LBT-ADOPT TECHNICAL REPORT	
Doc.No : nnnfnnn	
Version : A	
Date : dd Mmm yyyy	

INAF - Arcetri

INAF
ISTITUTO NAZIONALE DI ASTROFISICA
NATIONAL INSTITUTE FOR ASTROPHYSICS

ASM Software and Configuration changelog

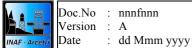|	
Prepared by	Marco Xompero
Approved by	
Released by	

ABSTRACT

Write the abstract here

Modification Record

Version	Date	Author	Section/Paragraph affected	Reason/Remarks
1.0	dd mmm yyyy	author		First release of the document

Abbreviations, acronyms and symbols

Symbol	Description
LBT	Large Binocular Telesecope

Contents

1 ASM software and configuration

Hereafter the log of the relevant modifications fields from previous releases:

- Firmware: position threshold check mechanism
- Firmware: control current integrator saturation
- Slave Switch BCU
- On-fly actuator removal
- Fault recovery procedure
- Configuration file: elec.txt
- Position telemetry

1.1 Firmware: position threshold check mechanism

The firmware has been updated respect to the acceptance test regarding the safety mechanism. Now the shell is automatically rest from the firmware if 4 actuator of the same DSP are reporting a large distance from the reference body.

See MICXXX for reference.

1.2 Firmware: control current integrator saturation

The firmware has been updated respect to the acceptance test regarding the force saturation mechanism. The control current integrator now can be saturated in order to limit current spikes and hopefully prevent the system to stick into a skip frame condition.

See MICXXX for reference.

Updated configuration files: *elec.txt* with parameter "*icc_sat_force*"

1.3 Slave Switch BCU

Now the Slave Switch BCU has to be connected and reachable to allow the full system startup.

The software and the firmware is ready but not yet tested to properly run the Slave Switch BCU.

Updated processes: Housekeeper

Updated configuration files: *configuration.txt* with parameter "*use_slave*"

1.4 On-fly actuator removal

With this release is possible to continue the observation running even in SL or in AO after an event of failing capacitive sensors, with a maximum of 10. In the engineering GUI has been added an indicator and a button to allow the temporary disable of the failing actuator. Once the shell is rested, the old configuration is restored and the actuator, if still misbehaving, must be disabled from the fastdiagnostic configuration files.

Updated process: Fastdiagnostics

Updated configuration files: *fastdiagn.param* with removing all position and current thresholds

1.5 Fault recovery procedure

The fault recovery procedure was updated and is following the described algorithm:

- Read the maximum amount of diagnostics data

- Save diagnostics data correlated to dump file (note that this is the ONLY way to save data related to a dump)

- Disable coils through MOXA device

- Analyze the diagnostics data and decide if the error is recoverable or not

    Note that the error is unrecoverable only in one of the following cases:

- o System found off

- o System found on overtemperature

- o Communication errors with BCUs or DSP Boards

- o Jumping actuators

- If the system is marked as unrecoverable, the reference wave is decreased to avoid stress on signal generator boards and nothing more

- If the system is marked as recoverable, a reset is done with fsm_reset.pro and the program is reloaded with fsm_load_program.pro script.
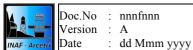
1.6   Configuration file: elec.txt

To simplify the actuator configuration, the following parameters where moved each one in a single file, named as the parameter.

- dummy_act

- act_wo_curr

- act_wo_pos

- act_wo_cl_on_set

- act_wo_icc

- act_w_ffb_on_flat

Updated configuration files: *elec.txt*

1.7   Position telemetry

Since there is no more need to disable position or current variable on FastDiagnostics configuration file, they can be all be logged without any missing data.

2   References

[1] Fini L., *Style Template and Guidelines for LBT-AdOpt Technical Report*, LBT-AdOpt Technical Report No. LBT-AdOpt.000, version 1.0, 25 Mar 2003

[2] Riccardi A., *Microsoft Word style template for LBT-AdOpt Technical Reports*, LBT-AdOpt Technical Report No. LBTAdOpt.002, version 1.4, 26 Apr 2011 (http://aowiki.arcetri.astro.it/FLAO/MsWordTemplate)

Doc_info_start
Title: Select File->Properties to set the Title
Document Type: Technical Report
Source: INAF-Osservatorio Astrofisico di Arcetri
Issued by: Marco Xompero
Date_of_Issue: dd Mmm yyyy
Revised by:
Date_of_Revision:
Checked by:
Date_of_Check:
Accepted by:
Date_of_Acceptance:
Released by:
Date_of_Release:
File Type:MS-WORD
Local Name:
Category: WRITE THE CAN CATEGORY HERE
Sub-Category: WRITE THE CAN SUB-CATEGORY HERE
Assembly: WRITE THE CAN ASSEMBLY HERE
Sub-Assembly:
Part Name:
CAN designation: nnnfnnn
Revision: A
Doc_info_end