

HIFI

ICU Software, Delivery Test requirements

Objectives.

The objectives of the tests is to verify the specification and interface requirements before shipment.

Test requirements.

The following tests are expected to be defined in a test plan:

- A1. Check-out of the CDMS I/F functions (static testing)
 - A2. Data link layer & physical layer conform MIL-STD-1553B
 - A3. Transfer layer protocol

 - B. Instrument Internal Interfaces according to the HIFI ICD (static testing)

 - C. OBS management functions, i.e.
 - Boot-up
 - S/W loading, patches etc.
 - Static functionality tests
- ad A1,A2) For this purpose a simple CDMS simulator will be provided by IFSI.
- Ad.A3) A CDMS Interface unit is needed, possibly compatible with the PACS EGSE.
- ad B) For this purpose IFSI will use simple unit simulators developed by IFSI.

13-10-2000
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Software Requirements

looking at the OBS under a "Services" implementation point of view -

① Telecommanding and TC Verification
OK - command execution
verif. definition

② HK and diagnostic data reporting

- NO POSSIBILITY TO CHANGE THE REPORT CONTENT
- we need a list of housekeeping data to be monitored + acquisition rates in different observing modes

③ Event Reporting

- an incomplete list of events is already defined -
we need some indication of the events to generate during observations

④ Memory Management

- once solved the fetching problem, we have all necessary inputs
(Tables dimensions ...)

⑤ Time management OK

⑥ ~~Packet Transmission Control~~ OK

⑦ Test Service

- no idea about its functionality -

⑧ Science Data Transfer

- Final instrument products are TBD
- acquisition rates

9 + 10

Function management
Onboard Control Procedure

- use of the instrument commanding service to be defined -

All these needs are reflected in the following list of documents necessary as input ASAP :

- ICDs
- Command definition docs
- Operating modes docs
- New Issue of PS ICD

• PACS

All the "atomic" instrument commands are stored on board as a library. They are included in the OBS execut.

The observations will be implemented by using PROCEDURES.

• SPIRE

Each command executes under the control of one or more Tables
- There is a correspondence between commands and instrument operating modes.

- Commands are available to load new tables or update old Tables

These commands can be implemented as functions stored on board included in the OBS executable

HIFI

There is a list of "atomic" commands
• No indications about the method for the implementation of the observations

• All the parameters of the instrument will be set before the measurement via a dedicated TC