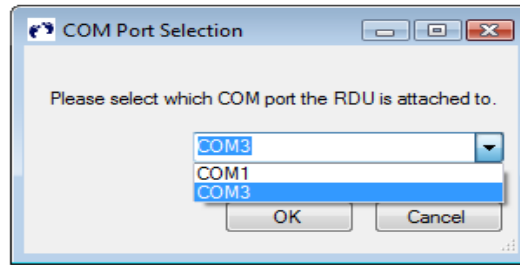


You will first need to configure the COM Port for the Footprints Application. The COM Port for the application is the same COM port that was noted in STEP 2 of the installation process (in this example, its COM 3).

To configure the COM port, select Tools->Change COM Port from the Viewer application menu.



You will then be able to select the appropriate COM port.

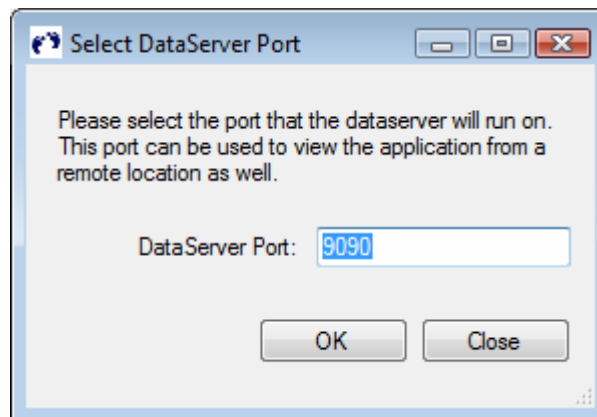


Once the COM port is selected (in this case, COM 3), click OK.

After several seconds, the TED Footprints Service will be automatically started. If it is successfully started, you will be presented with the Footprints welcome graphic.



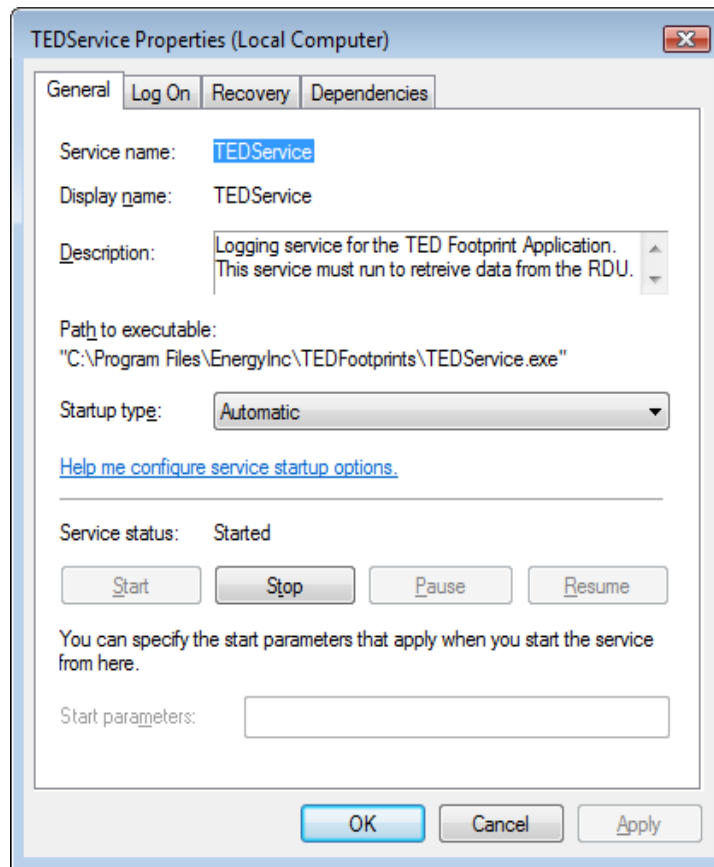
Although this is rare, you may also need to change the **DataServer Port** that the TED Logging Service uses to communicate with other applications. If you have another application that listens on port 9090, you will need to change this port. To change the dataport, select Tools->Change DataServer Port and type in an unused port number when prompted.



The TED Logging Service (TEDService)

The **TED Logging Service** is a Windows Service that is installed as part of the TED Footprints application. The Logging Service is responsible for receiving data packets from the RDU and storing them in a local database. Since the Logging Service is installed as a Windows *Service*, it will start automatically* as soon as Windows boots up and will remain running as long as Windows is running.

The TED Logging Service can be controlled just like any other Windows Service. To access the Windows Service Menu, select Control Panel -> Administrative Tools -> Services. To change TED Logging Service properties, double click on the service named **TEDService**. Once it is double clicked, the following pop-up will appear.



*You generally should never have to change any of the parameters of the TED Logging Service. **Startup Type** should be set to **Automatic** to ensure that the service starts automatically when your PC boots up. The **Automatic** setting will allow the service to continue to log RDU data even if the Footprints Viewer is not running or if the user has logged out.

TED Footprints Viewer



The TED Footprints Viewer is the main portal to view the logging and historical data. It consists of several tabbed screens:

- **Live Dashboard** – The current readings being produced by the RDU
- **Historical Graph**- The historical graph of data being recorded by the TED Logging Service
- **Load Profile** – The historical graph of “Load Profile” events
- **Settings** – Settings for the TED Footprints and TED Logging Service applications.

The TED Footprints Viewer also has the following menu options located at the top of the application:

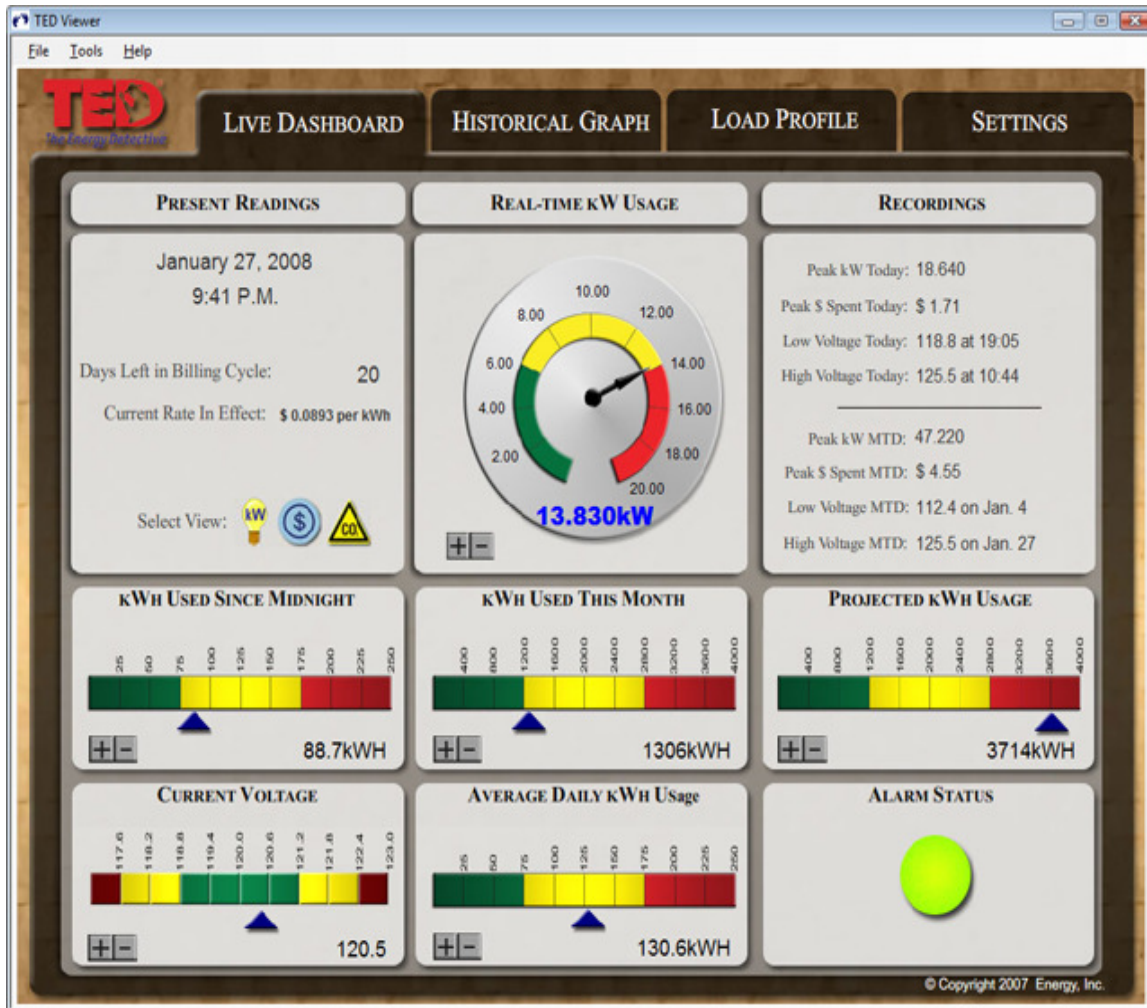
I. File

- a. **Print** – sends a screenshot of the current screen to your default printer
- b. **Exit** – closes the TED Footprints Viewer (but *does not* stop the TED Logging service)

II. Tools

- a. **Logging Service** – Use to Start/Stop the Logging Service. **NOTE:** the logging service can also be started through the Control Panel->Administrative Tools->Systems dialog box.
- b. **Change COM Port** – Changes the COM port that the TED Logging Service is currently listening to (*see Installation for more information*)
- c. **Change Data Server Port** – Changes the TCP/IP port used for communication between the TED Logging Service and the TED Footprints Viewer (*see Installation for more information*)
- d. **Reset Default Settings** – Resets all of the Footprints Settings to the default settings used after first installing the software
- e. **Ted Watcher** – Launches the TED Watcher pop-up (*see TED Watcher section for more information*)
- f. **Data Export** – This allows you to export recorded TED Footprints data to your file system (*see Data Export*).

Live Dashboard



The **Live Dashboard** tab shows all present readings currently being taken by the RDU. By default, it shows all values in terms of kilowatts (kW) or kilowatt hours (kWh). However, by clicking on one of the following icons in the **Present Readings** section of the window, you can immediately switch views.

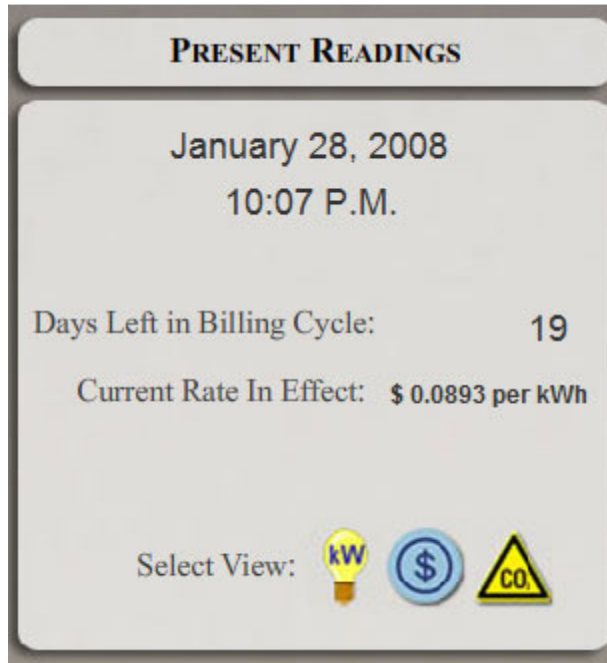


Click this icon to select the current kW usage

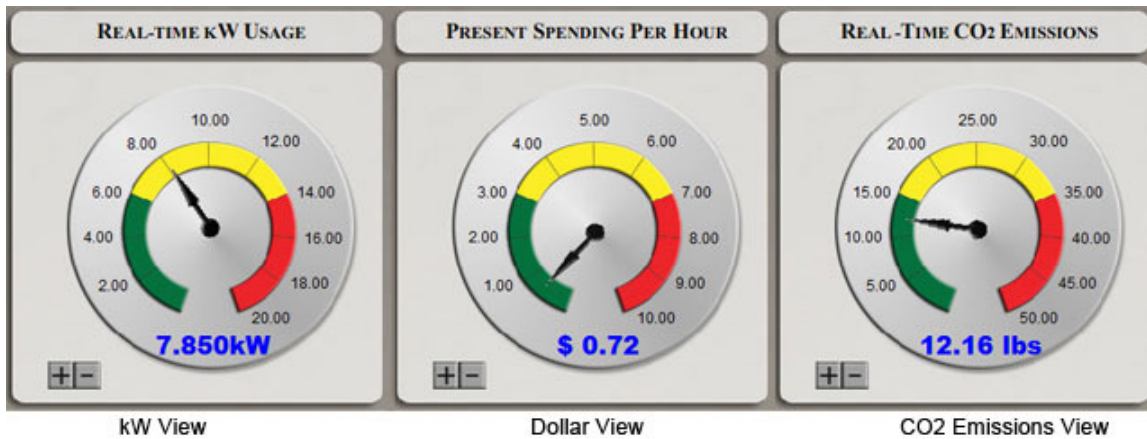
Click this icon to select the current dollars spent view.

Click this icon to select CO2 emissions view.

The **Present Readings** also displays the current system time (of your PC), the number of days left in the billing cycle, and the current rate being charged by your utility.



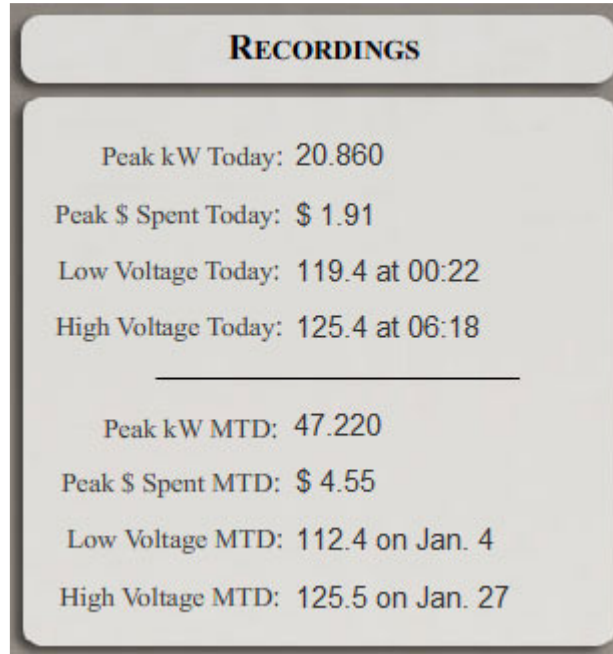
Next to the Present Readings section is your **Real-Time** usage. Depending on the view, this displays your current real-time usage in terms of kW, dollars, or CO2 pounds.



Notice on the bottom left hand corner there are **plus** and **minus** icons. These allow you to adjust the scale (range) of the meter. For example, the default range for Real-Time CO₂ Emissions usage is 0 to 50. Clicking the plus icon increases the high end of this range (e.g. clicking it once will change the range from “0 to 50” to “0 to 55.” Clicking the minus decreases it. The maximum amount of the meter and the scale to use when

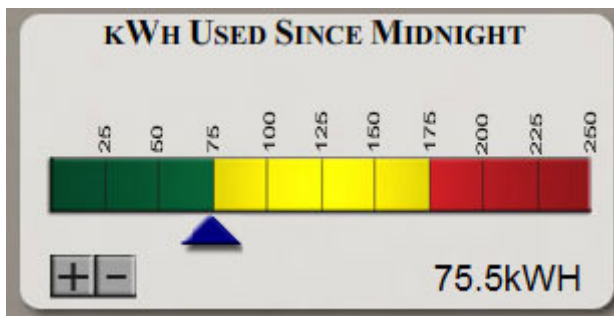
increasing/decreasing the range are adjustable via the **Settings** tab of the TED Footprints application.

On the top, right hand corner of the dashboard is the **Peak Recordings**.

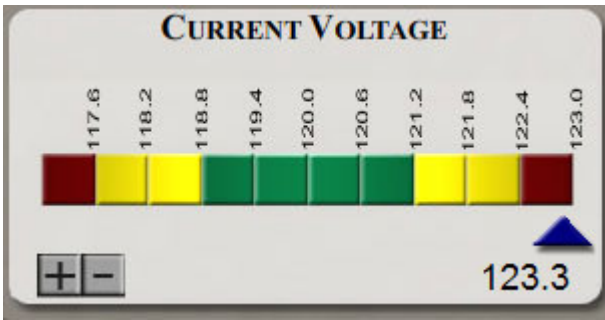


On the second and third rows of the **Live Dashboard**, you will also see several **bar meters** that display your total, daily average, and projected usage amounts. Depending on your current view, these amounts are:

		
kWh Used Since Midnight	Money Spent Since Midnight	CO2 Emissions Since Midnight
kWh Used This Month	Money Spent This Month	CO2 Emissions This Month
Projected kWh Usage	Projected Bill	Projected CO2 Emissions
Average Daily kW Usage	Average Daily Spending	Average Daily CO2 Emissions



Just like the Real-Time Usage meter, these values also have a **plus** and **minus** icon that allows you to change the scale. The maximum amount of the range and the amount to change when scaling the range are both configurable on the **Settings** tab.



In addition to the kWh, Spending, and CO2 Emission bar meters, there is an additional meter that displays **Current Voltage**. This works similar to the other bar meters; however, you are able to configure a low end for the range (in addition to the high end) on the **Settings** tab.

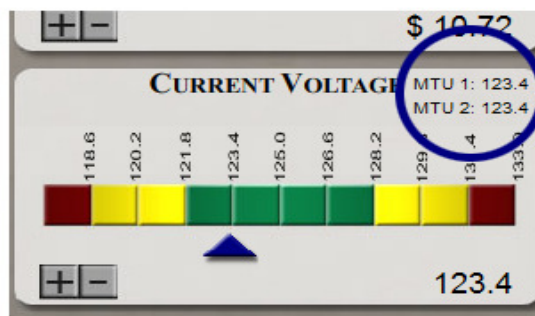
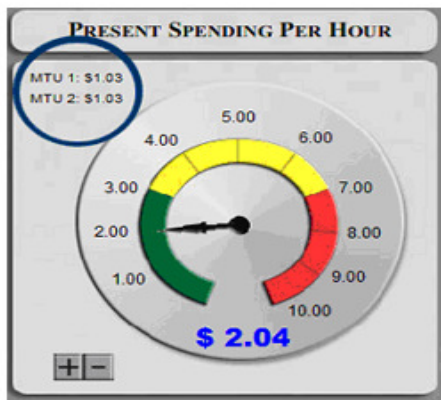
PAST MONTHLY USAGE

Month	KwH	Dlr
6/2008	22	\$ 2.20

The final panel of the **Live Dashboard** is **Past Monthly Usage**. This displays a list of the past kWh and Dlr totals recorded by the RDU for the previous 12 month.

Multiple MTU Display

If the RDU is configured to receive recordings from multiple MTU's, the individual MTU display values will automatically show up on the dashboard. The overall values displayed are the cumulative values recorded by both MTU's. The individual MTU kWh, Dlr, and Voltage values will appear on the Real-Time Usage and Voltage Panels.

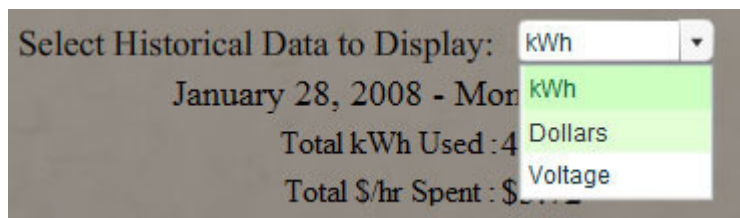


Historical Graph

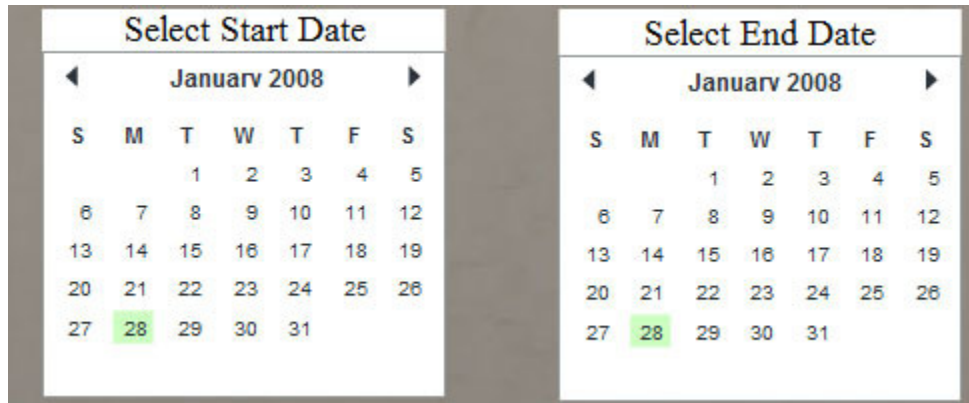


The second tab of the Footprints application is the **Historical Graph**. This allows you to display hourly, daily, and monthly averages of readings based on a date range.

To change what **type** of data is being displayed, choose the type with the “Select Historical Data to Display” dropdown box.



You can then choose the start and end date by selecting the date range by using the two calendar controls.



When selecting the date range, there are two things to note:

- You will not be able to select an end date prior to the Start date
- If your Start date and End date fall on the same day, that day's hourly averages will be displayed.

The type of averages being displayed is dependent on the date range being selected. If less than three days of data is being requested in range, **hourly averages** will be displayed. If between 3 and 60 days of data is being requested, **daily averages** will be displayed. Finally, if more than 60 days of date is being requested, **monthly average** will be displayed.

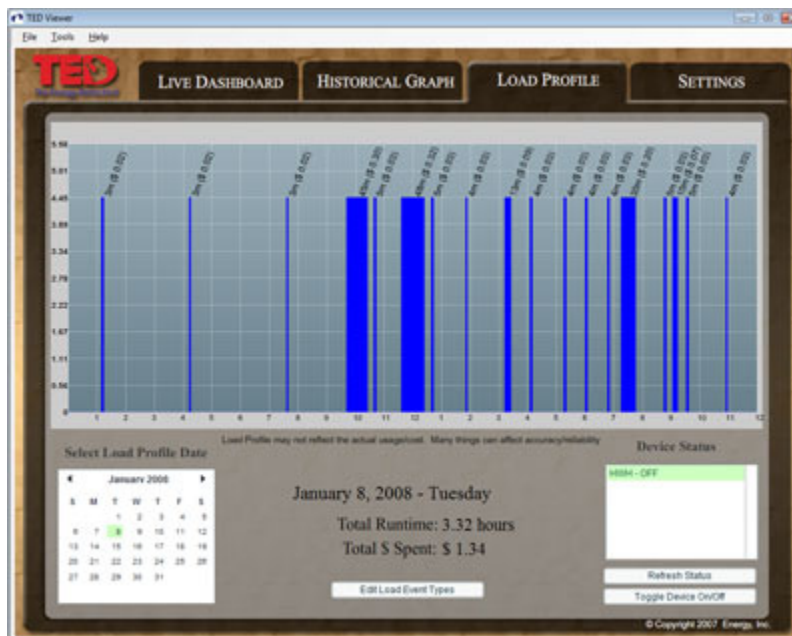
The availability of data is dependent on the **Archive Settings** found in the **Settings** tab of the application. Historical data is only available for periods where the TED Logging Service is running and that the RDU is connected to the PC.

Load Profile

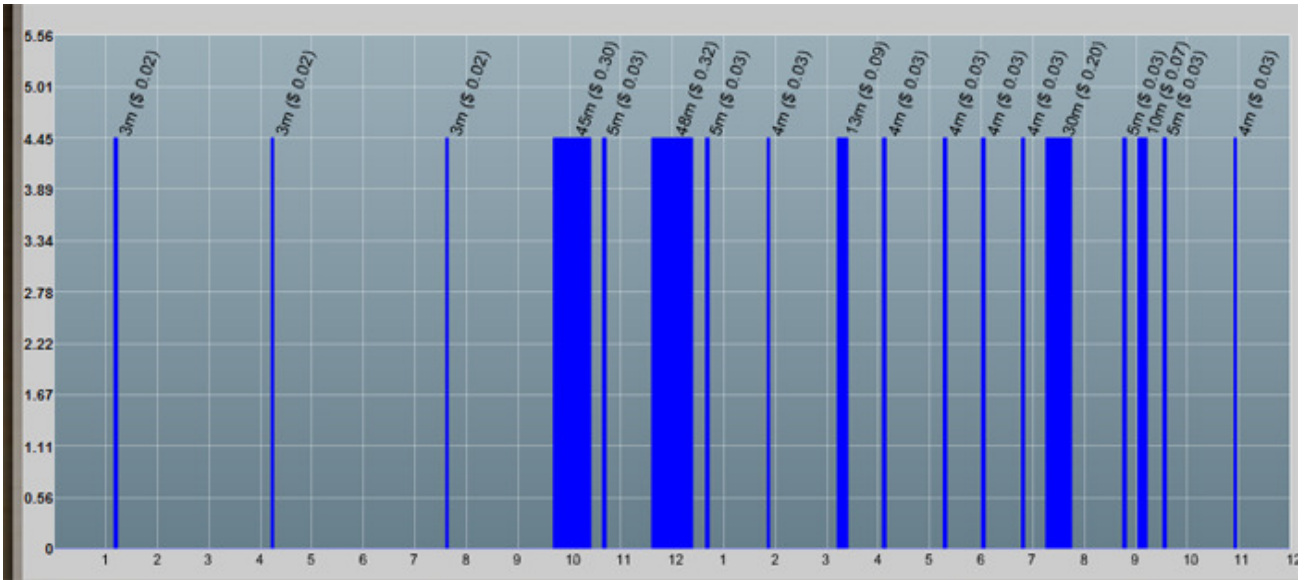
TED Footprints provides the ability to monitor simple changes in kW usage to create **Load Profile Events**. This allows you to watch usage of major appliances, such as Water Heater, HVAC system, or other heavy loads. For example, a hot water heater turning on might register a 4.6kW increase over a few seconds. The Footprints Logging service will watch for a 4.6 kW increase and register an event signaling that the device has been turned on. Once a 4.6kW decrease is measured, Footprints will log an additional event signaling that the device has been turned off. Please note that this is only intended to indicate when an appliance might have **possibly** been turned on or off, and that many factors may cause an event to be incorrectly registered (i.e. an appliance that has a similar kW usage being turned on/off, etc).

Load Profile data is only available for periods where the TED Logging Service is running and that the RDU is connected to the PC.

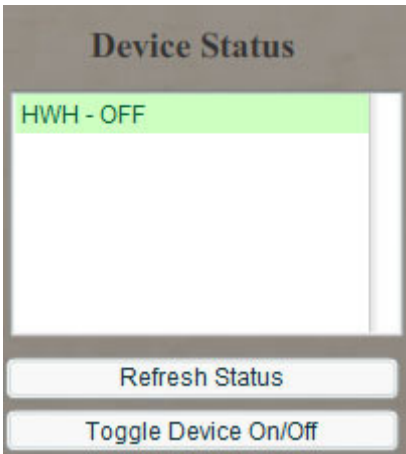
Load Profile Graph



The **Load Profile Graph** is the visual display of what load profile events have occurred.



The bar chart portion of the Load Profile graph indicates when a load profile event has begun or ended. It also displays the duration and cost of each event.



Multiple devices can be tracked for Load Profile events. To pick which device to display, select the device in the list box on the bottom right hand side of the screen.

You can also force the graph to redraw by clicking the **Refresh Status** button just below the list box.

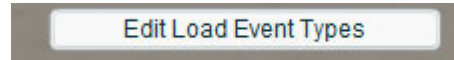
As mentioned earlier, other events may cause a device to be registered as on or off by mistake. To manually fix the devices current status, use the **Toggle Device On/Off** button.



To select a date to display, use the calendar control on the bottom left hand corner of the

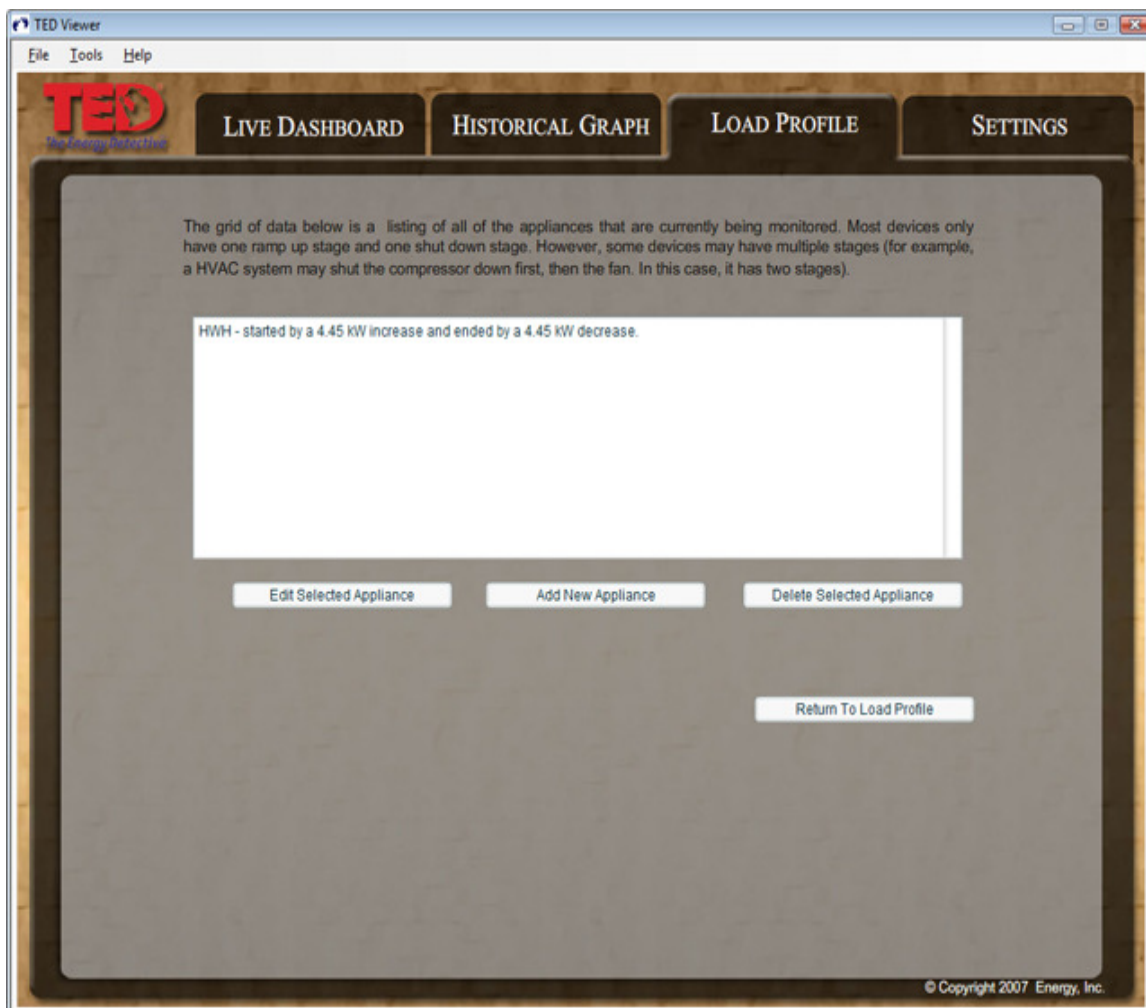
Managing Load Profile Devices

To add, remove, or edit a device, click the **Edit Load Event Types** button on the bottom of the Load Profile screen. This will launch the Load Profile Device Editor.



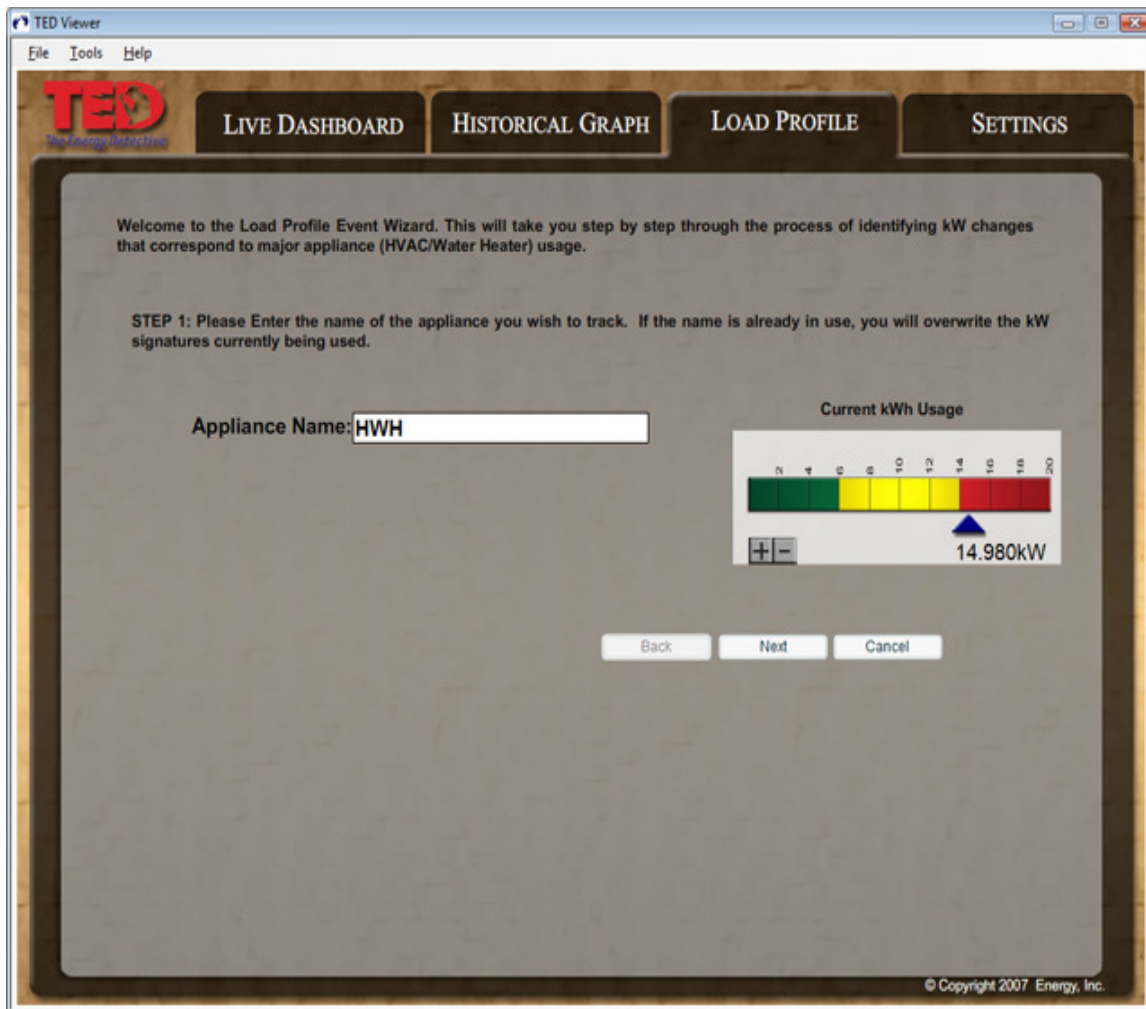
The Load Profile Device Editor allows you to Edit, Add, or Delete a Load Profile Appliance. Each defined appliance is listed in the list box found at the center of the page. The appliance name, along with the kW change that is being watched for, is listed.

To delete an appliance, select it from the appliance list box and press the **Delete Selected Appliance** button. To edit an existing appliance, select the appliance from the list box and press the **Edit Selected Appliance** button. To add a new appliance, press the **Add New Appliance** button.



Setting the Device Name

Clicking the **Edit Selected Appliance** or **Add New Appliance** buttons will launch the wizard to edit/add a Load Profile Device. The first page of the wizard will prompt you for the name of the device. **Appliance Names must be unique.** If you attempt to add a second appliance with the same name as an appliance that already exists, you will overwrite the settings of the original appliance.



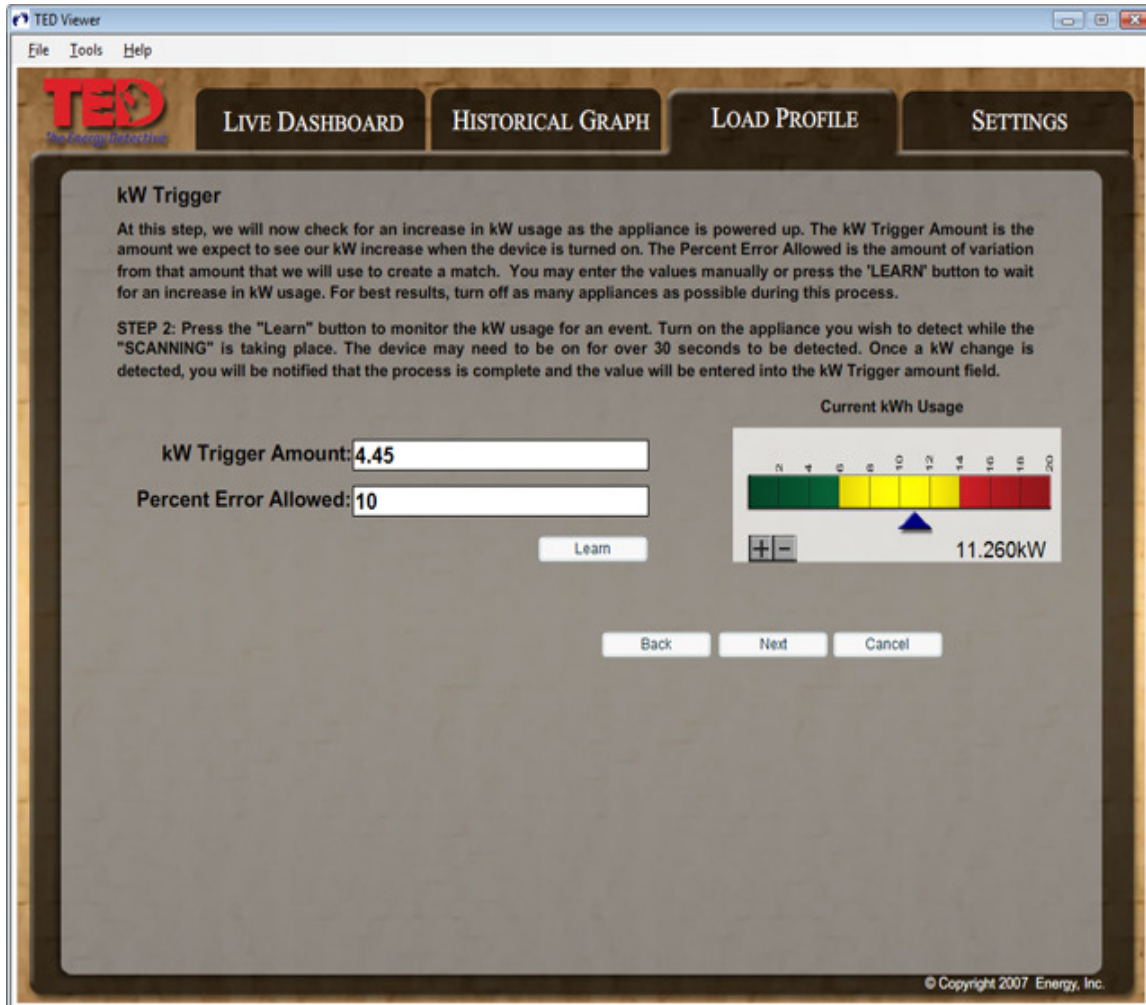
After you have named the device, click **Next** or press **Cancel** to return to the Load Profile Device Editor.

Setting the kW Trigger Amount

The next step of the wizard will check for an increase in kW usage as the appliance is powered up. **The kW Trigger Amount** is the amount we expect to see our kW increase when the device is turned on.. You can input this amount manually, or you can have Footprints monitor for the next event by clicking the “**Learn**” button.

When the **Learn** button is pressed, Footprints software will monitor the RDU feed for the next large kW increase. The device being profiled may need to be on for over 30 seconds to be detected. Once a kW change is detected, you will be notified that the process is complete and the value will be entered into the kW Trigger amount field.

For best results, turn off as many appliances as possible prior to adding a profile. You may want to use **Learn** more than once to ensure you are getting an accurate reading.

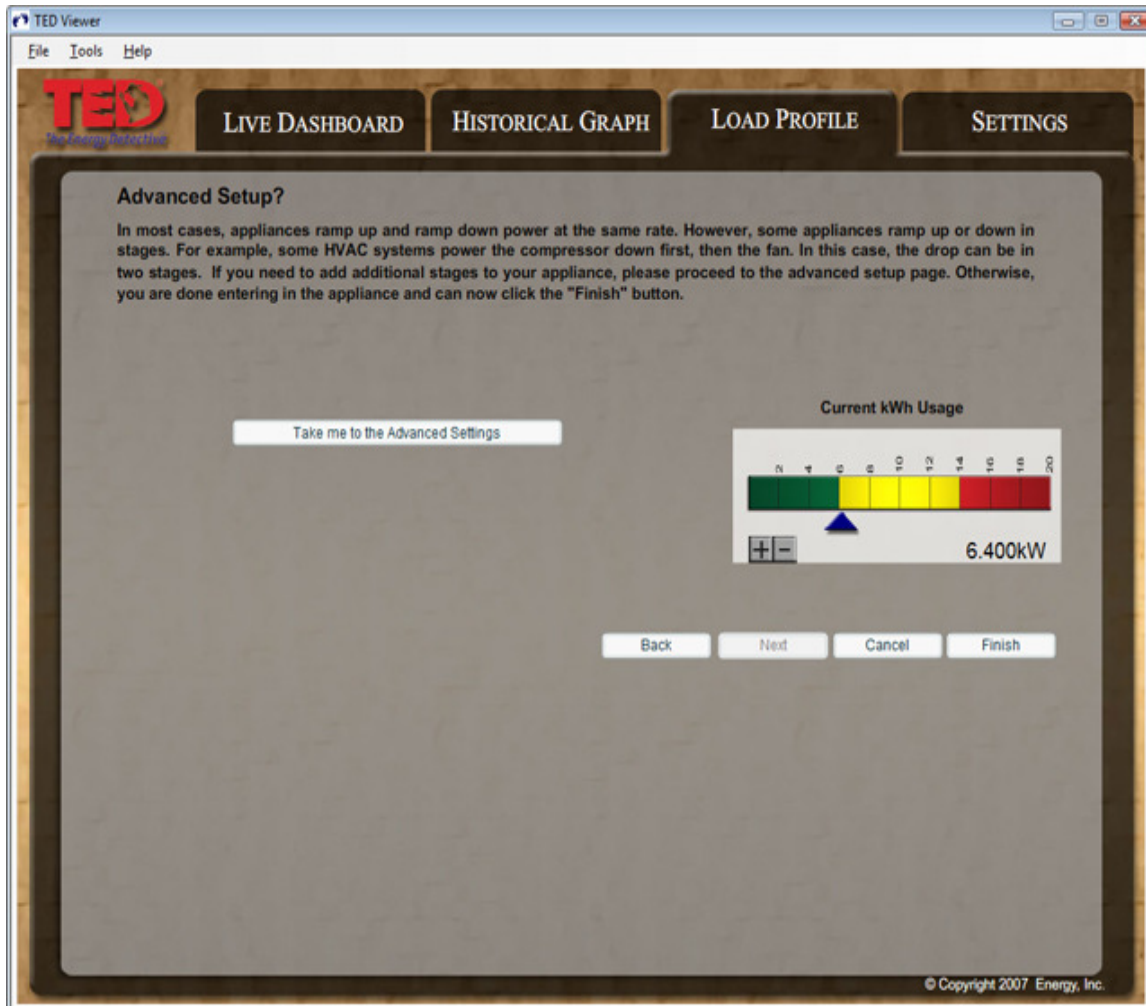


The Percent Error Allowed is the amount of variation from that amount that we will use to create a match. For example, if we are looking for a 4.45kW increase and specify a 10 percent error, the Load Profile event will be triggered by any increase that is in the 4.00 to 4.895kW range.

After you are satisfied with the kW Trigger and Percent Error Allowed amounts, click **Next** to proceed to the next step of the wizard.

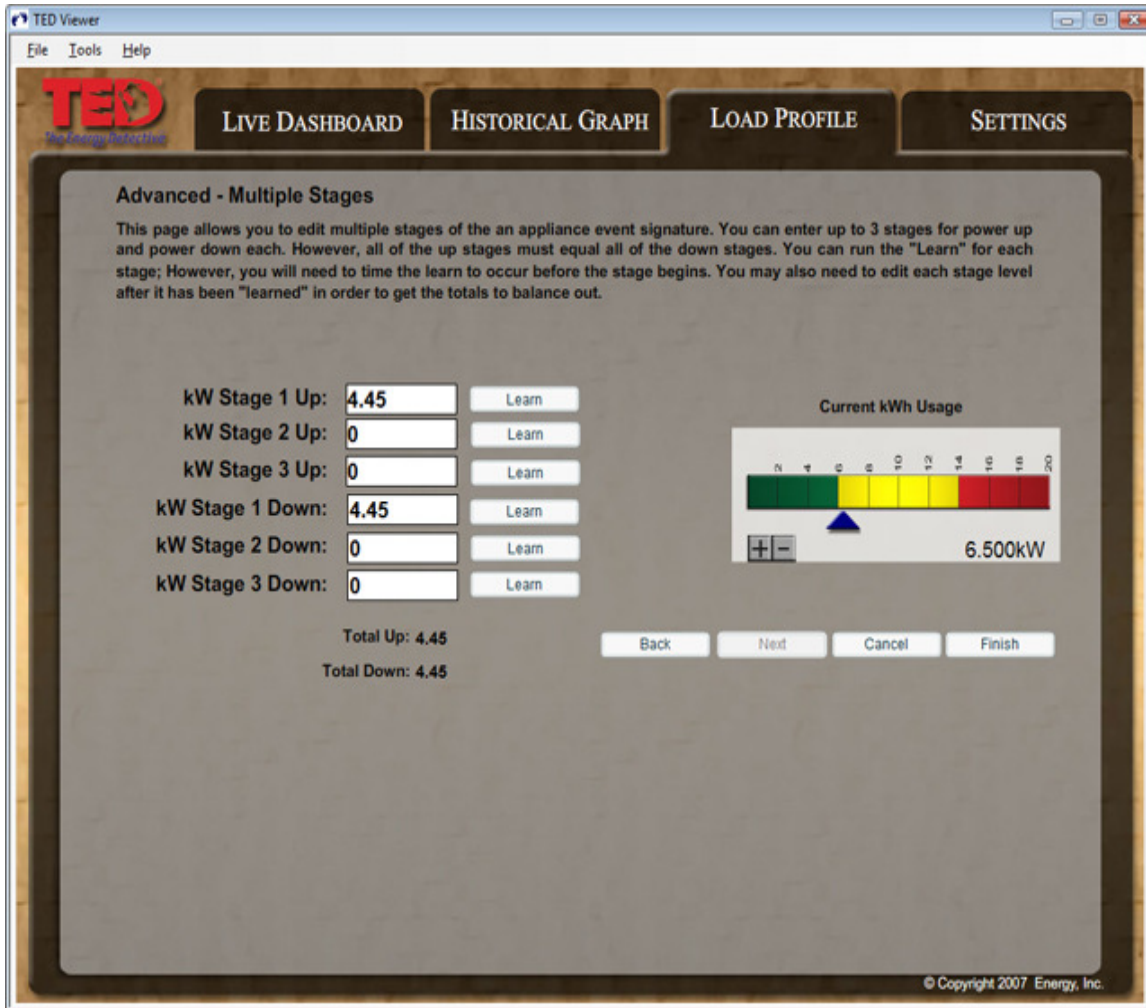
Advanced Settings

For most appliances, you only have to enter the kW increase amount and can assume that the device is turned OFF when the inverse kW decrease is detected. In this case, you can skip the advanced settings and save your profile by clicking the **Finish** button.



However, some devices register as ON or OFF in stages versus a single kW change. For example, an HVAC system might have 2 stages to register that it has been turned off. The first decrease would occur when the compressor turns off, and the second decrease may happen a few minutes later when the fan turns off. In these complex cases, you would be able to enter the various stages by pressing the **Take me to the Advanced Settings** button on this page.

Once you click on the Advance Settings button, you will be taken to the following screen:



You can enter up to 3 power-up stages, and 3 power-down stages for each device. However, you **do not** have to have the same number of stages in both the power up and power down modes. Continuing with the HVAC example, you might have a unit that turns both the compressor and fan on at the same time. This might register as a 5kW increase. However, using the 2-stage cool-down example, the compressor shutting off might register as a 4kW decrease, and the fan powering down would register as a 1kW decrease. In this case, the stages would look like this:

kW Stage 1 Up	5.0
kW Stage 2 Up	0.0
kW Stage 3 Up	0.0
kW Stage 1 Down	4.0
kW Stage 2 Down	1.0
kW Stage 3 Down	0.0

If a stage is not used, enter a value of zero for that stage. While you do not have to have an equal number of stages, the total kW increase and total kW decrease must be equal. In his example, we have a 5kW increase with a 5kW decrease to balance it out. Note also,

that the initial 1-2 second ramp-up where a very high kW is noted by TED should not be considered a “stage.”

Settings

Display Name	Max Value	Scale Value
Real-Time kW Usage	20	1
kWH Usage Since Midnight	250	10
kWH Usage This Month	4000	100
Projected kWH Usage	4000	100
Average Daily kWH Usage	250	1
Current Spending Per Hour	10	1
Money Spent Since Midnight	50	5
Money Spent This Month	500	50
Projected Bill	500	50
Average Daily Spending	50	1
Real-Time CO2 Emissions	50	5
CO2 Emissions Since Midnight	500	10
CO2 Emissions This Month	100	6000
Projected CO2 Emissions	6000	200
Average Daily CO2 Emissions	50	5
Current Voltage	123	5

Setting	Value	Equivalent Time
Number of Second Recordings to Keep in Archive	360000	100.0 hours
Number of Minute Recordings to Keep in Archive	144000	100.0 days
Number of Hour Recordings to Keep in Archive	9800	408.3 days
Number of Day Recordings to Keep in Archive	365	12.2 months
Estimated Database Size:	21.58 MB	

Setting	Value
CO2 Multiplier	1.55
Voltage History Bottom	117
Debug Level	INFO

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The settings screen allows you to change the various settings of the TED Footprints Viewer. It is broken down into three parts:

- **Dashboard Settings:** These settings allow you to change the max value and scale value of the various meters on the Live Dashboard page.
- **Archive Settings:** These settings let you determine how much historical data you wish to keep in the local database.
- **Additional Settings:** These are miscellaneous settings that affect various parts of the application.

Dashboard Settings

Display Name	Max Value	Scale Value
Real-Time kW Usage	20	1
kWH Usage Since Midnight	250	10
kWH Usage This Month	4000	100
Projected kWH Usage	4000	100
Average Daily kWH Usage	250	1
Current Spending Per Hour	10	1
Money Spent Since Midnight	50	5
Money Spent This Month	500	50
Projected Bill	500	50
Average Daily Spending	50	1
Real-Time CO2 Emissions	50	5
CO2 Emissions Since Midnight	500	10
CO2 Emissions This Month	100	6000
Projected CO2 Emissions	6000	200
Average Daily CO2 Emissions	50	5
Current Voltage	123	5

Dashboard Settings

Each meter on the Live Dashboard page has a range of 0-to-its-maximum value. The maximum value is adjustable on the Settings page. To change the maximum value, increase the value next to the corresponding bar name. As soon as any value is entered, it is saved.

For example, the setting for the Real-Time kW usage has a Max value of 20. This means that the Real-Time kW graphic on the Live Dashboard page will have a range of 0 to 20. If the value is changed to 50, the Real-time kW graphic on the Live Dashboard will have a range of 0 to 50.

The “Scale Value” is how much the maximum value should increase/decrease when the plus-or-minus button next to the corresponding graph is pressed.

Additional Settings

CO2 Multiplier	1.55
Voltage History Bottom	117
Debug Level	ERROR

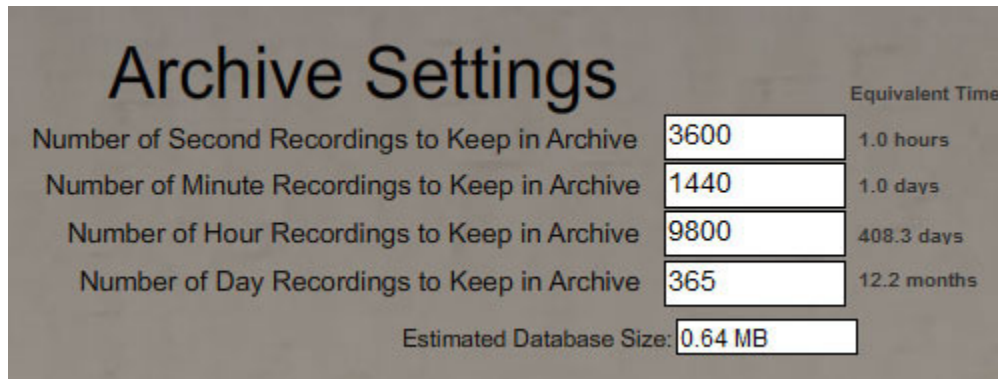
Additional Settings

CO2 Multiplier- different utility companies use different multipliers when calculating the CO2 emissions. This value can be changed in the settings to correspond with you utility’s CO2 emission rate.

Voltage History Bottom- This value is the “low end” of the voltage range when voltage is displayed on Live Dashboard or Historical Data.

Debug Level – This is the local level of logging used for the various TED

applications. This should only be modified for debugging purposes if an error condition occurs.



The screenshot shows a window titled "Archive Settings" with a table of input fields and their corresponding equivalent times. The fields are for the number of second, minute, hour, and day recordings to keep in the archive, along with an estimated database size.

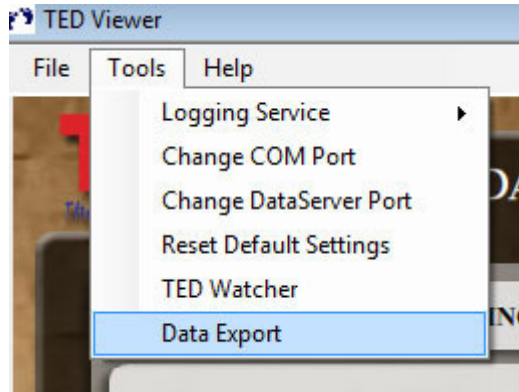
		Equivalent Time
Number of Second Recordings to Keep in Archive	3600	1.0 hours
Number of Minute Recordings to Keep in Archive	1440	1.0 days
Number of Hour Recordings to Keep in Archive	9800	408.3 days
Number of Day Recordings to Keep in Archive	365	12.2 months
Estimated Database Size:	0.64 MB	

Archive settings allow you to adjust how much historical data should be retained in the database. **Each field is mutually exclusive**; each recording is made independently. Each average type (second, minute, hour, and day) is stored in its own table. The value specified in each field is the amount of entries for each type to keep in the database. Using the above example, we are storing 3600 entries of **second** average in the database (the equivalent of one hour), but are also keeping over a days worth of minute data.

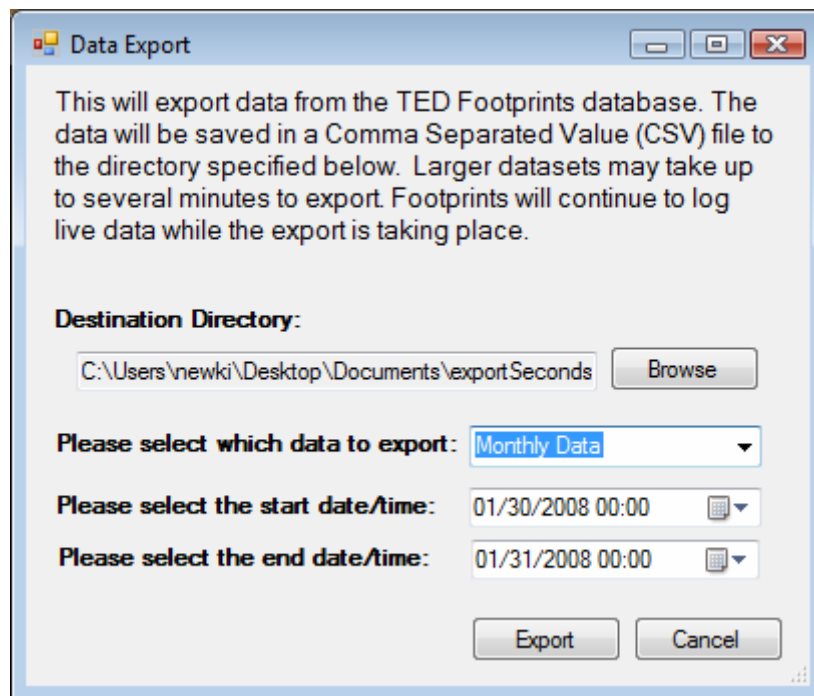
Data Export

Data can be exported from the TED Footprints database and stored on your local file system. The data is stored in a Comma Separated Value format (CSV) which can then be imported into other applications. CSV files can be viewed directly with a text editor or opened in a spreadsheet program like Excel.

To begin the data export process, select the Tools->Data Export option from the TED Footprints viewer menu.



Choosing data export will launch the following pop-up:



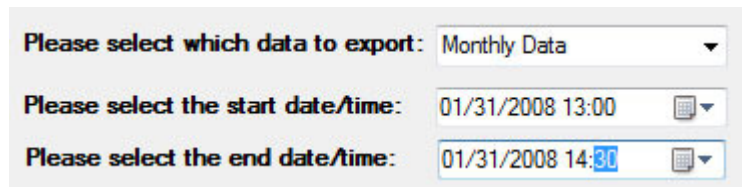
From this popup, you must first choose the destination file by clicking the **Browse** button. Next you can pick which table you wish to export. The available tables are:

Table Names

Table Name	Description
Monthly Data	Table containing the monthly totals recorded by the TED Footprints application.
Daily Data	Table containing the daily totals recorded by the TED Footprints application.
Hourly Data	Table containing the hourly totals recorded by the TED Footprints application.
Minute Data	Table containing the per-minute totals recorded by the TED Footprints application.
Second Data	Table containing the per-second totals recorded by the TED Footprints application.
Load Profile Event History Data	Table containing the Load Profile Events recorded by the TED Footprints application.
Monthly Data (MTU1)	Table containing the monthly totals recorded from the first MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Daily Data (MTU1)	Table containing the daily totals recorded from the first MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Hourly Data (MTU1)	Table containing the hourly totals recorded from the first MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Minute Data (MTU1)	Table containing the per-minute totals recorded from the first MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Second Data (MTU1)	Table containing the per-second totals recorded from the first MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Monthly Data (MTU2)	Table containing the monthly totals recorded from the second MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Daily Data (MTU2)	Table containing the daily totals recorded from the second MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Hourly Data (MTU2)	Table containing the hourly totals recorded from the second MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Minute Data (MTU2)	Table containing the per-minute totals recorded from the second MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.
Second Data (MTU2)	Table containing the per-second totals recorded from the second MTU by the TED Footprints application. NOTE: This table will be empty if only a single MTU is used.

The amount of data that is retained in the database is configured via the **Settings** tab of Footprints Viewer application (*Archive Data*).

Finally, you can pick a start date and end date for the report using the two calendar controls. By default, the time is assumed to be midnight on each date, but that value can be edited directly by typing in the hour and minute in 24-hour format. For example:



Please select which data to export: Monthly Data

Please select the start date/time: 01/31/2008 13:00

Please select the end date/time: 01/31/2008 14:30

Pressing the **Export** button will begin the export process. You will be notified by a pop-up when the export is complete.

Sample Export

```
"TIMESTAMP", "KW", "DLR", "VRMS"  
"1/30/2008 12:00:01 AM", "7.68", "0.7", "123.1"  
"1/30/2008 12:00:02 AM", "7.65", "0.7", "123.1"  
"1/30/2008 12:00:03 AM", "7.67", "0.7", "123.1"  
"1/30/2008 12:00:04 AM", "7.63", "0.7", "122.9"  
"1/30/2008 12:00:05 AM", "8.74", "0.8", "122.5"
```

TED Watcher

The TED Watcher is a small application that provides a quick view of the real-time readings. The TED Watcher dialog is designed to always run on top of all applications and can be launched either by its desktop icon, or by TED Footprints Viewer.



By default, the Watcher displays the real-time kW usage. However, if you click on this value, you can toggle between real-time kW usage, real-time spending, and real-time CO2 emissions.

Frequently Asked Questions

Will TED Footprints work on a MAC as well as a PC?

No. Not at the present time.

I have a TED1000. Will Footprints work on this?

Yes. Please visit the TED website at www.theenergydetective.com for more information.

Will Footprints work on my TED 1002?

Yes. Please visit the TED website at www.theenergydetective.com for more information.

How frequently does the data get recorded in my computer?

Every one (1) second.

Can I access the data that has been logged to create my own graphs?

Yes. Footprints exports the data in Excel for user-defined charting and graphing.

How much data will Footprints log?

You are limited only by the amount of storage on your PC. You can set up your own parameters.

How accurate is Footprints?

TED Footprints is accurate to within 2%.

What does Footprints log?

Footprints logs KW, kWh, Dollars, and voltage.

Will Footprints display Greenhouse Gas Emissions?

Yes.

If I buy Footprints now, can it be upgraded if you make changes to it?

Yes. You will be able to access upgrades from our website.

Can I print the graphs?

Yes.

Will TED Footprints work under Microsoft Vista?

Yes. However, you will either need to disable UAC (User Access Control) or run the TED Footprints Viewer/ TED Watcher as an Administrator (or as a user with permissions to write data to the installation directory).

Will TED Footprints run if I am using the Microsoft Windows Firewall?

Yes. However, you will need to add the following applications to the “Exceptions” list:

TEDService.exe
TEDViewer.exe
TEDWatcher.exe

All three of these are located in the TED Footprints installation directory.