



Engineering Reference Document

ECOM™ Driver Installation Manual

Software Revision 3.5.0.0



For All ECOM™ E20460XX Product Variations

Document No. ER000060_00

REV	ORIG	APPR. 1	APPR. 2	SEC./PG.	DESCRIPTION	DATE
A-	R. RADER			All	Initial Release	2008.07.03
B-	J. KAUFMANN			All	Updated pictures and text for latest install. Removed last section regarding EDIS	2013.07.22
C-	B. PEARSON			All	Updates to latest driver install	2014.11.18
C1	B. PEARSON			All	Document formatting update	2017.03.07
D	B. PEARSON	H. GADIGOTA	T. BARTON	2.3 3	Added Verifying ECOM Installation section Added Windows 10 Driver Installation Issues section	2018.03.13
E	B. PEARSON	D. HONAKER	H. GADIGOTA	3.2 3.3	Updated Windows 10 installation issues section Added Windows 7 installation issues section	2018.08.10
E1	B. PEARSON			All	Updates to reflect ECOM2	2018.08.23

TRADEMARK STATEMENT:

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1 INTRODUCTION

Thank you for purchasing an ECOM™ cable from EControls.

The ECOM™ cable is a USB 2.0 device that allows Controller Area Network (CAN) traffic to be transmitted and received using a computer or laptop. It was originally designed by EControls to provide a CAN interface for our OEM customers to communicate with our Engine Control Modules (ECMs), but it is now offered for use in custom software development.

ECOM™ is available in multiple variations which are designated numbered as **E20460XX**, where

E20460 = the ECOM™ family part number root, and

XX = an application-specific part number modifier..

The following ECOM™ variations are designated by part number and logo color as follows:

ECOM™ Part Number	Logo Color	Application
E2046002	Green	GCP / 4G ECOM™ device (Standard)
E2046003	Blue	GCP / 4G ECOM™ device (CANCapture™-Compatible)
E2046012	Green	GCP / 4G ECOM™ v2 device (Standard)
E2046013	Blue	GCP / 4G ECOM™ v2 device (CANCapture™-Compatible)

To start using any ECOM™ variation you will first need to install the software driver. Please refer to the steps contained in the following sections of this document for software driver installation instructions.

2 ECOM™ INSTALLATION PROCEDURE

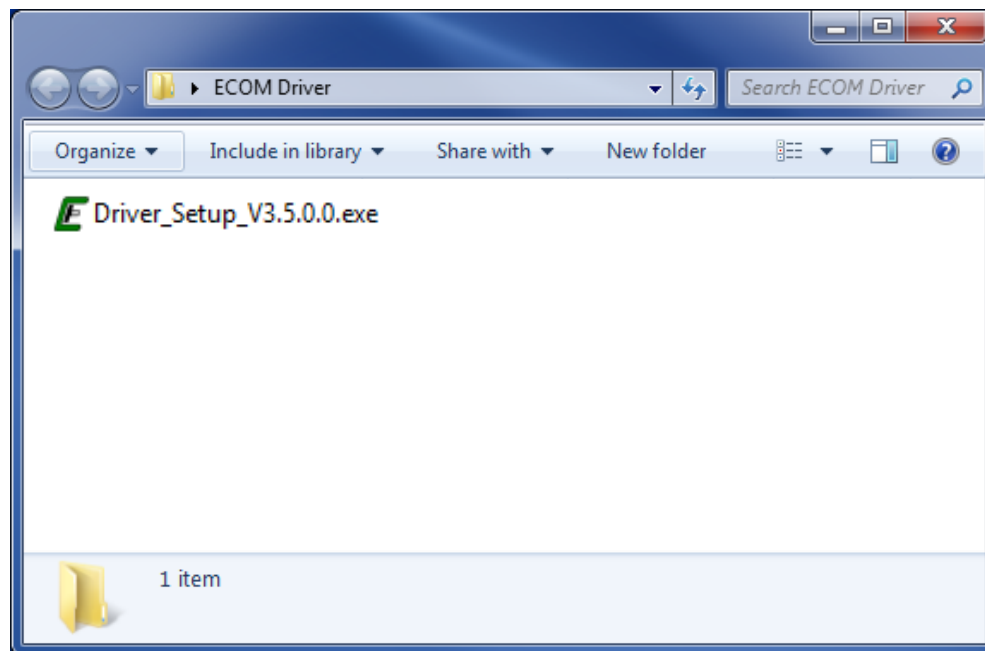
2.1 Running the Setup Program



IMPORTANT:

Before proceeding, make sure that all ECOM™ devices are detached from your computer and that all programs are closed.

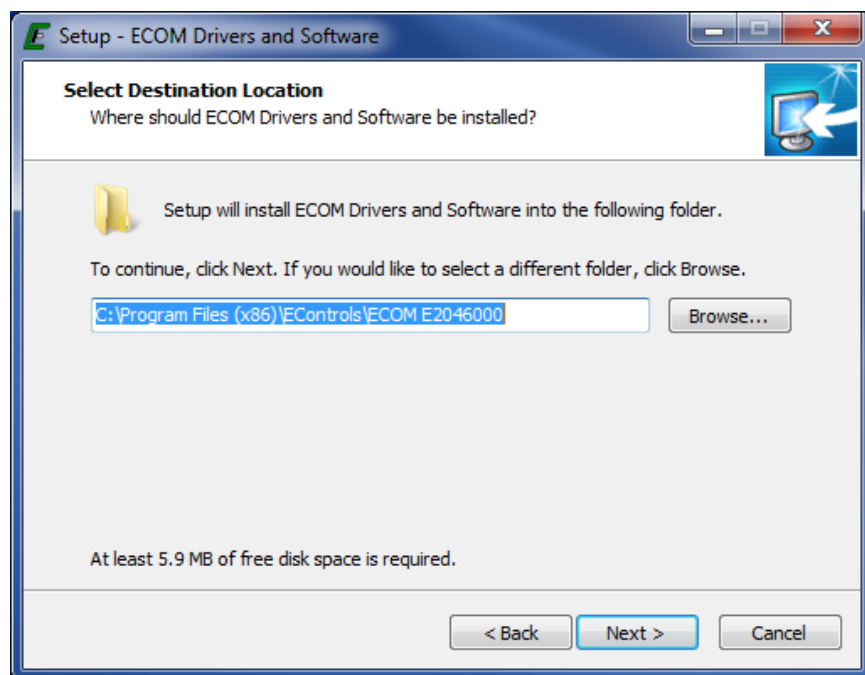
- 1) Download and run the ECOM™ driver installation application. Versions 3.1.0.15 or newer will work on 32-bit and 64-bit Windows operating systems including Windows XP, Windows Vista, Windows 7, Windows 8, and Windows 10. V3.5.0.0 or newer is strongly recommended for Windows 10. V3.5.0.0 or newer is mandatory for ECOM™ v2 hardware.



- 2) After the **WELCOME to the ECOM™ Drivers and Software Setup Wizard** opens, click on the **[NEXT>]** button.

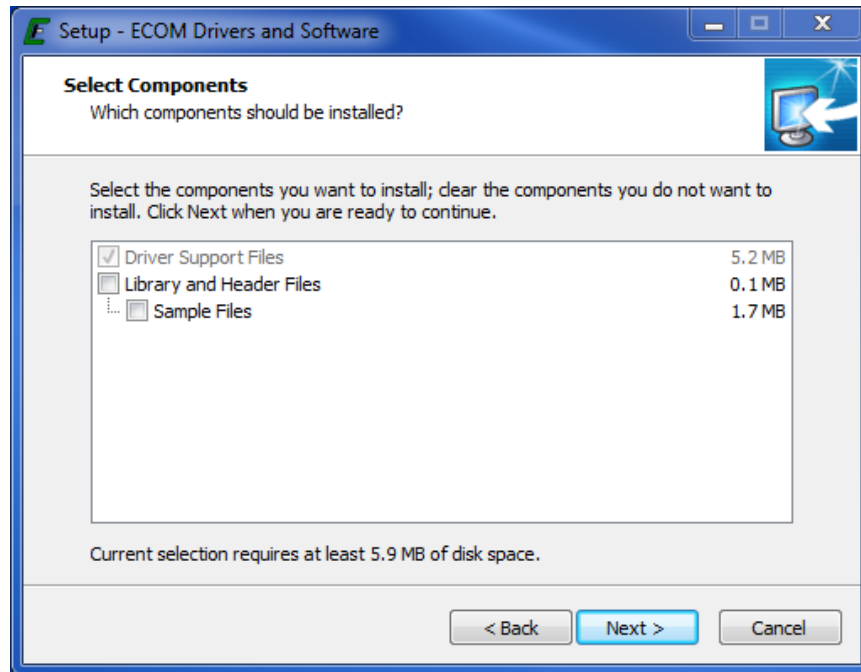


- 3) Select the folder you wish to use for installing the driver software. This folder will contain a few example programs and the uninstaller, depending on the options you select in the next step.



4) Select the options to install:

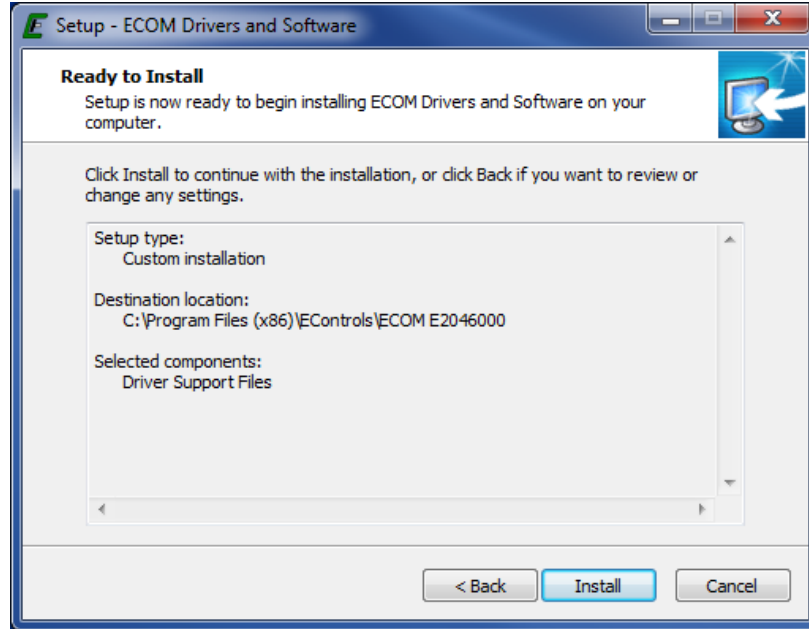
- **Driver Support Files** – required drivers for using the ECOM™ device. All software that uses the ECOM™ must have this to function properly
- **Library and Header files** – optional files that are only required if you plan to develop custom software using the ECOM™ and developer’s API.
- **Sample Files** – includes a number of sample files to demonstrate how to program a custom application using the ECOM™ library. This includes a few Microsoft Excel examples, a C# example, a LabView example, and a Java example.



NOTE:

This installation ***does not*** include EControls Display and Interface Software (EDIS) for connecting to any EControls ECMs or other CAN based devices. If you are planning on using the EDIS software to connect to an EControls controller, then you only need to select "Driver Support Files" and must then install the appropriate EDIS application separately.

- 5) The **Ready to Install** window will now open. Verify all settings and click Install.



- 6) Wait for the installation to complete. While Windows installs the hardware device drivers, the installation may appear to be unresponsive for up to a minute.
- 7) Once the installation is complete, the **Completing the ECOM™ Drivers and Software Setup Wizard** window will open. To finish the installation place the mouse cursor over the **[Finish]** button and click with the left-hand mouse button once to close.



The ECOM™ drivers are now ready to use.

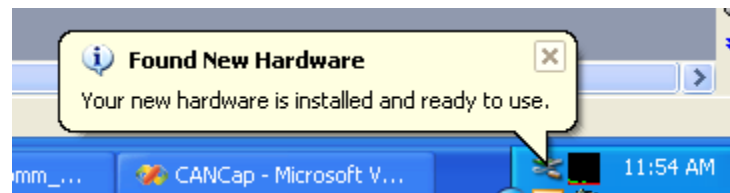
2.2 Connecting the ECOM™

The first time you insert an ECOM™ device into a new USB slot, Windows will complete the hardware installation for that specific ECOM™ and port.

A *Found New Hardware ECOM™ Communications Device* bubble – followed by a *Found New Hardware E2046000 Communications Device* bubble – should appear at the bottom of your computer screen, indicating that it recognizes the ECOM™ device.



Subsequently a bubble should appear at the bottom of your computer screen message will appear stating that the drivers are installed and the new hardware is ready to use.



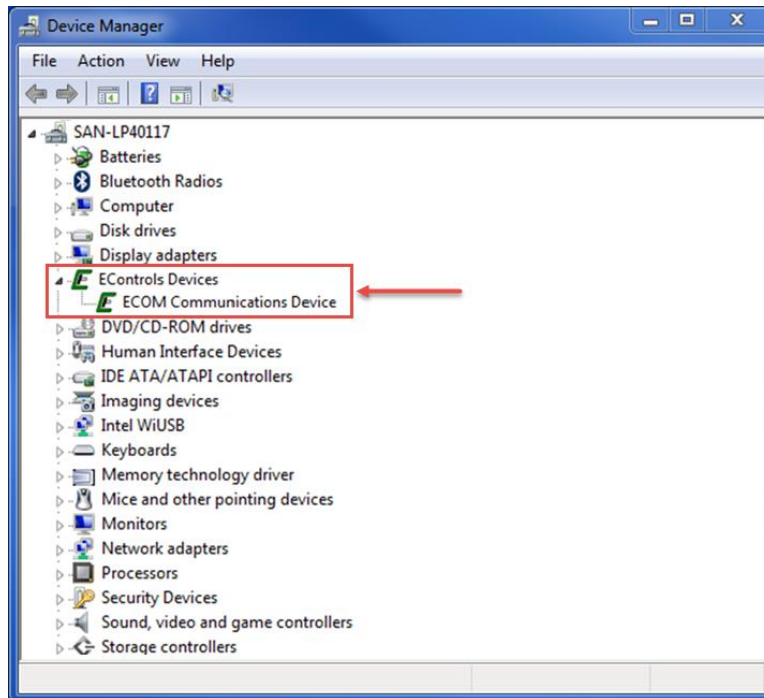
A message may appear asking you if you want to restart your computer to enable you to use the new software.

- If you are planning on using the ECOM™ at this time select **[Yes]**.
- Otherwise it is safe to select **[No]** and wait until a later time to reboot. Until you do so, any software that uses the ECOM™ may not function properly.

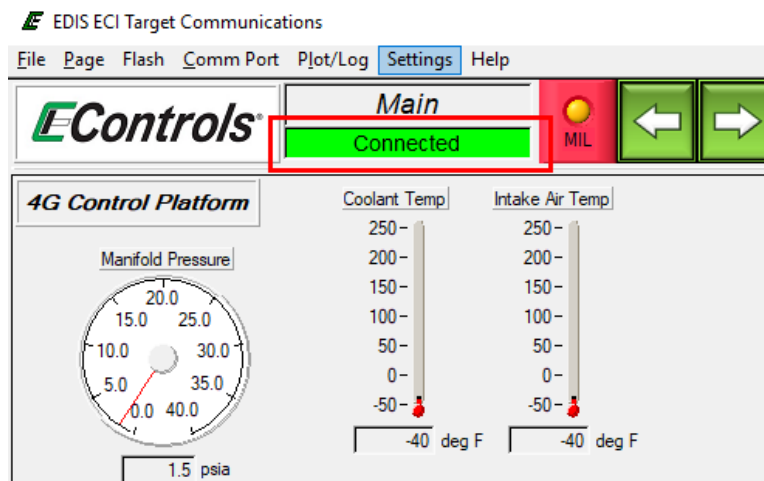
2.3 Verifying ECOM™ Installation

To verify that the ECOM™ driver is successfully installed and the ECOM™ device itself is properly connected, confirm the following (see Section 3 for troubleshooting tips):

- The **POWER** light on the ECOM™ device will turn from red to green.
- An 'ECOM Communications Device' entry should appear in your Windows Device Manager as seen in the screen shot below.



- The EDIS™ Display connection status indicator shows a successful connection.

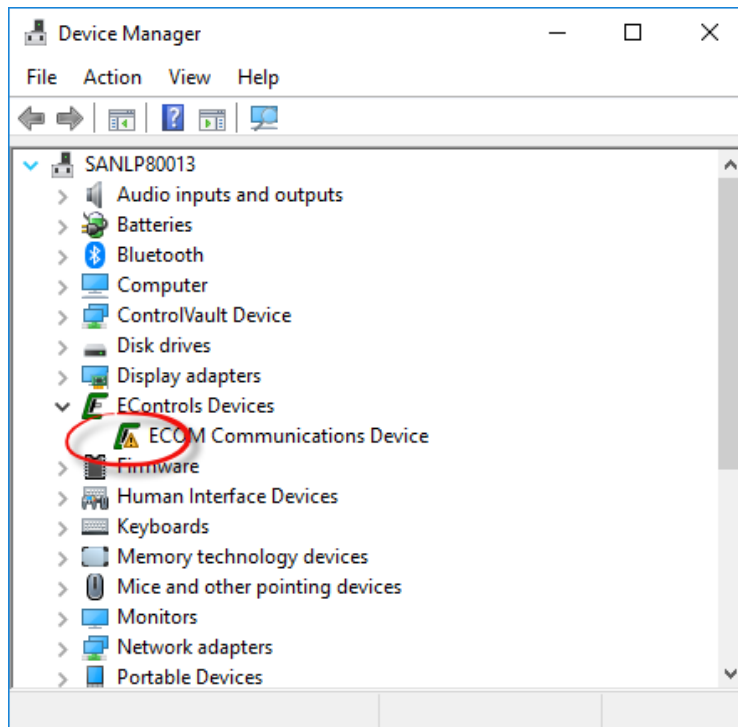


3 TROUBLESHOOTING ECOM™ ISSUES

3.1 General Troubleshooting

Stable Red Power LED, No Communication: A red power LED on the ECOM™ device indicates problems with the driver installation. Troubleshoot this by uninstalling, then reinstalling the driver using the latest driver setup executable file. Alternately, access the Device Manager on the target PC and look for the ECOM Communications Device icon. If there is an error indicator on the icon (see image below) or no icon appears, check all connections and try the installation again.

If the target PC is equipped with Microsoft Windows 10 operating system, please see Section **Error! Reference source not found.**



Flashing Red CAN/SERIAL LED, No Communication: Although not necessarily a software installation problem, physical CAN hardware issues and other wiring problems will prevent you from communicating with other CAN nodes. These types of errors can be easily identified by looking for a red flashing LED on the ECOM™ device. This flashing LED indicates a physical CAN error, which can often be fixed by resolving one of the following common problems:

- Wiring is disconnected or CAN-H and CAN-L wires are reversed
- The software using the ECOM™ device is configured for the incorrect baud rate. Check the proper baud rate for your bus and controllers and then reconfigure your software to match.
- The CAN bus requires at least one 120 ohm *terminating* resistor connected between CAN-H and CAN-L in order to function properly. If the CAN bus you are connecting to is already functional, this would imply it already has the terminating resistor and thus should not be a problem. Consult your CAN documentation for specifics about the terminating resistors.
- The red flashing light on the CAN LED will also occur if there is no other node on the CAN bus when the ECOM™ attempts to transmit a CAN packet. In this case you must connect and activate another CAN device in order to resolve this error.

3.2 Windows 10 Driver Installation Issues

Unable to connect to ECOM™ on a Windows 10 PC: As a security measure, the Microsoft Windows 10 OS includes a feature that, when enabled, requires digital signatures on installed drivers. In order for installation of the ECOM™ driver to be successful on Windows 10 PCs, driver software version 3.5.0.0 or later must be used.

3.3 Windows 7 Driver Installation Issues

Windows can't verify the publisher of this driver software: Ensure that Windows 7 has the security update KB3033929 (This was a critical security update released March 2015) installed. If this update isn't installed, the driver installer will report that the driver signature is invalid or corrupted.