TRIO
MOTION TECHNOLOGY

Doc No.:	**AN-266**
Version:	**1.1**
Date:	**01 June 2011**
Subject:	**POWER_UP auto EPROM feature**

APPLICATION NOTE

1. Introduction

As detailed in AN-219 it is possible to corrupt a project on a controller when it is run on power up from RAM or if the battery fails. When the project is run from EPROM on power up it is not possible to corrupt the project. Motion Perfect 2 has many warning to help the user save the project to EPROM but to ensure that your project is never run from RAM there is a new mode to POWER_UP. The new mode will save any changes to the project to EPROM on the next power cycle and EPROM is always selected for power up.

To use this new mode simply type the following into the command line:

```
>>POWER_UP=3
>>EPROM
Erasing Application area of FLASH
Programming
Verifying
>>
```

This will set the automatic EPROM mode and store the project to EPROM. Any changes to the project are now automatically saved to EPROM and EPROM is permanently selected on power up. If you want to know the full details of the command please read the following section.

2. POWER_UP

Required Version:

MC224, MC206X, Euro205, Euro209, PCI208. Firmware version 1.6727 or newer, or the lookahead version 1.7 or newer.

Type:

Flash EPROM stored System Parameter

Description:

The project is loaded from either Flash EPROM or from battery backed RAM when the controller powers up or performs a software reset(EX). The project can be stored to the EPROM manually or automatically. POWER_UP lets the user configure how the project is saved and loaded.

Warning:

Programs can only be edited in RAM, Motion Perfect 2 will switch to working from RAM if required. If you leave the programs to run from RAM there is a chance that the program directory may be corrupted. To ensure that the program directory is never corrupted always leave your programs in EPROM.

If only bit 0 is used then the user is responsible to store the program in EPROM, Motion Perfect 2 will suggest when to store the project. When bit 0 is set then the project is loaded from EPROM, otherwise it is loaded from RAM.

If bit 1 is set then Motion Perfect 2 will still provide the warnings but on power up or after a software reset the controller will copy the project to EPROM if bits 1 and 2 are set. When using bit 1, bit 0 is only used to provide the warning in Motion Perfect 2, the project is never loaded from RAM.

Bit 2 is a read only flag to indicate that the programs in RAM have been changed and need saving, it is set automatically as you edit your program.

Note:

It is only possible to read and set bit 1 when using the terminal in disconnect mode of Motion Perfect 2.

Parameters:

value:

Bit	Description	Value
0	Select RAM or EPROM on power up.	1
1	Auto EPROM mode (can only be read/ set when using the terminal)	2
2	Program changed flag (read only)	4

Example:

By setting bit 1 in the command line the project will run from EPROM on power up. To ensure the EPROM has the correct program EPROM is called to save the RAM to EPROM. This is only necessary once, any changes to the project after this sequence will automatically be saved. When starting a project this is the recommended action to ensure that the project directory will never be corrupted.

```
>>POWER_UP=3
>>EPROM
Erasing Application area of FLASH
Programming
Verifying
>>
```

See Also:

EPROM, RUNTYPE