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# Release Notes
# MC58110 version 1.5

***Document last updated:*** 7/24/2005

***Product names***: MC58110
***Source control archive name***: mc58110 version 1.5
***Device Checksum:*** 581100015.bin 0xFD3860D2
***Date of build:*** 7/14/2005

***Description:***
The MC58110 is a motion control processor for servo and stepper motors and provides one axis of motion. This document details bug fixes and changes for this release.

***Known Issues:***
none

***Incompatibilities with previous version:***
none

***Known Bugs:***
Refer to current Magellan bug list located at
http://www.pmdcorp.com/support/release_notes.cfm

***Changes/Fixes:***

Command Changes

| | |
|---|---|
| 90141 | Executing SetEncoderSource 0 for axis>1 after a power on or reset corrupts the actual position. Fixed. |
| 90138 | Breakpoint motor off behaves differently to SetMotorMode Off. Fixed. |
| 90134 | SetMotorMode On can result in a motion error is the position error limit has been exceeded during open loop operation. Fixed. |
| 90133 | SetMotorType returns corrupted data if the sample time is changed. Fixed. |
| 90130 | SetStepRange only works if motor type is step. Fixed. |
| 90129 | Multiple checksum reads produce unexpected results for “Set” commands. Fixed. |
| 90119 | “Set” command error – same as bug#90129 |

Communication Changes

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|---|---|
| 90139 | A good serial response incorrectly clears the HostIOError register. Fixed |
| 90136 | In serial multi-drop mode the chip response latency scales with baud rate. Fixed. |
| 90135 | In serial idle-line multi-drop mode there is occasional bad communication. Fixed. |
| 90127 | If SetCANMode is issued while the processor is in serial multi-drop mode the chip will stop responding. Fixed. |

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| 90109 | Serial communication to the processor is lost if a command is sent with the incorrect (too many) number of bytes. Fixed. |

Trajectory Generation Changes

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|---|---|
| 90131 | Incorrect position data could be used when switching to electronic gearing mode. Fixed. |
| 90122 | S-curve starting position symmetry. Fixed. |
| 90114 | In trapezoidal profile mode, if the trajectory velocity is set to below the value of the StartVelocity once a trajectory is running, the trajectory should stop. Fixed. |
| 90113 | In trapezoidal mode, if the trajectory velocity has been set to zero (SetVelocity 0) and the StartVelocity is > 0 issuing an update results in the trajectory jumping to -1. Fixed. |
| 90112 | StopMode has no effect if StartVelocity is greater than zero. Fixed. |

PWM/DAC Signal Output Changes

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|---|---|
| 90140 | In 2-phase PWM5050 mode MagC does not produce a 50% signal. Fixed. |
| 90120 | 2-phase PWM S/M output produces incorrect phase B magnitude signal. Fixed. |

Step Signal Output Changes

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|---|---|
| | none |

Servo Filter Changes

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| 90142 | An invalid overflow can occur in the second biquad filter. Fixed. |
| 90125 | The motor bias is applied before the biquad filters but it should be applied after them. Fixed. |
| 90123 | The motor limit is applied before the biquad filters but it should be applied after them. Fixed. |
| 90111 | The biquad filter does not round-off a negative output value correctly. Fixed. |

Commutation Changes

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|---|---|
| 90110 | Index-based phase correction does not work when phase pre-scale is enabled. Fixed. |

Registers and Signals Changes

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|---|---|
| 90128 | When in S-curve profile mode the maximum velocity flag located in the activity status register is not reliable. Fixed. |

Miscellaneous Changes

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| 90137 | GetActualVelocity is not cleared for step motor type when the axis stops moving. Fixed. |
| 90116 | The ParallelEnable signal is not checked at device startup. Fixed. |

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| 90115 | If a trigger based trace stop is programmed, the trace stops prior to the final sample being stored. Fixed. |
| 90108 | A limit switch event does not clear the position error. Fixed. |

# Version 1.4

***Known Issues:***

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| None |

***Incompatibilities with previous version:***

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| Format of CAN command response packet has changed. See below. |
| SetMotorType functionality has changed slightly. See below. |
| DAC output address of phase A/B reversed. See below. |

***Known Bugs:***

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|---|
| None |

***Changes/Fixes:***

Command Changes

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|---|
| Fixed a problem with SetEncoderToStepRatio. |
| Fixed a problem in SetActualPositon for an axis that had its motor type configured as pulse and direction or microstep. |
| Fixed a problem in SetPrescaleMode that resulted in this command having no effect unless InitializePhase or SetCommutationMode was also issued. |
| Modified SetMotorType so that when it is called it results in the same default values as when a reset has occurred for the selected motor type. |

Communication Changes

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|---|
| Corrected a problem in CAN communication that resulted in a command with the wrong number of data words returning the wrong error code. |
| Changed the placement of the error code returned via CAN. Previously the error code was contained in the first byte of the returned packet. Now the first byte is always zero and the second byte contains the error code, or zero if no error occurred. |
| Corrected a problem in SetSignalSense that could result in the encoder position being reset. |

Trajectory Generation Changes

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| Corrected a problem in s-curve profile mode when the fractional time for motion in segment 4 is less than 1.0 cycles. |
| Corrected a problem in s-curve profile mode for moves that start and end at a large negative position. |
| Corrected problems in velocity contouring profile mode for moves that have very large velocities or acceleration. |
| Corrected a problem in trapezoidal profile mode for long negative moves with large velocities. |
| Corrected a problem in trapezoidal profile mode for moves with low velocities but high acceleration/deceleration. |
| Corrected a problem in trapezoidal profile mode for very fast moves that resulted in corrupted values for the final commanded velocity and acceleration. |
| Corrected a problem in trapezoidal profile mode when start velocity was not zero. |
| Corrected a problem in trapezoidal profile mode when using a high start velocity. |
| Corrected a problem in trapezoidal profile mode for moves with high velocity and acceleration that resulted in overshoot at the end of the move. |
| Corrected a problem in trapezoidal profile mode for moves where the move was greater than half of full scale. |

PWM/DAC Signal Output Changes

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| When DAC output is selected, phase A is now output to the base address and phase B is output to the base address + 1. This make the operation of the device inline with the documentation. |
| Corrected a problem with unipolar DAC output when the value being output is full scale negative. |
| Corrected a problem in PWM output for 2-phase motors. Previously the same value was being output to phase A and B. |

Step Signal Output Changes

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| none |

Commutation Changes

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|---|
| Corrected a problem in algorithmic phase initialization where the motor command is not set to zero immediately after the final stage of the initialization process. This previously resulted in a small jump of the motor at the end of the initialization process. |
| Corrected a problem with algorithmic phase initialization that caused it to not initialize the motor. |

Registers and Signal Changes

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| Corrected a problem in SrlEnable line when using multi-drop mode. Following a reset this signal will go low. Previously it was high which prevented the chip from communicating. |
| Corrected a problem in SrlEnable line when using multi-drop mode. Following a SetSerialPortMode command that selects multi-drop mode this signal will go low. Previously it was high which prevented the chip from communicating. |

Miscellaneous Changes

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| none |