This is the Getting Started Guide for VM2 Starter Kit 2.

Kit Contents

As well as this guide, you should have the following in your kit:

- VM2 Application Board 3 (5922)
- VM2D Control Computer (5907)
- Hitachi TFT (QVGA, 5.7")
- Hitachi TFT Display Adaptor Kit (5908)
- VM2 Lithium Battery – clock and memory backup (5903)
- Serial Lead
- USB to Serial Adaptor – in case your PC has no COM port.
- Power Supply (12V)

Connecting it all up

The VM2D controller, Lithium battery, and Application Board are supplied fitted together.
The TFT Display and Adaptor kit are also supplied fitted together. Don't connect the TFT Display/Adaptor assembly into the Application Board assembly until later.

Power to the Application Board comes in via the two-way plug-in screw terminal connector. The kit includes a power supply with pre-wired screw terminal plug. Plug this into the power connector – it will only fit in one connector. Don't turn the power on just yet.

Connect the Application Board's Serial 1 to your PC's COM port using the Serial Lead provided.
If you don't have a COM port on your PC then you can use the USB to Serial Adaptor supplied (see the instructions in the USB adaptor package).

Installing VenomIDE on your PC

VenomIDE is the VM2's development environment. You can download it from our website. VenomIDE is intended for Windows 7 and 8. It may work on other versions of Windows but this has not been tested. If you can't use VenomIDE for any reason you can still program the VM2 – see the next section.

1. Download and install VenomIDE from www.microrobotics.co.uk/software/ide.html
   This will download Windows' *.NET 4.5* first, if you don't already have it.
2. Start VenomIDE by double clicking on the VenomIDE icon on your desktop.
3. You may get an error box if your PC doesn't have COM1 – this is OK.
4. Select the COM port you are using in the menu `Terminal>Terminal settings`.
5. Set the *Prog Mode* DIP switch on the Application Board to ON. All the other switches should be OFF.
6. Turn on the power. You should see the Venom2 startup message on your terminal screen:

```
VM2 Control Computer running Venom2 at 72MHz
Version 2013 06 10
Copyright 2008-2013 Micro-Robotics Ltd.
Clear RAM?
```

While the controller is waiting at the prompt, its LED will turn on as an indication that it is powered but in program mode, and so not running an application. [If you have left the VM2 in RUN mode the LED will either flash or be unlit, and you will see the `"-->"` prompt in the terminal window]

If you don't get any message at all, then switch the power off and check the power connection, serial connection, DIP switches, and that the VM2 module is plugged into the Application Board correctly.
Check the IDE terminal configuration in the menu `Terminal>Terminal settings`: it should be set to 115,200 baud, Hardware handshaking, and the COM port setting should be the port the VM2 is physically connected to.

Tutorial

You should now open the Venom Tutorial: use the menu `Help>Venom2 Tutorial`.

Get the latest version of Venom2

Because we are frequently updating Venom2 with bug fixes and new features you are recommended to download the latest version of the Venom2 Language from our website
www.microrobotics.co.uk/software/downloadvenom.html
You can reprogram the VM2 using the menu `File>Download new VM2 OS…`

Using the TFT display

To use the TFT display, connect the TFT Display/Adaptor assembly into the Application Board assembly using the 40-way ribbon cable. We supply code for a Simple Menu Template application on our website.

Not using VenomIDE

If you can't use VenomIDE for any reason you can still program the VM2 using any terminal emulator and text editor – for example HyperTerminal and Notepad.

Set up the terminal emulator communications protocol as follows:

Baud Rate	115,200
Data Bits	8
Stop Bits	1
Parity	None
Handshaking	Hardware

Set the *Prog Mode* DIP switch on the Application Board to ON. The other switches should be off.
Turn the power supply on. You should see the VM2 startup message on your terminal screen:

```
VM2 Control Computer running Venom2 at 72MHz
Version 2013 06 10
Copyright 2008-2013 Micro-Robotics Ltd.
Clear RAM?
```

While the controller is waiting at the prompt, its LED will turn on as an indication that it is powered but in program mode, and so not running an application. [If you have left the VM2 in RUN mode the LED will either flash or be unlit, and you will see the `"-->" prompt` in the terminal window]

If you don't get any message at all, then switch the power off and check the power connection, serial connection, DIP switches, and your terminal configuration.

You should now download and read the *Venom Tutorial* from our documentation page
www.microrobotics.co.uk/software/documentation.html

You will also need to download the reference manual: The *Venom2 Help File.*

Get the latest version of Venom2

Because we are frequently updating Venom2 with bug fixes and new features you are recommended to update your VM2 to the latest version of the Venom2 Language (available from our website
www.microrobotics.co.uk/software/downloadvenom.html). However, currently the only way for users to program the VM2 is using Windows tools – for example our *VenomIDE* or ST Micro's flash loader tool for STM32. Please contact us for other possibilities.