

HIFI ICU SEU recovery
 File: H_CRP_HIF_ICU.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to recover from a problem on the HIFI ICU in the event of anomalous actions by HIFI

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

HIFI ICU problem

End of Procedure

Reference File(s)

Input Command Sequences

Output Command Sequences

HRHSEU

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ9E999

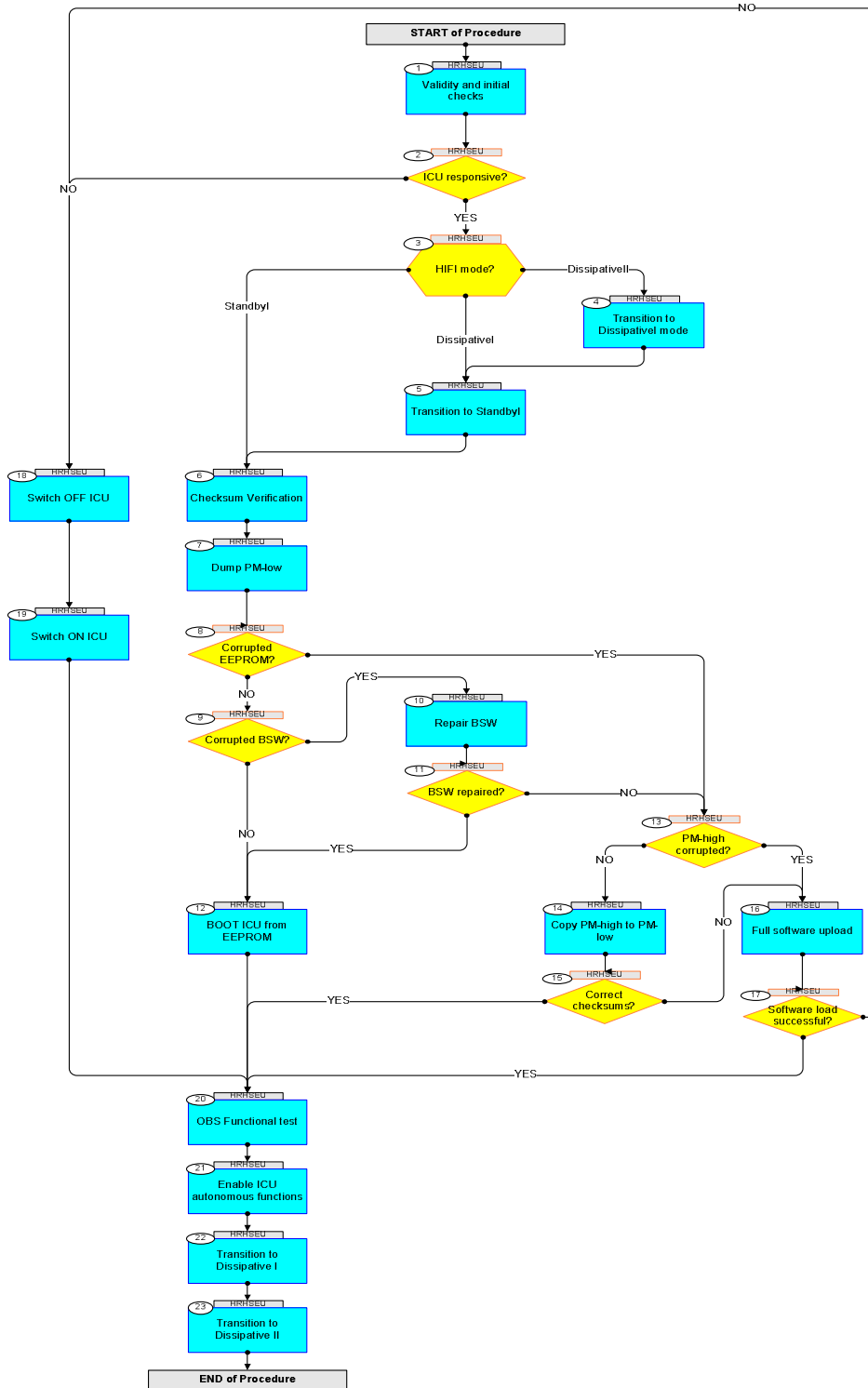
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
10/02/2011		1	Created	R. Biggins	
01/06/2011	3.1	2	Update of ANDs and procedure names	R. Biggins	

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Procedure Flowchart Overview



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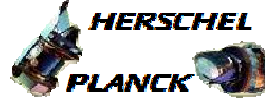
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HRHSEU (HIFI ICU SEU)				
TimeTag Type: B Sub Schedule ID: <input type="checkbox"/>				
1		Validity and initial checks		Next Step: 2
2		ICU responsive?		Next Step: YES 3 NO 18
	ET=+ UT=+00.00.00	Execute Telecommand HIFI_connection_test TC Control Flags : Subsch. ID : 70 Det. descr. : Generate a connection test report This Telecommand will not be included in the export	HC176289	
		Verify: If the command passes and generated a TM(17,2) packet, HIFI is responsive.		
3		HIFI mode?		Next Step: DissipativeII 4 DissipativeI 5 StandbyI 6
3.1		DissipativeII		<input type="checkbox"/>
		If the following telemetry values are TRUE, then HIFI is in DissipativeII mode.		
		Verify Telemetry HL_MODE_S HM258194	= dissipative	AND=ZAZ9E999
		Verify: Two of the following laser statuses should be ON (either both laser1 statuses or both laser2 statuses)		
		Verify Telemetry HWH_Laser1_S HM017193		AND=ZAZ9E999
		Verify Telemetry HWV_Laser1_S HM056193		AND=ZAZ9E999
		Verify Telemetry HWH_Laser2_S HM016193		AND=ZAZ9E999
		Verify Telemetry HWV_Laser2_S HM055193		AND=ZAZ9E999

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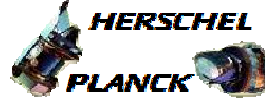
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		PROCEDURE: H_FCP_OBS_3142 [OBSM stack]		
8		<i>Corrupted EEPROM?</i>		Next Step: NO 9 YES 13
		The procedure executed in Step 6, H_FCP_HIF_CSEU , checks all memory areas and indicates if the EEPROM area is corrupted.		
9		<i>Corrupted BSW?</i>		Next Step: NO 12 YES 10
		The procedure executed in Step 6, H_FCP_HIF_CSEU , checks all memory areas and indicates if the BSW area is corrupted.		
10		<i>Repair BSW</i>		Next Step: 11
		PROCEDURE: H_FCP_OBS_3112 [OBSM stack]		
		PROCEDURE: H_FCP_HIF_CSEU [HFHCSEU] FP: OBS_ID = 0x0000 0000		
		Verify: Ensure that the BSW has the correct checksum		
11		<i>BSW repaired?</i>		Next Step: YES 12 NO 13
		The procedure executed in Step 10, H_FCP_HIF_CSEU , checks all memory areas and indicates if the BSW area is corrupted.		
12		<i>BOOT ICU from EEPROM</i>		Next Step: 20
		PROCEDURE: H_FCP_HIF_BOOT [HFHBOOT] FP: OBS_ID = 0x0000 0000 EPR_PART = 1 or 2 (TBD HIFI)		
13		<i>PM-high corrupted?</i>		Next Step: NO 14 YES 16
		The procedure executed in Step 6, H_FCP_HIF_CSEU , checks all memory areas and indicates if the PM-High area is corrupted.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
14		Copy PM-high to PM-low		Next Step: 15
		PROCEDURE: H_CRP_HIF_PLOW [HRHPLOW] FP: OBS_ID = 0x0000 0000		
15		Correct checksums?		Next Step: NO 16 YES 20
		Repeat the checks of the failing memory areas using the following procedure (repeat of parts of step 6):		
		PROCEDURE: H_FCP_HIF_CSEU [HFHCSEU] FP: OBS_ID = 0x0000 0000		
16		Full software upload		Next Step: 17
		PROCEDURE: H_FCP_HIF_CLOM [HFHCLOM] FP: OBS_ID = 0x0000 0000 FPs to be confirmed with HIFI		
		PROCEDURE: H_FCP_HIF_CSEU [HFHCSEU] FP: OBS_ID = 0x0000 0000		
17		Software load successful?		Next Step: YES 20 NO 18
		The procedure executed in Step 16, H_FCP_HIF_CSEU, checks all memory areas and indicates if the BSW area is corrupted.		
18		Switch OFF ICU		Next Step: 19
		PROCEDURE: H_CRP_HIF_RROF [HRHRROF]		
19		Switch ON ICU		Next Step: 20
		WARNING: Wait 4 minutes before switching on the ICU again.		
		PROCEDURE: H_FCP_HIF_RION [HFHRION] FP: OBS_ID = 0x0000 0000 DPU_PRTN = 1 or 2 (TBD HIFI)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
20		OBS Functional test		Next Step: 21
		WARNING: The following TC must be manually added and executed		
		Execute Telecommand HIFI_notify_PDU_status Command Parameter(s) : HIF_FCU_S HP006197 ON HIF_LCU_S HP007197 ON HIF_WBSV_S HP009197 ON HIF_WBSH_S HP008197 ON HIF_HRSV_S HP011197 ON HIF_HRS_H_S HP010197 ON Subsch. ID : 70 Det. descr. : Notifies the power status of the subssystems to the OBS This Telecommand will not be included in the export	HC015289	
		Execute: SEQUENCE: HFD1013A [Enable VC1 for RT science]		
		PROCEDURE: H_FCP_HIF_COBS [HFHCOBS] FP: OBS_ID = 0x0000 0000 START = see procedure for details END = see procedure for details CRC = see procedure for details		
		Execute: SEQUENCE: HFD1013B [Disable VC1 for RT science]		
21		Enable ICU autonomous functions		Next Step: 22
		PROCEDURE: H_FCP_HIF_CCEN [HFHCCEN] FP: OBS_ID = 0x0000 0000 STPEMSEC = 3000 ms LCU_CRC = see procedure for details STEP_SEC = 3600 s		
22		Transition to Dissipative I		Next Step: 23
		PROCEDURE: H_FCP_HIF_R2D1 [HFHR2D1] FP: OBS_ID = 0x0000 0000 HL_HEAT = 6 V		
23		Transition to Dissipative II		Next Step: END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>CALL - HIFI communication: Confirm with the HIFI representative whether HIFI is required to be set into DissipativeII mode. If DissipativeII is not required, the procedure defined in this step should be skipped.</p>		
		<p>Set HIFI to DissipativeII mode: Execute the following procedure</p> <p>PROCEDURE: H_FCP_HIF_2Dxx [HFH2Dxx]</p> <p>FP: OBS_ID = 0x0000 0999</p> <p>xx = band indicated by HIFI</p>		
End of Procedure				