

Product Assurance

HIFI

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Programmatic:

HIFI system PA:

Point of contact towards the Sub-systems for all PA issues including cleanliness:

Hans Goulooze: -LO sub-system.
 -WBS sub-system.
 -HF sub-system.

Herman Jacobs: -FP sub-system.
 -HRS sub-system.
 -ICU sub-system.

David Griffiths: Parts procurement interface to the mixer groups for all CPPA matters.

Origin: Overload in PMP segment, Communication issues Mixer Groups versus CPPA.

Sub-system PA:

A PA baseline is agreed between HIFI system and all users.

All sub-systems have allocated manpower to PA.



Currently, for the **LO** and the HRS, both sub-systems are in a phase of implementation.

Training:

Product Assurance workshop:
(mid 2001)

-WBS (KOSMA + MPAE)

-LO (MPIfR).

ESD training/audit:
(Jan. 2002)

-FP (SRON; Mixer groups; Yebes)

-LO (MPIfR; RPG)

Parts, Materials and Processes:

General:

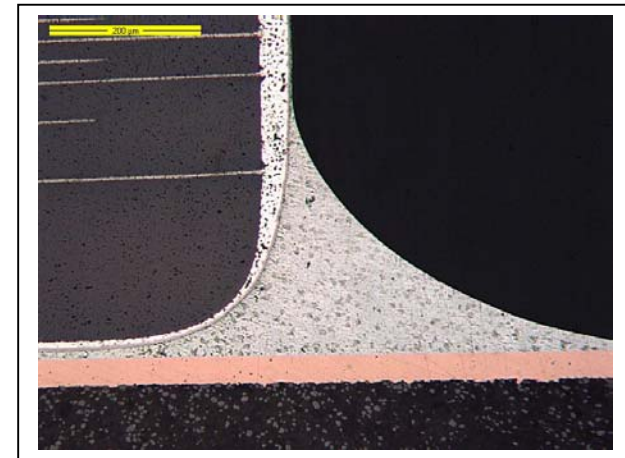
As support to the users, the most critical electrical interconnection techniques versus the planned components are evaluated for their application.

Attention is focused on mixers applications.

Materials and processes:

Materials list is updated to issue 2.

Processes list is updated to issue 2.



Concerns: Status of both lists are out of phase with the hardware planning.

EEE parts:**HIFI component list**

is updated to issue 11;
(included in the IBDR data package).

Main concerns:

- Lack of component definition for Cryo-passives (Design)
 - Lack of component definition HRS; -DC/DC converter (Sub-contract)
 - IF (Miteq Sub-contract)
- Proposal evaluated due (29-04-2002)

Parts approval status:

Currently, processing of PAD sheets (self procured) to the Part-board is an ongoing activity.

(Users / HIFI system / Parts-board)

The status is visible on the CSL (see also HIFI web-site).

Quality Assurance:

All procedures for KIP/MIP; NCR's; TRRB; DRB and QSR are set.

KIP/MIP:

The identification of KIP's is started since the planning is available (since 2 weeks) and planned to be completed end of April.

Thanks Renato

-WBS and HRS is under definition



TRRB; DRB and QSR:

Are included in the planning.

NCR's:

On flight model EEE components are category 1 and will be processed via ESA

Concern: Implementation of Configuration Control at S/S and unit level.

Cleanliness:

The impact of a change in particle/size distribution is absorbed in the molecular contamination budget.



HIFI cleanliness control approach:

FPU & LOU:	Budget allocation and facility validation for particulate- ; molecular cleanliness and hardware exposure time. (class 1000 or better)
Units on SVM:	Good workmanship practices and periodically monitoring of facilities. (class 100,000 or better)

HIFI cleanliness versus space craft:

- LOU purging is agreed between HIFI and ESA but need to be formalised (CR on IID-B)
- LOU protection against particles generated during launch is under discussion. (The issue is related to EMC protection).

ESA to supply Molecular contamination samples so validation of LO/FP cleanroom may start.

Activities planned on short term:

Support LO &HRS for PA implementation:

In the perspective of the current status of the PMP program, one FTE for each S/S is minimum required.

Critical Items /PAD:

**Continuos activity until the CDR
Dedicated meeting/ progress meetings.**

Configuration Control:

**A draft Data base is available for S/S and unit suppliers (HIFI web).
Final will be available after check and S/S comments (April 2002).**

Cleanliness control:

**Budget breakdown and clean room validation (Finish Oct.2002).
Measurement of cleanroom facilities LO/FP**

Materials/Processes:

Push users for realistic listings (Finish Oct.2002).

Outline towards the CDR:

PA activity:

- Completing flight worthiness assessment of technology components
- Completing Part approval cycles.
- Completing Materials / Processes approval.
- Implement cleanliness control plan
- Finish KIP/MIP in planning.

Engineering activity:

- HIFI system; Finalise
 - WCA and FMECA
 - Hardware – Software interaction analysis
 - FDIR summary
(Failure Detection Isolation and Recovery)
- HIFI Units:
 - Part Stress analysis.

The engineering planning towards the CDR is currently under construction