



EZ Stat™

Version 3



User's Manual & Installation Guide

Rev 5-2-19



EZ Stat™

Version 3

User's Manual

Table of Contents

Welcome to Decatur Electronics	6
EZ Stat™ Features.....	7
About This Manual	7
1 Components	8
1.1 EZ Stat™ Module	8
1.1.1 The USB Port	8
1.2 EZ Stat™ Software Installation	8
2 EZ Stat™ Module	9
2.1 EZ Stat™ Operation Indicators	9
3 EZ Stat™ Software	10
3.1 System Requirements.....	10
3.2 Installation	10
3.3 Logger Setup	12
3.4 Connection.....	13
3.5 Settings	15
3.6 Log File.....	15
3.7 Generate Report	16
3.8 Generate Charts	18
3.8.1 Count vs. Speed (Bar Graph).....	18
3.8.2 Count vs. Time (Line Graph)	19
3.8.3 Count vs. Hour (Bar Graph).....	20
3.8.4 Traffic Speed Survey (Any Graph).....	21
3.8.5 Understanding the Charts (Any Graph)	21
3.9 Data Collection	21
4 Connecting via Bluetooth	22
4.1 Requirements.....	22
4.2 Pairing Using Windows®7	22
4.2.1 Getting Started	22
4.2.2 Checking for the Correct Port	25
4.3 Pairing Using Windows®10	26
4.3.1 Getting Started	26

5 Specifications28
5.1 EZ Stat™ Module Specifications.....28
6 Service.....29
6.1 Warranty29
6.2 Service Return Procedure30
7 Care, Cleaning and Storage32
8 How To Order Additional Products32
User Notes33



Welcome to Decatur Electronics, Inc.

Thank you for choosing the Decatur Electronics EZ Stat™ — an advanced traffic statistics module and software package designed to record and report traffic speeds.

The EZ Stat is small, light weight, dependable, and connects easily to any computer's USB port. If you are as pleased with its performance as we think you will be, ask your Decatur sales representative about other Decatur products including the Genesis™ line of radars, the Onsite™ line of speed trailers, dollies, and pole signs and the Responder™ line of in-car video systems.

—The Management and Staff at Decatur Electronics,
The Nation's Oldest Radar Company

EZ Stat™ Features

The EZ Stat™ is a traffic statistics module and software package and is easily used with most Decatur Electronics products. Create customized traffic speed and flow reports with the EZ Stat™ software technology. Generate bar graph and line graph reports through the EZ Stat™ software or export the data to your own customized reports in Microsoft Office Excel®.

When used with optional Bluetooth equipped OnSite™ Series devices the EZ Stat™ data can be downloaded without having to remove the EZ Stat™ from the OnSite™.

For more information on radar/message trailers and signs, contact us toll-free at 800.428.4315 or visit the web at www.DecaturElectronics.com.

About This Manual

This manual contains valuable information to help you set up, use and maintain your EZ Stat™, so you can extend its life and keep it at peak performance. Please take a moment to read through it and keep it handy for future reference.

Note the following symbols in this manual:



Indicates a warning message about safety precautions. Please read it carefully.



Indicates a helpful tip or precaution to note



- The Decatur EZ Stat™ is only compatible with the Decatur OnSite™ series of radar speed trailers and signs..

1. Components

The EZ Stat™ package includes a USB Product flash drive, a USB cable and the EZ Stat™ module.



Figure 1

Flash Drive, USB cable and EZ Stat™ Module.

1.1 EZ Stat™ Module

Use the EZ Stat™ module to collect traffic data from a select number of Decatur's speed measurement products.

1.1.1 The USB Port

The EZ Stat™ has a mini-USB receptacle. Use the included USB cable to connect the EZ Stat™ to the computer's USB port.

1.2 EZ Stat™ Software Installation

The flash drive contains the User Manual, EZ Stat™ software and a USB driver along with additional information on Decatur products. (Refer to Section 3.2 for installation instructions.) Use the EZ Stat™ software application to examine data collected with the module.



- To install the Decatur EZ Stat™ software you must have administrative rights. In addition, the software automatically downloads a driver from the web. Therefore, the computer must be connected to the internet and the automatic update feature must be enabled, otherwise an error message will occur when you try to run the application.

2. EZ Stat™ Module

2.1 EZ Stat™ Operation Indicators



Figure 2.1a
Green indicator



Figure 2.1b
Red indicator

When the module is connected to power, the green LED indicates the module is on.

The green LED also indicates memory usage when powered by a Decatur Electronics' speed measurement device. When plugged into the measurement device the green LED will flash a number of times, pause and then flash a number of times again. It will continue to report the amount of memory usage until the measurement device is turned off. Memory capacity is approximately 130,000 counts.

Eight flashes indicate that the EZ Stat™ module has no data and is ready to be used. As the module records data the number of flashes will decrease. Once the module is full and no more data can be stored the green LED will no longer flash (See Table 2.1).



- Data is only collected in real time. The OnSite™ product does not store data in a file for later transfer. Instead speed data is sent immediately to the EZ Stat™. For that reason the EZ Stat™ must be left connected until such time as data analysis is needed.

8 flashes	Empty
7 flashes	1/8 used
6 flashes	¼ used
5 flashes	3/8 used
4 flashes	½ used
3 flashes	5/8 used
2 flashes	¾ used
1 flashes	7/8 used
0 flashes	Full

Table 2.1
Memory Usage.

The red LED indicates data transfer when connected to a computer.

When connected to a speed measurement device, the red LED on the EZ Stat™ blinks each time an event is recorded.

3. EZ Stat™ Software

3.1 System Requirements

Microsoft Windows® 7, 8, or 10

Microsoft Office Excel® 2000 or newer

USB Port 2.0 or 3.0

Minimum Screen Resolution 800 x 600, 1024 x 768 for internal graphs

3.2 Installation

If you are not familiar with installing software it is recommended that you contact your IT department for assistance. The following instructions uses Windows 7 as the example.

1. Insert the flash drive into the USB port of the computer. Windows will then display the "AutoPlay" screen as shown in Figure 3.2a. Make sure the "Open folder to view files using Windows Explorer" is selected. Next, click OK.

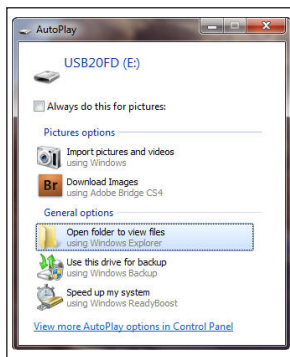


Figure 3.2a

- • If the information screen is not automatically displayed click on the WINDOWS EXPLORER icon at the bottom of the screen and then proceed down the folders tree until you locate the drive letter that has been assigned to the flash drive. Using the left mouse, click on the drive letter. The files on the flash drive will be displayed.

2. The following screen shows the folders that are on the flash drive. Double click on "Start" to run the Product utility

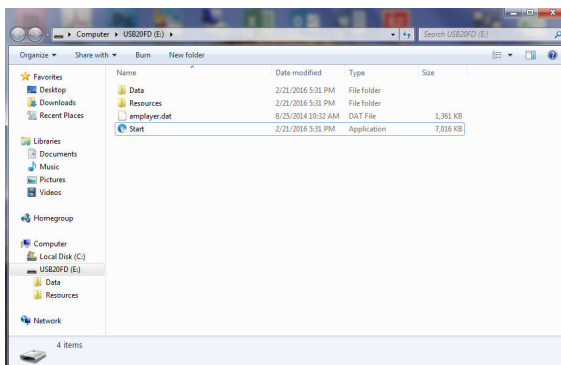


Figure 3.2b
Folders Window.

- Click on the "Software" button as shown in Figure 3.2c.

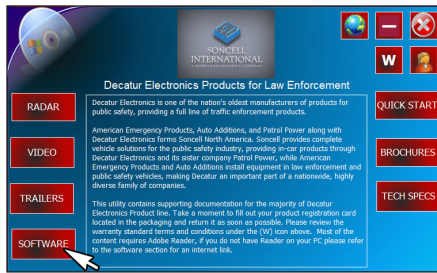


Figure 3.2c
Product Start Screen

- Click on and install the "EZ STAT SOFTWARE" .



Figure 3.2d
Software and Utilities Screen

- Installation is now complete and you are ready to exit the Product utility and view, download data and run reports on any information stored on the EZ Stat™ Data Logger.

3.3 Logger Setup

The EZ Stat™ program will automatically detect the EZ Stat™ module and assign a port providing the module is plugged into the computer's USB port. Follow the steps as outlined in 3.4.

3.4 Connection

1. Plug the EZ Stat™ into the computer's USB port.
2. Run the EZ Stat™ software by clicking on the EZ Stat™ icon on the desktop.

Once opened, if you get a "No COM available" error as shown in Figure 3.3a give the program a few seconds to locate the port. If it does not detect the port even after waiting then exit the EZ Stat™ program, make sure the EZ Stat™ module is plugged completely into the computer's USB port and open the EZ Stat™ program again. Once the port has been detected set the "SPEED".

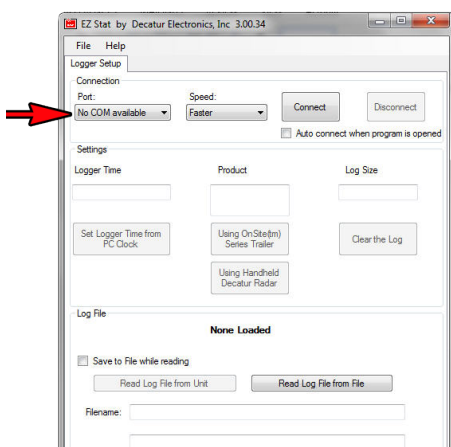


Figure 3.4a
Port assignment

3. **SPEED:** Set the speed to "Normal". If you have a hard time retrieving data from the unit, set the speed to "SLOW" or one of the other available settings.

Once the speed setting has been made then:

4. **CONNECT:** Connect to the logger device. If the USB driver has been installed as described in Section 3.2, the EZ Stat™ software screen will now display any information stored on the EZ Stat™. (Once you have completed downloading and analyzing the EZ Stat™ information, the software can be closed by pressing the Disconnect button.)

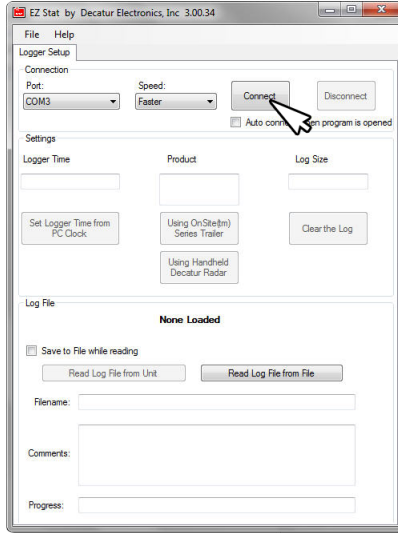


Figure 3.4b
Press the "Connect" button.

5. **DISCONNECT:** Use Disconnect when you are finished downloading the information from the logger device.

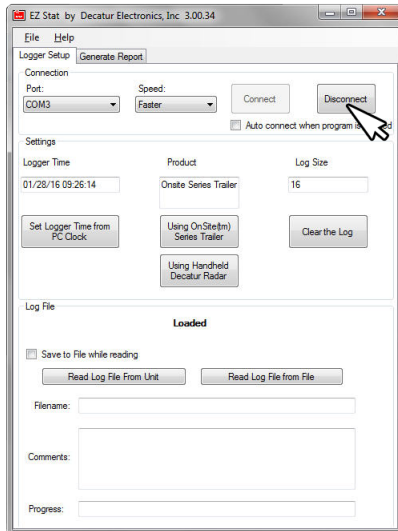


Figure 3.4c
Press the "Disconnect" button.

3.5 Settings

The following settings should be checked and changed as needed:

- **SET LOGGER TIME FROM PC CLOCK:** Sets the EZ Stat™ module's time to the PC's time. This sets the EZ Stat's™ internal clock so that future data recorded reflects the actual time of day the event was logged. This is useful if the data logger battery should need to be replaced or your state observes daylight savings time.
- **USING ONSITE SERIES:** The EZ Stat™ can be used on a range of Decatur products. These products export data at different baud rates. Use this section for trailers or Decatur's SI units.
- **USING DECATUR RADAR:** Use this selection when using the EZ Stat™ with radar guns for readings.
- **CLEAR THE LOG:** This selection erases all data from the logger device.

3.6 Log File

- **SAVE TO FILE WHEN READING:** If checked, this function saves the information from the logger to the file listed in box "filename." If you forget to check this box before reading from the logger device, you can go to the File Menu — Save Logged File, to save to your hard drive.

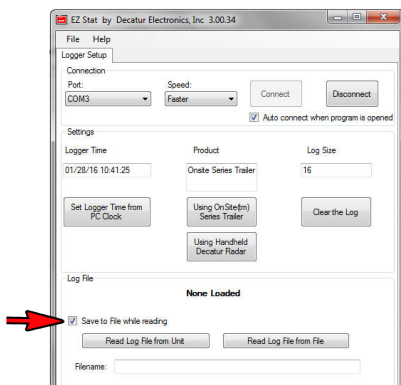


Figure 3.6
Check box to save file.

- **READ LOG FILE FROM UNIT:** Read the log entries from the data logger if connected.
- **READ LOG FILE FROM FILE:** Open an old log file.
- **FILENAME:** Shows the name and location of the current file.
- **COMMENTS:** Add comments to the log file here. Comments previously saved to the log file will be read and displayed.
- **PROGRESS:** Shows the progress of reading data from the logger unit or file.

3.7 Generate Report

This window will appear after data has been loaded from a logger unit or file.

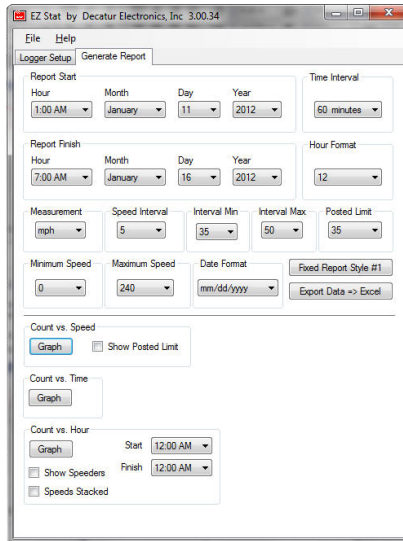


Figure 3.7
Generate Report Window.

- **REPORT START/FINISH:** Set the Hour, Month, Day and Year for your report. Based on the information from the loaded data, the start and finish settings will be set for you.



- Changing the Year or Month will alter the number of days and may reset this value.

- **TIME INTERVAL:** Read data at that interval, **Example:** A setting of 15 minutes between 4:00 and 5:00 would have 4 Points of data (4:00-4:14, 4:15-4:29, 4:30-4:44, 4:45-4:59), 30 minutes would have 2, etc.
- **HOUR FORMAT:** 12 or 24 hour clock.
- **MEASUREMENT:** mph or km/h.
- **SPEED INTERVAL:** The range between speeds (5, 10, or 20). At 5 the range goes from 16-20, 21-25, 26-30, etc., at 10, 16-25, 26-36, etc.
- **INTERVAL MIN:** The lowest point at which intervals start.
Example: If the MINIMUM SPEED is 0, and the INTERVAL MIN is 30, the first speed range is 0-30. If MINIMUM SPEED is 20 and the INTERVAL MIN is 30, the first speed range would be 20-30.
- **INTERVAL MAX:** The highest speed for your interval stats. If your Interval Max is 80, then your last category will be 80+.
- **POSTED LIMIT:** The posted speed limit.
- **MINIMUM SPEED:** Any speed below this number will not be counted in the survey.
- **MAXIMUM SPEED:** Any speed above this number will not be counted in the survey.
- **DATE FORMAT:** This option allows you to change the format of the displayed dates. There are three available options.
- **FIXED REPORT STYLE #1:** This report style sets the Interval Min and Interval Max based on your Posted Limit so that there are 3 categories: those below the speed limit, those within 5 of the speed limit, and those above the speed limit. This report style does not generate a graph.

- **EXPORT DATA: > EXCEL:** Exports the raw data to Microsoft Excel®. It will also generate a report and summary based on the selections in Excel.
- **CHART SIZE:** Based on your computer settings, this allows for various sizes of graphs for printing.

3.8 Generate Charts

3.8.1 Count vs. Speed (Bar Graph):

Shows how many vehicles passed the logger and at what speed, best used for showing speed patterns over large date ranges.

- **GRAPH:** Generates the graph.
- **3D:** If checked, the graph shows 3-D cylinders.
- **SHOW POSTED LIMIT:** If checked, a line shows the posted limit.

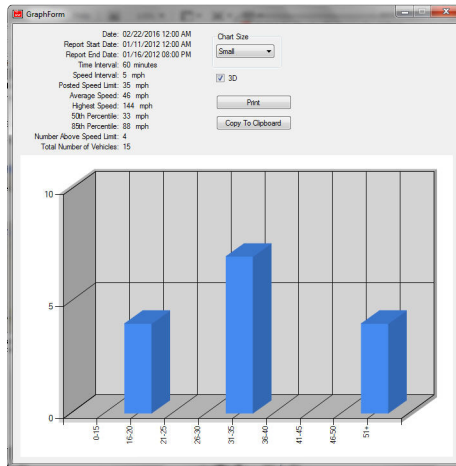


Figure 3.8.1
Count vs. Speed (3D)

3.8.2 Count vs. Time (Line Graph)

Shows the number of vehicles passing the logger at a particular time, grouped by their speed. This graph is more suitable for fewer speed ranges and smaller date ranges. We recommend setting your Time Interval to 24 hours if using this to graph for more than one day.

- **GRAPH:** Generates the graph.
- **3D:** If checked the graphs shows 3-D lines.

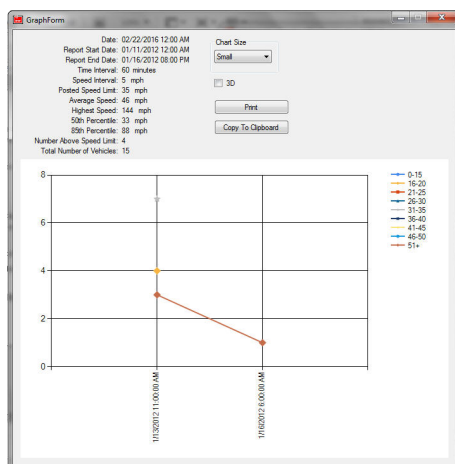


Figure 3.8.2
Count vs. Time.

3.8.3 Count vs. Hour (Bar Graph)

Shows speeders vs. time of day. For best results we recommend no more than an eight hour window.

- **GRAPH:** Generates the graph.
- **3D:** If checked the graphs shows 3D bars or pyramids.
- **SHOW SPEEDERS:** If checked, there will be two bars, one for speeders and one for those driving legally. If not checked then there will be just one bar with the count.
- **SPEEDS STACKED:** If checked and Show Speeders is checked, then the speeds will be stacked on top of each other to give both a total count and visually show the number of speeders.
- **START/ FINISH:** The time of day to start/finish.

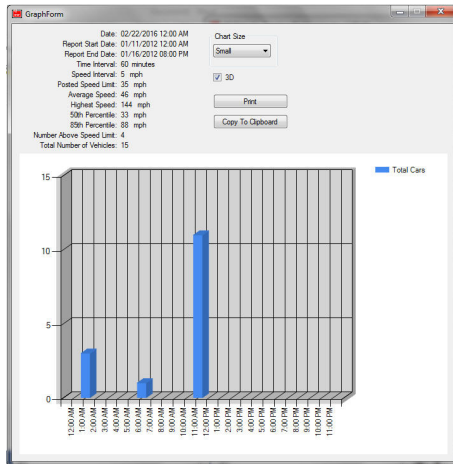


Figure 3.8.3
Count vs. Hours (3D)

3.8.4 Traffic Speed Survey (Any Graph)

- **PRINT:** Prints the “EZ Stat Traffic Speed Survey” window.
- **COPY TO CLIPBOARD:** Copy the “EZ Stat Traffic Speed Survey” window to the clipboard. You can use this to copy over to a graphics program or Microsoft Word or Excel.

3.8.5 Understanding the Charts (Any Graph)

In the top left hand corner of each chart is a summary of what the chart is showing. The summary not only shows what parameters have been set for the graph (Report Start Date, Report End Date, etc.) but also reveals some of the results. Most of these are self-explanatory and need no further discussion. However, the one area that can sometimes be confusing is what the percentiles mean. Using Figure 3.8.1 as an example, the summary shows the 50th percentile at 33 mph and the 85th percentile at 83 mph. What this means is that 50% of the vehicles were going 33 mph or less and that 85% of the vehicles were going 83 mph or less.

3.9 Data Collection

The EZ Stat™ reads vehicle speeds 5 times per second. When a moving object is detected by the radar, the logger expects it to be present for at least 4 seconds, then receive a zero speed. The maximum speed is recorded with the timestamp in the memory of the logger module.

NOTE: The EZ Stat™ will not create a record if another car is in range of the radar before the first one passes beyond the antenna. When traffic is heavy, there will be no gap (zero speed) in speed readings, and the EZ Stat™ will see the whole cluster of cars as one event.

4. Connecting Via Bluetooth

If you have an OnSite™ series product that has the Bluetooth option then use these instructions to pair your computer to the EZ Stat™ without having to remove it from its location.



- The Bluetooth feature does not work with smart phones.

4.1 Requirements:

- The PC must have a Bluetooth radio V2.1 or later
- The EZ Stat™ must be plugged into an OnSite™ series product that has had the Bluetooth option installed.
- The OnSite™ product must be powered ON.
- The EZ Stat™ must be the Version 3. Version 3 can be identified by looking on the back and noting that it has a small micro USB connector that accommodates a USB cable to connect to the computer. Earlier version of the EZ Stat™ will not connect to Bluetooth.
- The computer will need to be within 20 feet of the OnSite™ series product in order to connect.



- Pairing normally only needs to be done the first time. When using the same computer the Bluetooth feature will automatically connect the next time.

4.2 Pairing Using Windows® 7

There are several different versions of Windows® 7. The following instruction are given as a general outline.

4.2.1 Getting Started

1. Open the Control Panel and search for Bluetooth and then click on "Add Devices".

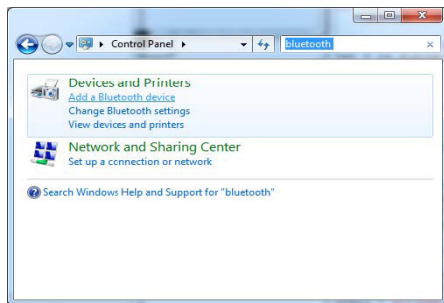


Figure 4.2.1a
Control Panel

2. Choose "Add a Device"

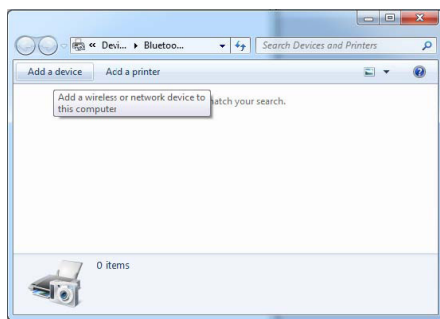


Figure 4.2.1b
Add a Device

3. Within 30 seconds you will see the "Adafruit EZ-Link xxxx" device appear. (xxxx is unique for each EZ-Link device.)

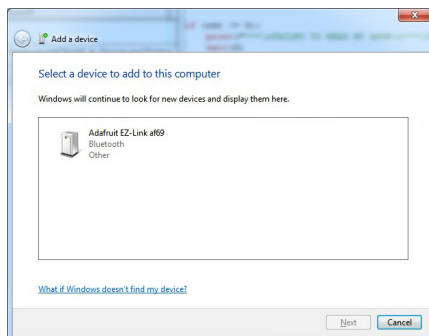


Figure 4.2.1c
Add a Device

- Click on it and select "Next" to add it. If asked for a pairing code, the code is 1234.

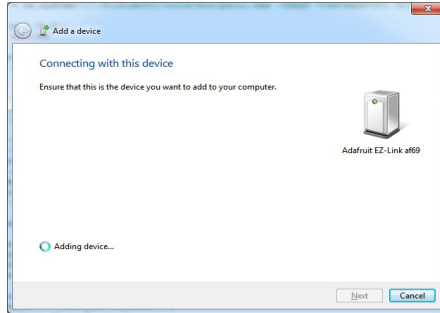


Figure 4.2.1d
Connecting to the Device

- Once paired, the screen will change showing it has paired.

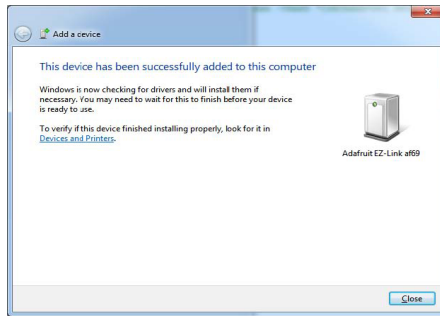


Figure 4.2.1e
Device has paired

- To verify the pairing look for the device in "Devices and Printers".

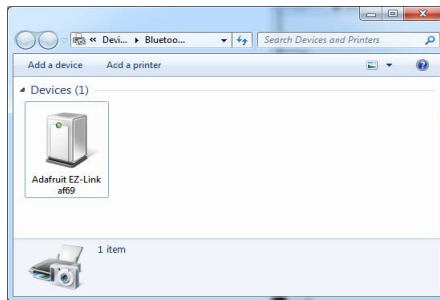


Figure 4.2.1f
Devices & Printers screen

4.2.2 Checking for the Correct Port

Windows® can sometimes create more than one COM port when a device is connected. However, only one of the COM ports is valid and will work. As a result you may see port assignments as shown in the example below.

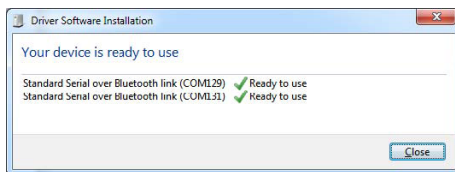


Figure 4.2.2a
Port Assignments

To determine which port is valid go to the Bluetooth device panel and right click on the "Adafruit EZ-Link" and select "Properties" then select the "Hardware" panel.

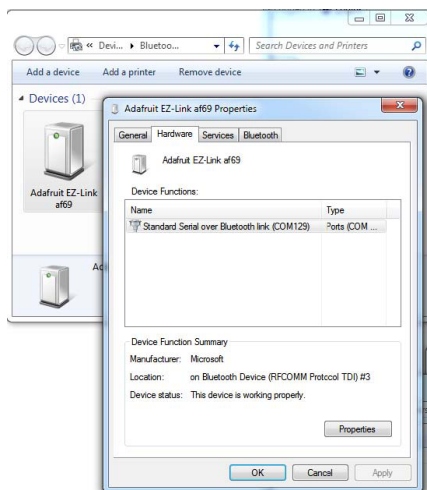


Figure 4.2.2b
Hardware panel

In the Properties panel you will see only one COM port listed. In the example shown above it is "COM129". That is the port than will be used. Once paired, start the EZ Stat™ software, select COM port (if needed) and press connect. Refer to the instructions in section 3.4 step 2 and following.

4.3 Pairing Using Windows® 10

There are several different versions of Windows® 10. The following instruction are given as a general outline.

4.3.1 Getting Started

1. Choose "Settings" under the Start Menu.
2. Select the "Device" Icon.

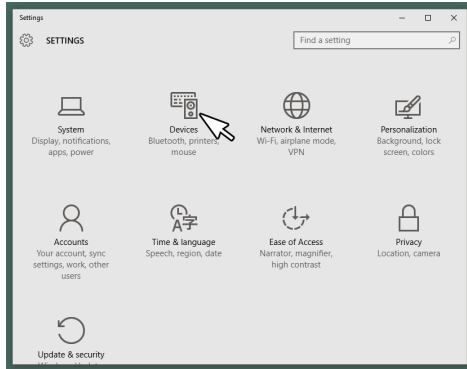


Figure 4.3.1a
Settings Screen in Windows 10

3. Make sure the Bluetooth is on and select "Adafruit EZ-Link xxxx" (xxxx is unique for each EZ-Link device.)

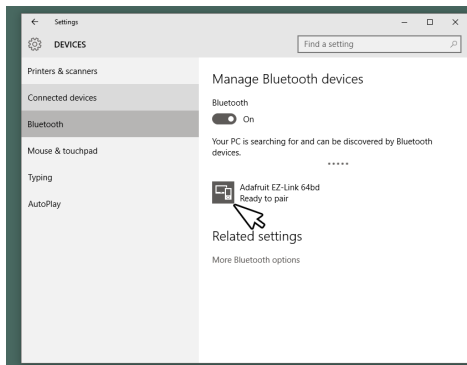


Figure 4.3.1b
Choose Adafruit EZ-Link

4. Press the "Pair" button

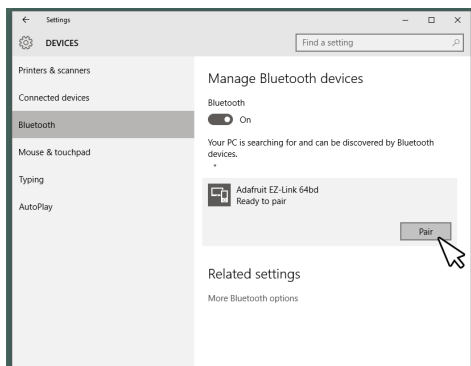


Figure 4.3.1c

Click on the "Pair" button

5. When paired the screen will confirm that pairing has occurred.

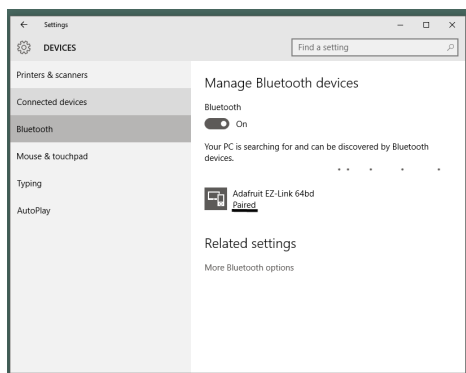


Figure 4.3.1c

Computer has paired with Bluetooth device

6. Once paired, start the EZ Stat™ software, select COM port (if needed) and press connect. Refer to the instructions in section 3.4 step 2 and following.

- • Windows® will sometimes create more than one COM port but only one of them will work. To figure out which COM port to use select each COM port shown in the EZ Stat™ software and use the one that connects.

5. Specifications

5.1 EZ Stat™ Module Specifications

Dimensions .75 in x 1.625 in x 2.5 in
(1.905 cm x 4.13 cm x 6.35 cm)

Weight .75 oz
(21g)

Connectors

Type D-Sub, 9-Pin Connector
(Plugs directly to serial port)

Type USB
(Plugs directly to USB port)

Memory

Size 4 Megabit

Power

Battery Lithium Coin Cell

6. Service

6.1 Warranty

ONE-YEAR RADAR WARRANTY

Decatur Electronics, Inc. guarantees the EZ Stat™ to be free from defects in workmanship and material and to operate within specifications for a period of one year. During this period, Decatur Electronics will repair or replace, at its option, any component, found to be defective, without cost to the owner providing you return the unit to a Decatur authorized service provider.

The full warranty on parts and workmanship does not include normal wear and tear, crushing, dropping, fire, impact, immersion, damage from attempted repair, modifications by unauthorized service agents, or improper voltage.

Refer to the instructions in Section 5.2: Service Return Procedure.

ONE-YEAR WARRANTY EXCEPTION

If you purchased the EZ Stat™ under a special buying program, such as a state purchase contract, etc., the above warranty may not apply. Please refer to the buying program contract for the appropriate warranty terms or contact Decatur Electronics.

6.2 Service Return Procedure

If you have questions, want a quick problem diagnosis, or need to return your unit or a component from your unit:

- Call Decatur Electronics by phoning 800.428.4315 and ask to speak with a Customer Service Representative.
- Explain to the Customer Service Representative the problem you are experiencing.
- Based on the information that you provide, the Customer Service Representative may be able to assist you or you may need to be referred to one of our Service Providers.

On warranty items Decatur Electronics will pay the freight (up to \$10 U.S.) for shipping the system from the Service Provider to the customer. Please note that for any shipping charges above the initial \$10 (if you want the package shipped express or next day air) there will be an additional charge.

If you are referred to a Service Provider and your unit is under warranty then once your product has been received, the Service Provider will investigate the problem. Once they have diagnosed the problem they will repair the product and return it to you.

If you are referred to a Service Provider and your unit is not under warranty then we recommend that you discuss the problem you are experiencing with the Service Provider and determine if an estimate is needed. Once your product has been received, the Service Provider will investigate the problem and you will be sent an estimate of cost, prior to any repair work being performed. After receiving the estimate, you can choose from the following options:

1. Approve the estimate and proceed with repair.
2. Decline the estimate, and pay an estimate fee and return shipping.
3. Discuss other options with the Service Provider.

If your product is under warranty it will automatically be repaired and sent back to you.

7. Care, Cleaning, and Storage

- Avoid spilling food, beverages, and other liquids and substances on the EZ Stat™ device.
- When you are not using or transporting the device, store it in its original packaging.
- To clean the EZ Stat™, dust it with a soft clean cloth, which is free of cleaning solutions.
- The EZ Stat™ can withstand temperature variations, however, the unit is not water proof.

8. How to Order Additional Products

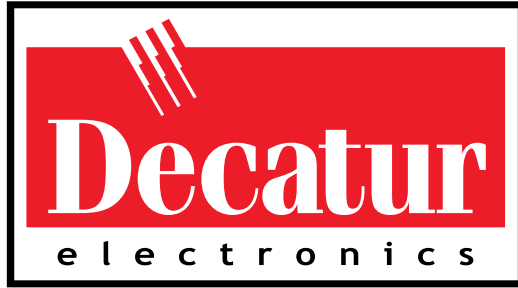
You can order upgrades (when available) to the EZ Stat™ from Decatur Electronics as well as a replacement CD. To see product descriptions or to order products, visit the Decatur Electronics website at www.DecaturElectronics.com or contact the Decatur Electronics sales office at 800.428.4315.

Replacement items

EZ Stat™ Data Logger (Logger Only)

S792-620U-0

User Notes:



www.DecaturElectronics.com

1 800.428.4315