



*Micromega Corporation*

# Release Notes

## uM-FPU64 Firmware

### Release 407

## Changes in Release 407

Note: uM-FPU64 Firmware release 406 was not made available as a separate general release, all changes in release 406 are part of release 407.

### Highlights

- a major change to the Flash memory storage format was implemented to increase the available memory from 4096 bytes to 6144 bytes, and to provide support for additional features planned for future releases.
- added support to the DEVIO, LCD instruction for interfacing with LCD using an I<sup>2</sup>C interface

### New Features and Changes

- DEVIO, SPI: added support for optionally holding MOSI line high during read
- changed SPI software reset sequence to check for SIN low throughout the reset delay
- DEVIO, MEM: fixed problem with read functions
- FWRITE: if PICMODE is set, PIC to IEEE conversion is not done if instruction is executed inside a user function (since instructions inside user functions use IEEE constants)
- fixed error that occurred in FTOA when rounding certain numbers (e.g. 1.99999999)
- new Flash memory storage method implemented
- Flash memory size increased from 4096 bytes to 6144 bytes
- Flash memory programming now uses boot loader routines
- changed reset command from \$R to \$X
- \$X command: added check for optional carriage return before reset
- changed F command to read Flash memory page as ASCII in proprietary format
- added new \$F command to read Flash memory page as binary in proprietary format
- removed M command (display RAM)
- TABLE: changed instruction to return result in register 0
- TABLE: changed instruction to return zero if index is out of range
- ADDIND: corrected the check for pointer overflow

- SAVEIND: corrected problem with memory pointer updates when auto-increment enabled
- DEVIO, LCD: added support for interfacing with LCD displays using an I<sup>2</sup>C interface