

How to control the Softmark USB Stepper Motor Card from your own application



Ver 2.0 (W9X and W2K) of software to control
Softmark's USB I/O Card, USB Relay Card, USB 4 Channel Voltmeter
and USB Stepper Motor Card

Softmark has designed a new version of an ActiveX.

After installing the USB.OCX on your PC, please run the sample (VB6) from disk 2 (installation disk). The sample includes source code and will guide you on how to control the Softmark Stepper Motor Card from your application. This sample code can be modified in any way by you.

Note that this version of the ActiveX is compatible with previous versions used to control Softmark's USB I/O Card, USB Relay Card, and USB Stepper Motor Card.

The installation process is typical and should not cause any difficulty. If a Windows message asks you if you would like to overwrite a file, you can choose "No." Other following messages can be ignored.

Information on how to install the ActiveX on your PC can be downloaded from our website www.ar.com.au/~softmark

The ActiveX will help you to write data to Port P0 or P1. Sample application with code attached will explain what is sent to Port P0 (stepper motor 1). There are only four values to be sent in order to generate one step.

Changing the speed or setting the number of steps is also explained in the sample application. It is a very simple process. It takes up only 8 lines of code. The OCX does the rest of the job. This flexibility can be used to develop software to run other stepper motors controlled by this kit.

Sample code is done on VB6 but it will be similar if you use the USB.OCX on other platforms, for instance VC++ or any other language which can use ActiveX components.

Softmark's USB_DOS.exe tool can also be used to control the Stepper Motor Controller from DOS and Windows platforms.

By pressing the "Forward" button, the stepper motor will move a set number of steps with the selected speed. Note that the source code only refers to stepper motor 1. A similar process will occur to drive motors 2, 3 or even all of the motors from your application.

Figure 1. below shows the control panel of the supplied sample application.

Note:

USB.OCX (USB ActiveX Component) is distributed as a separate package and can be used with Softmark's USB I/O Card, USB Relay Card, USB 4 Channel Voltmeter and USB Stepper Motor Controller. This tool will be updated for all Softmark USB products and updates will be provided free of charge.



Figure 1. Virtual panel of the sample application to control the USB Stepper Motor Controller.

Important Note:

If mains power interruption happens for both your computer and the power-supply used to power your USB Stepper Motor Controller, the computer is automatically reset but the power supply for the Controller will still be on when the mains power comes back. The Controller will not be running because the computer is off and stepper motors can get **overheated**.

If mains power interruption occurs, it is strongly recommended that you **switch the power supply (+VCC) to the Controller off**. This problem can be avoided if the power supply for the Controller is powered from the computer (additional power outlet in computer used to power monitor). But this may not apply to all computers. If your computer has been reset by the mains power interruption, you will not get the power coming through the computer to power the Controller.

Note also that the power supply used should have a current limitation as the maximum current for the Controller's driver is 500mA per coil.

If you develop your own software (or modify our sample software) for the Controller, you can use the TP pins from the RISC processor to switch on 12V to the Controller via an additional transistor.

If TP line is zero (due to power interruption and computer reset), the computer (your own Controller software) will not generate logic high to switch this transistor.

Using the TP line will prevent the overheating of stepper motors where mains power interruption occurs.

If you have any questions or are concerned about this issue, please contact softmark@ar.com.au