

## INTRA Firmware for the Controller V2

### Software Release Note

V1.04

08-Apr-2010

Changelog as of last version

- 2010-04-08 Defined Io=0.6 and sunrange[0] = 0.3 as defaults in EEPROM.c  
2010-04-06 use of eeram.sunrange[0..1] streamlined. sunrange[0] is now the minimum level a sun sensor signal must have to be consider valid.  
qsum > sunrange[0] \* I(m) where m is the current airmass.  
sunrange[1] is the span of azimuth angles [rad] for which we have data. And finally, more than eeram.sunfrac [0..1] of the data in the collected range must actually be available.
- 2010-04-05 memcopy of newalp in Alignment.analyse as added on 1-Apr was wong.  
newalp and alp are float not double!
- 2010-04-03 bug in output-statement of testdata: Label ana0 line 315 printed first tracker value[0] only, the next two were ast-, instead of trac-values.
- 2010-04-01 Bug in rtc.temperature(): JPLUS was not used and hence the offset of data read in was 1 too much.  
Various edits in comments and for beauty. Version updated --> 1.04  
Improved method to check change of alignment parameters in routine Alignment.analyse.
- 2010-03-31 Bug in myastro.tohms fixed. Now it works also for a neg. argument.  
2010-03-30 Comment edited at getrtc in rtc.h and rtc.c.  
2010-03-26 ictrl.438 Format changed for more digits for sunpos and set refr = 2.

V1.03

03-March-2010

A new parameter sun2rad was added to the definition of the IROM-type. The IROM-version now is 0x101. sun2rad converts angular deviations from the sunsensor to radians. This changes is necessary, because as of INTRA #70, new 4-quadrant detectors are used to build sunsensors. Including this parameter in the IROM enables the use of ifw and INTRAcfg for both types of the sunsensors – old and new.

Use INTRAcfg version 1.02 when operating an INTRA with ifw version 1.03.

V1.02

13-August-2009

A hook was added that should fix the ADC-latch-up problem. If the ADC enters this "shifted" mode, it is stopped and restarted.

Use INTRAcfg version 1.01 when operating an INTRA with ifw version 1.02.

V1.01

22-July-2009

In some modes, the supervision of the range of the axis did not work correctly. The bug was fixed.

The computation of the misalignment works perfectly, but the results are not properly stored. Bug fixed.

We also observed a problem of the readings of the sun sensor: Once every few days, at irregular intervals, some kind of a latch-up of the ADC-channels seems to occur. Suddenly, the data in the ADC-

buffer are shifted and correspond to channels 1..7,0 instead of 0..7. This mode then prevails. The reason for this "latch-up" could not be identified. Hence V1.01 is for internal use and is not published.

**V1.00****4-July-2009**

Original version of the INTRA firmware for INTRA-Controller-Board V2 (icb-2). Two trackers, no. 66 and 68 have this version installed.