

SimplIQ 2.02.07.00 10May Release Notes

(revised June 12, 2006)

The following are the main modifications that were made from the last official release **SimplIQ 2.02.06.00 07July2005**.

New Products:

- **Didge**

New Feedbacks:

- Coarse-Fine absolute analog encoder
- Absolute rotary positional sensor– EnDat 2.1 format from Heidenhain (minimum of 32 position counts per one electrical cycle)
- Absolute rotary position sensor- HiperFace format from Sick-Stegmann (minimum of 32 position counts per one electrical cycle)

New Features:

- Temperature indication– TI[] command. Indicates the actual drive temperature in Celsius. Temporarily, this feature is available only for the Whistle and Didge products.
- Manual commutation sensor update– TW[63] command. TW[63]=value, where ‘value’ is the commutation angle in position counts.
- Low pass filter was added to the Digital Halls sensor to improve speed-reading.
- CAN- Object 0x2F20 supports a trigger event, which causes a transmission of TPDO when the motion status goes from 0 to non-0 (MS = 0 → MS > 0).
- CAN- Allowing the target to be reached in UM=3 in DS402 profile position mode.
- Encoder over CAN- Implementation of follower mode over a CANopen network. This mode allows for connecting DSP406 CANopen encoders to the auxiliary feedback.

List of Firmware Corrections:

- Analog input #1 is saturated to ±9.866Volts to improve the linearity of the A/D line driver.
- 16 bit resolution in the Resolver is possible. Previously the position could not be updated.
- PWM saturation has been adjusted for DC brush motors to support Whistle sampling technology.
- AN[7] reports the signed duty cycle value of the PWM signal after an offset correction in fractional units. An AN[7] query is also available via CAN communication.
- For analog encoder applications, a substantial improvement in the calculation offset value for the sine signal (CA[11] parameter). The Composer software performs the computations before the commutation alignment process.
- Stable analog signal reading (AN[1] and AN[2] queries) in stepper mode (UM=3).

- Improvements in the motor-on commutation search process (auto-phasing) for digital incremental encoder and analog encoder feedbacks in current mode (UM=1), when an external reference generator is active (RM=1).
- For all unit modes, an algorithm for smoothing updates of the stepper angle to its correct value after the auto phasing process has been inserted.
- Correction to the Motor Status indication (MS command) around VH[3]/VL[3] limits in the position mode
- In position profile mode, when the absolute position target (PA) was set to the position software limits (VH[3]/VL[3]), there were occasions when the position command was overshoot.
- Correction to the index polarity trigger for Main and Auxiliary homing sequences
- When using PWM switching multiplication, on certain occasions a 'Timing Error' fault was generated. This timing calculation has been corrected.
- CAN: DSP402 Torque mode. The upper/ lower borders around zero for the target current reach flag is now defined by the user and not as percentage of the CL[1].
- CAN: DSP402 Interpolated Position Mode – the linearity of the velocity has been improved.
- CAN: DSP402 Interpolated Position Mode – on some occasions, the velocity on the first interval jumped. This, however, did not affect the rest of the trajectory.

Application and Firmware Download

In order to maintain compatibility, it is essential to download the firmware only after uploading an existing application. An application includes the amplifier database and user program. After downloading the firmware, download the application to the drive. During this procedure, any data is converted and the user program (if it exists) is compiled before it is downloaded.

List of the obsolete Commands:

Since this release, the following commands are not supported by the new firmware:

- HV[] command
- SY command