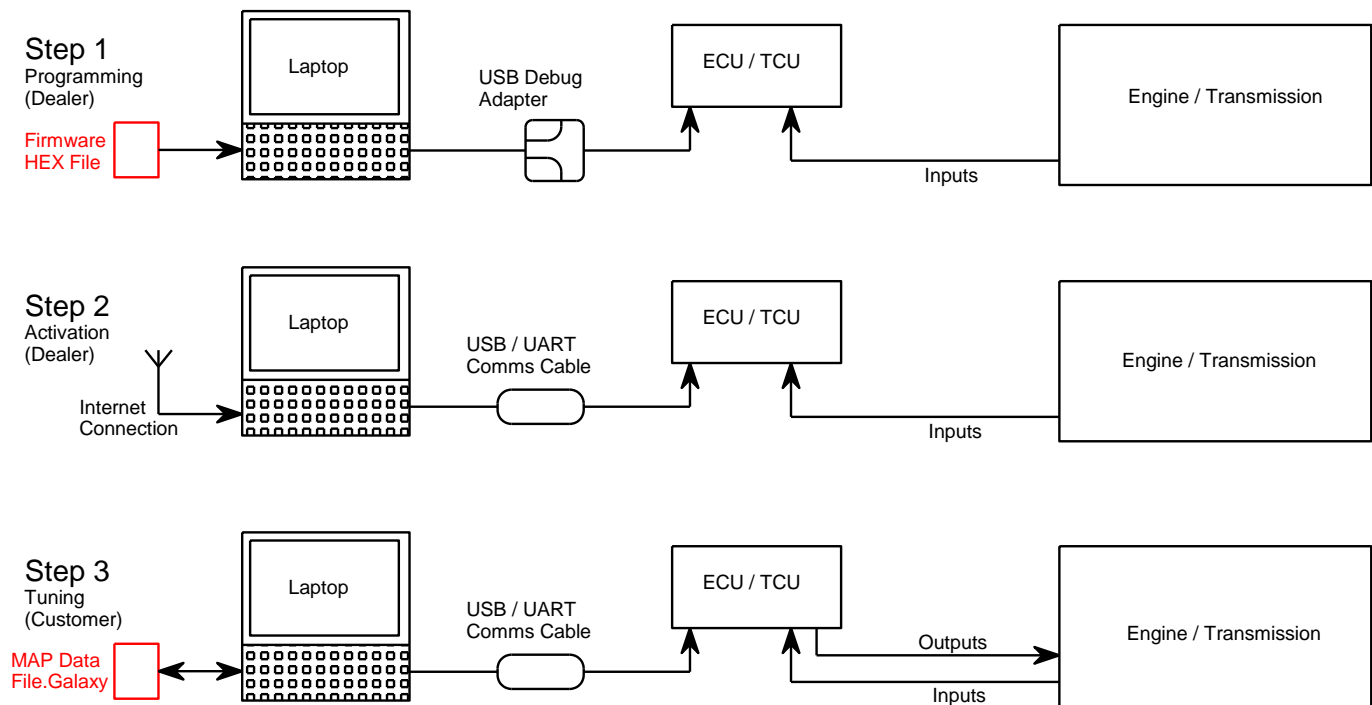


Getting Started with Spitronics Devices

About the product.

Spitronics products are developed for the DIY market and are mostly sold through dealers and to handy customers outside the RSA boundaries. This makes it a more cost effective product as the company overheads are held to a minimum. Spitronics rather makes use of the extensive infrastructure of dealers that specialize in this type of business. The Spitronics devices are not plug & play devices but must be customized by the dealer for specific applications. These products are very versatile and can be adapted to most engines and transmissions. The dealer is responsible for after sale service and is a third party company that Spitronics don't have control over. So make sure about the dealer service and capabilities before you buy from him. Spitronics is not responsible for poor service from him. Please read our terms and conditions found on our website www.spitronics.com software and manuals are freeware on our website

Block Diagram of Product interfacing



How does Spitronics Products Work

Each Spitronics product is Micro based which requires a firmware program to initialize the hardware, and tuning Maps that adjust parameters and graphs for the engine or transmission. The Maps require tuning software so that the tuner can adjust fuel and timing for that application. The product also needs to be activated before it will operate.

1. The **firmware** will initialize the hardware to work on a specific engine or transmission. This firmware is fixed code and is pre-loaded into the product with the USB Debug Adapter. It is optional for an end user because he will use it only once. The dealer has the option to customize standard hardware for all different applications with this programmer. The firmware files are freeware on our website and have the extension of .HEX. This process is illustrated in the left laptop configuration.
2. Spitronics developed an internet **activation** system to allow dealers abroad to carry stock at a reduced price. Then when the dealer sells to a customer he will activate the unit in a specific

hardware class according to the firmware and application of the customer. He will then do a payment for the rest of the amount. He will load the correct firmware and startup Map for the customer and guide him to the correct drawings and settings. He will test the unit on a simulator and verify that everything is in order as to assist the customer. This feature makes the product counter ready without the delay of ordering the product on demand.

3. The **tuning** software will allow the tuner to adjust his engine or transmission to his requirement. This could be performance, economy, automatic or tiptronic etc. This tuning data is saved in the product and also in a file called a data Map with the extension .Galaxy.

What you need to get started.


1. The **product hardware** and **accessories** for the specific application. This will be the ECU / TCU, control modules such as idle control and Coil Igniters, harnesses, MAP sensors etc. for that specific application. The product is sold in different classes and price according to features and outputs used. There is a chart on the website indicating the different classes. Information on what you need can be found under products and there is selections charts. Or you may ask a dealer in your area or send a mail to info@spitronics.com
2. The **USB / UART communication cable** to connect the device on to a laptop for tuning purposes. This cable is sold separate as you only need one for tuning all our products. Also the electronics is put in the cable which means the product becomes cheaper as each one does not require those components. This product has drivers that needs to be installed before it will operate.
3. The **tuning software** to interface with the products. The software is only Windows based and works on all versions. You need a Laptop or Tablet for this.
4. A **Startup map** which helps with the setup of the specific engine. As each engine differs in minor changes these MAP's still require a bit of refining. It is a data file that is saved on the hard disk and differs for each type of engine. If you don't get a specific map for your engine you may adapt any map to suit your engine.
5. The **manuals** for explaining wiring and tuning. These manuals became bulky with all the information but once you browse through them you will get to your info quickly. They are available on the web and is updated from time to time.

Optional requirements.





1. The **firmware programmer**. This USB Debug Adapter lets you customize the product yourself for any engine or transmission or custom task that firmware was developed. Firmware is free and placed on the website. You can browse there to see if your application is covered. The programmer is also used to download the latest updates for your application. Then new features may be added for your convenience. We always recommend buying one programmer to distant customers. There is also test firmware to help in fault finding.
2. The **simulator** helps dealers to find faults on customers units. It is recommended for the dealer that likes to carry stock and help customers over the counter. The latest Simulator2 works on all our products with the exception of different connecting harnesses.

Useful links and direction of info on the website.





The USB / UART communication cable.

- 
 -  [USB Drivers](#) 2015-06-23 13:49:49
 -  [Spitronics USB Drivers.rar](#)
- <http://www.spitronics.co.za/downloads/USB%20Drivers/Spitronics USB Drivers.rar>




The Ver 3 Galaxy Tuning software.

- 
 -  [Tuning Software](#) 2015-12-17 16:35:40
 -  [Galaxy Ver 3](#) 2016-03-02 18:31:16
 -  [Galaxy Installer \(PARTIAL\).exe](#) 2016-03-02 18:53:52 24.07MB
- [http://www.spitronics.co.za/downloads/Tuning%20Software/Galaxy%20Ver%203/Galaxy%20Installer%20\(PARTIAL\).exe](http://www.spitronics.co.za/downloads/Tuning%20Software/Galaxy%20Ver%203/Galaxy%20Installer%20(PARTIAL).exe)




The Galaxy Install Guide

- 
 -  [Tuning Software](#) 2015-12-17 16:35:40
 -  [Galaxy Ver 3](#) 2016-03-02 18:31:16
 -  [Galaxy Install Guide.pdf](#)
- <http://www.spitronics.co.za/downloads/Tuning%20Software/Galaxy%20Ver%203/Galaxy%20Install%20Guide.pdf>

The Galaxy Manual




- 
 -  [Manuals](#) 2016-03-10 08:15:22
 -  [Galaxy Mercury2 Neptune2 Pluto Manual 30_09_2015 \(under construction\).rar](#)
- [http://www.spitronics.co.za/downloads/Manuals/Galaxy%20Mercury2%20Neptune2%20Pluto%20Manual%2030_09_2015%20\(under%20construction\).rar](http://www.spitronics.co.za/downloads/Manuals/Galaxy%20Mercury2%20Neptune2%20Pluto%20Manual%2030_09_2015%20(under%20construction).rar)

The Drawings Manual

- 
 -  [Manuals](#) 2016-03-10 08:15:22
 -  [Drawings Pluto Mercury2 Neptune2 10_03_2016.rar](#)
- http://www.spitronics.co.za/downloads/Manuals/Drawings%20Pluto%20Mercury2%20Neptune2%2010_03_2016.rar

Optional links and direction of info on the website.

The Firmware Programmer (USB Debug Adapter)

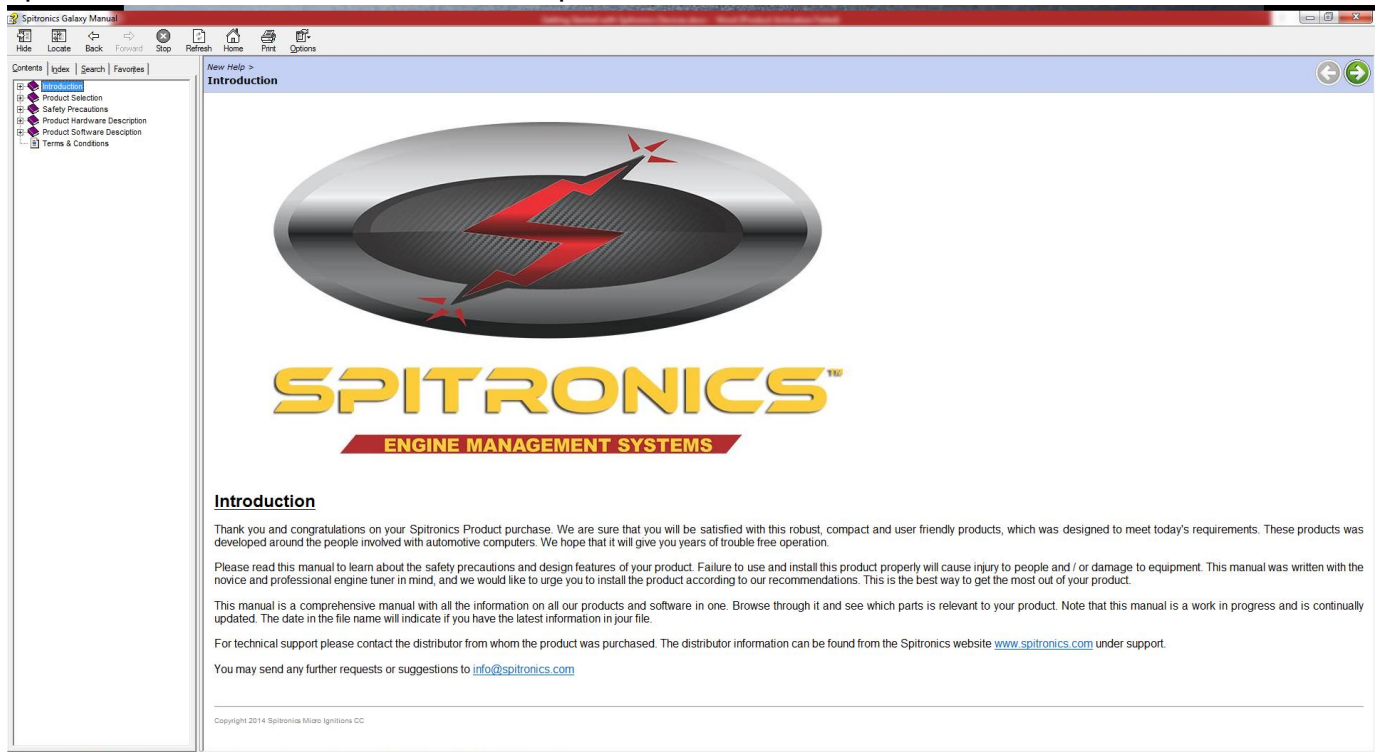
- 
 -  [Firmware Programmer](#)
 -  [mcu_ide.exe](#)
- http://www.spitronics.co.za/downloads/Firmware%20Programmer/mcu_ide.exe

Installation of Software, Drivers and Manual

Manuals

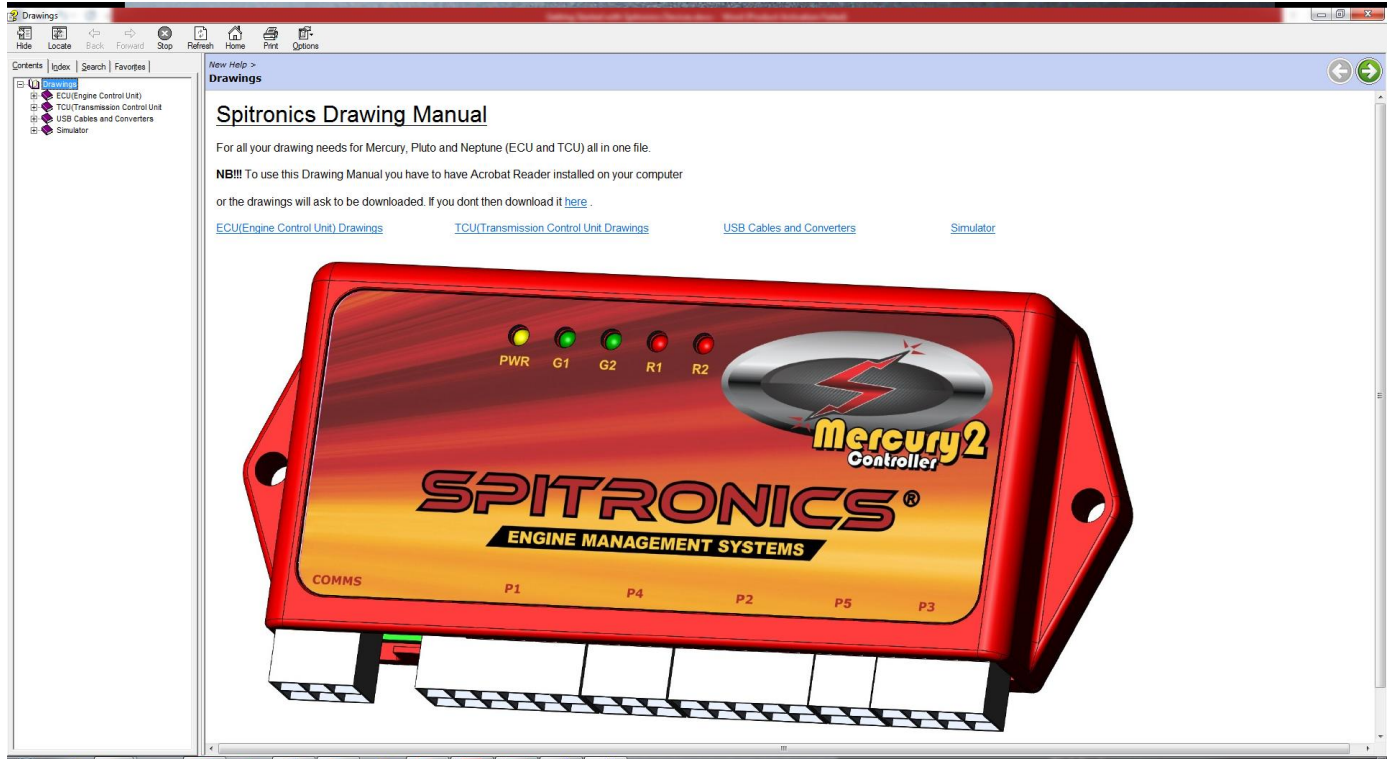
Galaxy Manual

Click with the mouse on the blue [Galaxy Manual](#) link under the Useful Links topic. The browser should download the Manual in the downloads folder. Sometimes the antivirus programs will block the content of HTML files or ask you permission if you want the content. Say yes to keep content. The file is compressed with WinRAR which is freeware software. Un-compress the file. If you open the file and the data is not complete, close it and right click on the icon and give it permissions to open the data. Again this is a windows virus protection feature. Then open the file and it should look like the picture at the bottom.




Drawings Manual

Click with the mouse on the blue [Drawings Manual](#) link under the Useful Links topic. The browser should download the Manual in the downloads folder. Sometimes the antivirus programs will block the content of HTML files or ask you permission if you want the content. Say yes to keep content. The file is compressed with WinRAR which is freeware software. Uncompress the file. If you open the file and the data is not complete, close it and right click on the icon and give it permissions to open the data. Again this is a windows virus protection feature. Then open the file and it should look like the picture at the bottom.













USB Drivers


Click with the mouse on the blue [The USB / UART communication cable](#) link under the Useful Links topic. The browser should download the drivers in the downloads folder. The drivers file is compressed with WinRAR which is freeware software. Un-compress the file. After uncompressing there should be a folder created as below.

 CP210x_VCP_Windows

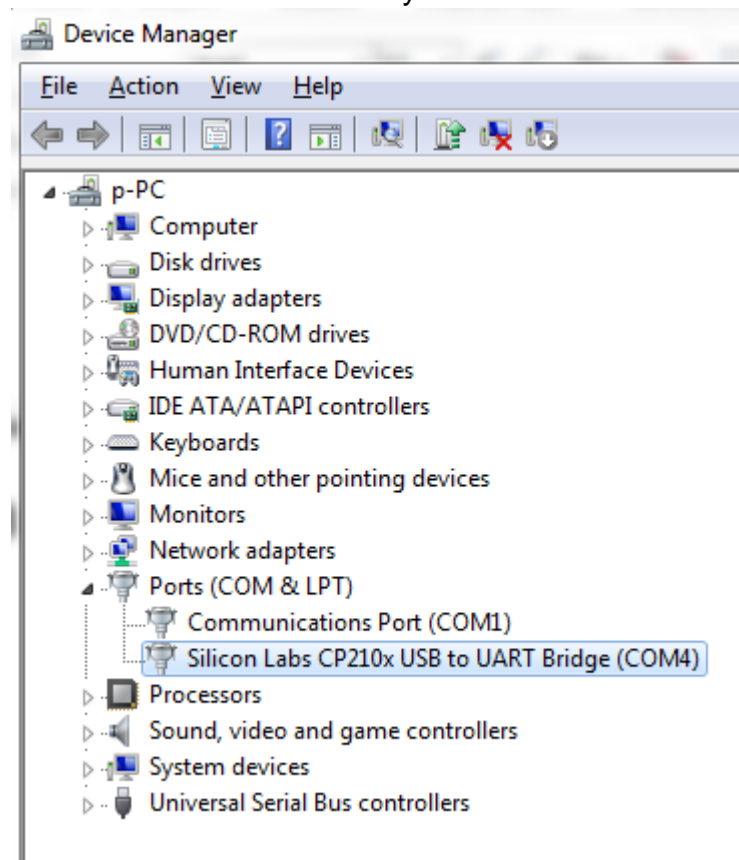
Go into the folder and you should see the following.

Name	Date modified	Type	Size
 x64	11-Apr-14 11:56 PM	File folder	
 x86	11-Apr-14 11:56 PM	File folder	
 CP210xVCPInstaller_x64.exe	11-Apr-14 11:56 PM	Application	1,026 KB
 CP210xVCPInstaller_x86.exe	11-Apr-14 11:56 PM	Application	901 KB
 dpinst.xml	11-Apr-14 11:56 PM	XML Document	12 KB
 ReleaseNotes.txt	11-Apr-14 11:56 PM	Text Document	11 KB
 SLAB_License_Agreement_VCP_Windows...	11-Apr-14 11:56 PM	Text Document	9 KB
 slabvcp.cat	11-Apr-14 11:56 PM	Security Catalog	12 KB
 slabvcp.inf	11-Apr-14 11:56 PM	Setup Information	5 KB

If you have a 64bit computer then run the file called  CP210xVCPInstaller_x64.exe

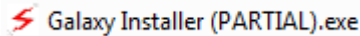
For 32bit computer run the file called  CP210xVCPInstaller_x86.exe

After you installed the driver plug the USB /UART cable into the computer and the cable will be activated. In the device manager you should see the block below in com ports. This means the drivers are installed correctly.



Tuning Software

Click with the mouse on the blue [Ver 3 Galaxy Tuning software](#) link under the Useful Links topic. The browser should download the file in the downloads folder. The file is compressed with WinRAR which is freeware software. Un-compress the file. After uncompressing there should be a file created as below.

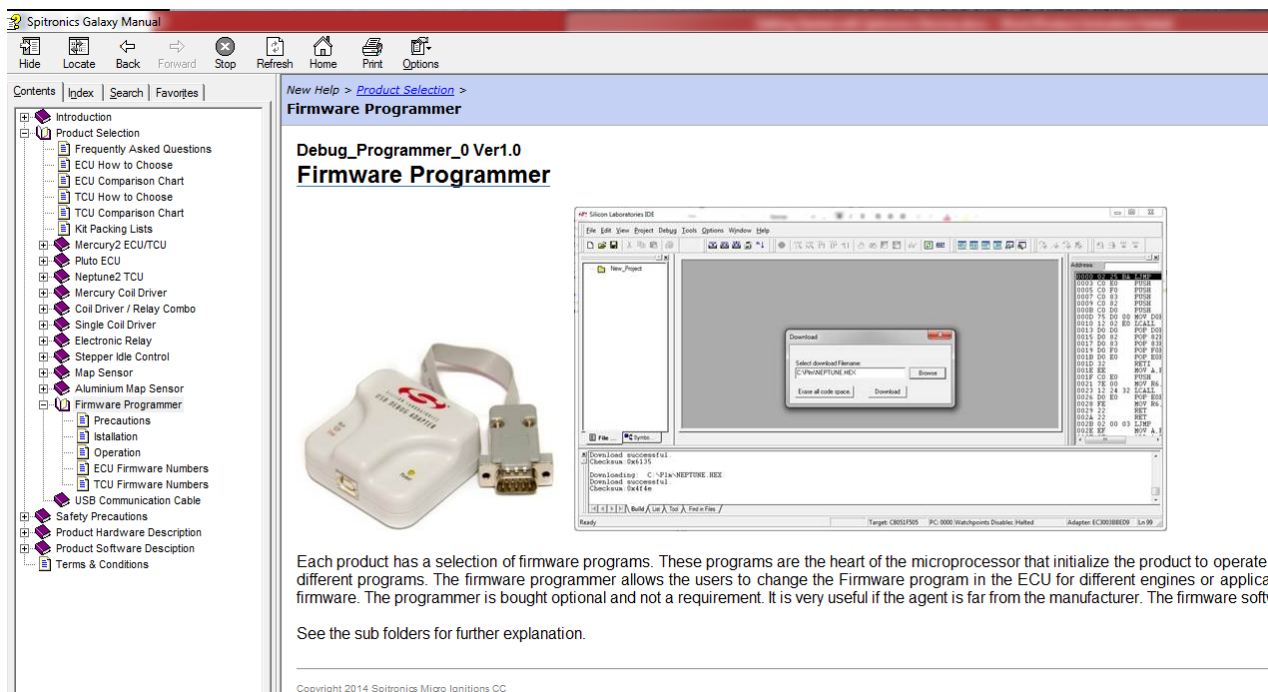


Run the file and Galaxy will be installed on the computer.

Click with the mouse on the blue [The Galaxy Install Guide](#) link under the Useful Links topic. The browser should download the file in the downloads folder. The file is a PDF file that is a guide on how to install the Galaxy properly.

Firmware Programmer

In the manual is a complete description of how to install and operate the Firmware Programmer. Again very important is the **Precautions**. Read them carefully. Never press the **Erase All Code Space button**. It will render the product useless and it will have to be returned to the factory. Below is a screen shot of where you can find it in the Galaxy Manual.



The screenshot displays the Spitrionics Galaxy Manual interface. On the left is a navigation pane with a tree view containing sections like 'Introduction', 'Product Selection', 'Frequently Asked Questions', 'ECU How to Choose', 'ECU Comparison Chart', 'TCU How to Choose', 'TCU Comparison Chart', 'Kit Packing Lists', 'Mercury2 ECU/TCU', 'Pluto ECU', 'Neptune2 TCU', 'Mercury Coil Driver', 'Coil Driver / Relay Combo', 'Single Coil Driver', 'Electronic Relay', 'Stepper Idle Control', 'Map Sensor', 'Aluminum Map Sensor', 'Firmware Programmer', 'Precautions', 'Installation', 'Operation', 'ECU Firmware Numbers', 'TCU Firmware Numbers', 'USB Communication Cable', 'Safety Precautions', 'Product Hardware Description', 'Product Software Description', and 'Terms & Conditions'. The 'Firmware Programmer' section is selected. The main content area shows the title 'Debug_Programmer_0 Ver1.0 Firmware Programmer'. Below the title is a photograph of the 'Firmware Programmer' hardware device, which is a small white plastic box with a red lightning bolt logo and a USB cable. To the right of the photo is a screenshot of the 'Spoon Laboratories IDE' software interface. The IDE shows a 'Download' dialog box with the option 'Erase all code space' checked. The background of the IDE shows a memory map with addresses and data values. At the bottom of the manual page, there is a copyright notice: 'Copyright 2014 Spitrionics Micro Ignitions CC'.

Each product has a selection of firmware programs. These programs are the heart of the microprocessor that initialize the product to operate different programs. The firmware programmer allows the users to change the Firmware program in the ECU for different engines or applica firmware. The programmer is bought optional and not a requirement. It is very useful if the agent is far from the manufacturer. The firmware soft

See the sub folders for further explanation.

Copyright 2014 Spitrionics Micro Ignitions CC

Connecting a Product to Galaxy for the first time.

By now you should be familiar with the product and information around it. The chapters you should read before attempting to start is the ***Safety Precautions*** first making sure you prevented the obvious faults that could damage the unit or components of the engine.

Secondly you should follow the ***Startup Procedure*** step by step as it is explained in the manual. Do not attempt to take shortcuts and try to start. If you missed some points in the setup, the ECU or engine components could be damaged. Each Product differs and has its own unique way in the Startup Procedure. Each point is numbered and you can reference this number to the dealer to ask him for advice. If the number does not function correctly do not go further till it is solved. Failing to do so may damage the unit and inflict repair costs for your account.

Below is a screenshot where you can find it in the manual.

