

Firmware Build_FW1038_FF1243 (03.06.2012)
DspFirmware: Build 1038
Release Date: 2013-05-28 13:59:00 +0200 (Mo, 03 June 2013)
SVN Revision: Revision: 15127
RLID: 4&5&6 & 16
Remarks: supporting RevB&RevC and TSP350&700 Drives, using new PWM interface

Changes since last Build:

- NEW: TSP350/700 adjust brake voltage depending on BridgeVoltage upperLimit param
- NEW: implemented FW download for TSx5x RevD drives
- CHG: allow setOperational if drive is already in operational state
- CHG: prevent from noisy limit cycles (standstill) if using digital encoder
- CHG: get the user a chance to reset NoValidTamaCodeAvailable fault within disabling persistent tama start options
- CHG: allow velocity = 0 for discrete and continuous moves
- CHG: allow changes of path planner parameters if not moving or if moving path will be reprogrammed immediately
- CHG: reject unimplemented Torque move commands
- CHG: speedup FW download within less protection accesses
- CHG: prepared speedup FW download (program used bytes only)
- CHG: removed support for unused SST flash chip
- FIX: correct implementation of combined drive command (ResetFault and SwitchOn)
- FIX: correct offset check in register read/write (upper level check was wrong)
- FIX: do not watch STO bits if hardware is TS150..TS351 Rev B

SPECIAL_VERSION (not released)

- 1038_1 implementation for special summation inputs via TamVars for iD with TamVar2, iQwith TamVar3 and position X with TamVar4. Do not use TamVars(2..4) in Tama prog if FW 1038_1 is installed!
- 1038_2 implementation for compensation of nonlinear PWM output using TamVar0(y0) and TamVar1(u0). Do not use TamVar0&1 in Tama prog if FW 1037_8 is installed!

FpgaFirmware: Build 1243
Release Date: 2013-05-28 13:59:00 +0200 (Mo, 03 June 2013)

Changes since last Release:

- TLC100 reset behaviour bugfix. Adding ready led to the TLC100 device
- TAD4 support
- Refactoring of the Tria-Link fifos and router (reset behaviour)
- Trialink router: broadcast to broadcast skip
- Trialink Status/Control bugfix (Unresolved timeout)
- new hardware type TLO300 (PciE trialink master with USB observer)
- refactoring of the table feeder (thread safe control and status signals)
- refactoring of the encoder analog signal logger with more memory and trigger
- monitor communication with 32 bit crc calculation and automatic detection of the communication mode
- TL300 Rev. 0 release, TL300 Rev. Z no longer supported
- new hardware type TLO100 (Pci Tria-Link master with USB observer)
- refactoring of encoder autocalib (removal of old style external encoder calibration)
- new encoder latching features in encoder device:
 - analog and digital encoder latching with selectable index marker source
 - analog encoder fast phase signal logging
- refactoring of the encoder position filter
- refactoring of the current filter
- refactoring of the digital in/out routing
- position and current filter device with multiple filter selection
- pwm soft turn off time reduced from 10us to 1us
- time stamp starts at 0xFE001F00. This leads to the first wrap after 335s. the next wrap will be 12h later.
- the pci interface time stamp update rate changed from 100us to 10us.

Firmware Build_FW1037_FF1159 (22.10.2012)**DspFirmware: Build 1037****Release Date: 2012-10-05 15:50:17 +0200 (Fr, 05 Okt 2012)****SVN Revision: Revision: 14015****RLID: 4&5&6 & 16****Remarks: supporting RevB&RevC and TSP350&700 Drives, using new PWM interface**

Changes since last Build:

- NEW: implemented modulo handling on actual position in disabled state
- CHG: rework on multi axes move commands (removed serialization)
- CHG: changed startup setting default addresses (1,xff,xff,xff)
- CHG: implemented BridgeVoltageWarning behavior in ReadyToSwitchOn state. Changed drive state machine, added startup state, event ResetFault leads to NotReadyToSwitchOn state now (see SWSCN001_DriveWarningConcept_EP002.pdf for more informations)
- CHG: update watchPIINotLockedFault flag if startup setting have changed
- CHG: update and change timestamp source if timestamp startup setting have changed
- CHG: changed implementation of flash access due to thread safety problems
- FIX: improved handover of events from async to sync task. (prevents from losing events)

SPECIAL_VERSION (not released)

- 1037_1 implementation for special summation inputs via TamVars for iD with TamVar2, iQwith TamVar3 and position X with TamVar4. Do not use TamVars(2..4) in Tama prog if FW 1037_1 is installed!
- 1037_2 implementation for compensation of nonlinear PWM output using TamVar0(y0) and TamVar1(u0). Do not use TamVar0&1 in Tama prog if FW 1037_2 is installed!

FpgaFirmware: Build 1159**Release Date: 2012-07-02 12:11:02 +0200 (Mo, 02 Jul 2012)**

- 1) TSP700 center control error level increased from 36V to 72V
- 2) Encoder analog filter configurable by encoder local bus register 0x43.
Default is 0xC, can be set to 0x9 or 0xA to increase the encoder counting frequency up to 600kHz.

Firmware Build_FW1036_FF1159 (not released)**DspFirmware: Build 1036****Release Date: Date: 2012-08-30 07:42:58 +0200 (Do, 30 Aug 2012)****SVN Revision: Revision: 13919****RLID: 4&5&6 & 16****Remarks: supporting RevB&RevC and TSP350&700 Drives, using new PWM interface**

Changes since last Build:

- version number DSP_FWID increased to 1036
- CHG: improved check for overcurrent in mbc TwoBrushDCMotors (check i1, i2 and i1+i2)
- NEW: implemented special feature for compensation of nonlinear PWM output

SPECIAL_VERSION (not released)

- 1036_1 implementation for special summation inputs via TamVars for iD with TamVar2, iQ with TamVar3 and position X with TamVar4. Do not use TamVars(2..4) in Tama prog if FW 1036_1 is installed!
- 1036_2 implementation for compensation of nonlinear PWM output using TamVar0(y0) and TamVar1(u0). Do not use TamVar0&1 in Tama prog if FW 1035_2 is installed!

FpgaFirmware: Build 1159**Release Date: 2012-07-02 12:11:02 +0200 (Mo, 02 Jul 2012)**

- 1) TSP700 center control error level increased from 36V to 72V
- 2) Encoder analog filter configurable by encoder local bus register 0x43.
Default is 0xC, can be set to 0x9 or 0xA to increase the encoder counting frequency up to 600kHz.

Firmware Build_FW1035_FF1159 (02.07.2012)
DspFirmware: Build 1035
Release Date: 2012-07-02 12:11:02 +0200 (Mo, 02 Jul 2012)
SVN Revision: Revision: 13578
RLID: 4&5&6 & 16
Remarks: supporting RevB&RevC and TSP350&700 Drives, using new PWM interface

Changes since last Build:

- version number DSP_FWID increased to 1035
- NEW: added math function sin, cos, log and log10 without hw loops to the float40Lib
- CHG: added dependency of VirtualMachineLib from Float40Lib (new NoHwLoop math functions)
- CHG: made Flaot40Lib and VirtualMachineLib independent on registerLib
- CHG: use math functions sin, cos, log and log10 without HwLoops in VM code
- CHG: use math functions without HwLoops in filter calculation
- CHG: made erno support in VM working (sqrt of neg number)
- CHG: do not automatically restart VM after VM fault if VM is not in NoStack state
- CHG: prevent from zero division if encoderPitch is 0
- CHG: removed unneeded rounding in path planner modulo handling (rounded twice)
- CHG: moved internal scheduling counter inc to the end of the highPrio part (compatible)
- CHG: perform highSpeed data sampling after call of CC to get samples from the same time slot
- CHG: adjusted the i2t current and peak current limits for all drive types
- CHG: removed Field_Weakening debug compiler option (use TWO_STAGE_CONTROL_AND_FIELD_WEAKENING if needed)
- CHG: implemented SafeTorqueOff Active and Inconsistent state
- CHG: changed phase advance times to match timing changes in FPGA
- INT: added debug option for highPrio timing checks
- INT: removed all asserts(), checked and reordered project options
- INT: added assert() in PPP. This solves mystery computing problem if update modulo max
- INT: added debug feature for phase advance
- FIX: spurious high prio interrupts calling the high prio task occured in special timing constellations. (t_highPrio + t_lowPrio ~ 10us) fixed in OS
- FIX: prevent from uninitialized currentLimit in 2DC configuration (wrong CurrentLimitXXX Error)

SPECIAL_VERSION (not released)

- 1035_1 implementation for special summation inputs via TamVars for iD with TamVar2, iQwith TamVar3 and position X with TamVar4. Do not use TamVars(2..4) in Tama prog if FW 1035_1 is installed!

FpgaFirmware: Build 1159
Release Date: 2012-07-02 12:11:02 +0200 (Mo, 02 Jul 2012)

- 1) TSP700 center control error level increased from 36V to 72V
- 2) Encoder analog filter configurable by encoder local bus register 0x43.
Default is 0xC, can be set to 0x9 or 0xA to increase the encoder counting frequency up to 600kHz.