

Switch OFF HIFI units (Redundant)
 File: H_FCP_HIF_RSOF.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to switch OFF the redundant HIFI units.

Summary of Constraints

Spacecraft Configuration

Start of Procedure

HIFI in Standby1 mode

End of Procedure

HIFI is switched OFF

Reference File(s)

Input Command Sequences

Output Command Sequences

HFHRSOF

Referenced Displays

ANDs	GRDs	SLDs
ZAZ9C999		(None)
ZAZ9D999		
ZAD1B999		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
09/11/07		1	Created	R. Biggins	
14/11/07		2	Update due to discussions between D. Teyssier and R. Biggins - Set HK rate command removed - HF_DPR_CH_ROT telemetry check removed	R. Biggins	
14/01/08		3	Update due to initial testing against the simulator: - BBID/OBSID TM checks added - TCs updated due to new DB	R. Biggins	
29/02/08		4	Update due to testing against MOC Simulator and comments by D. Teyssier: - Telecommand flags updated - Editorial updates	R. Biggins	
05/06/08	1	5	Updates due to SVT-1 testing: - TCs to disable/enable SDB FDIR removed from step 8 - AND updated for all TM parameters - Comments added - Flags updated	R. Biggins	
05/11/08	2	6	Updates due to new procedures from industry - TC DC005161 database definition updated - New step (9) added to update UIU table	R. Biggins	

Status : Version 7 - Updated
 Last Checkin: 25/11/09

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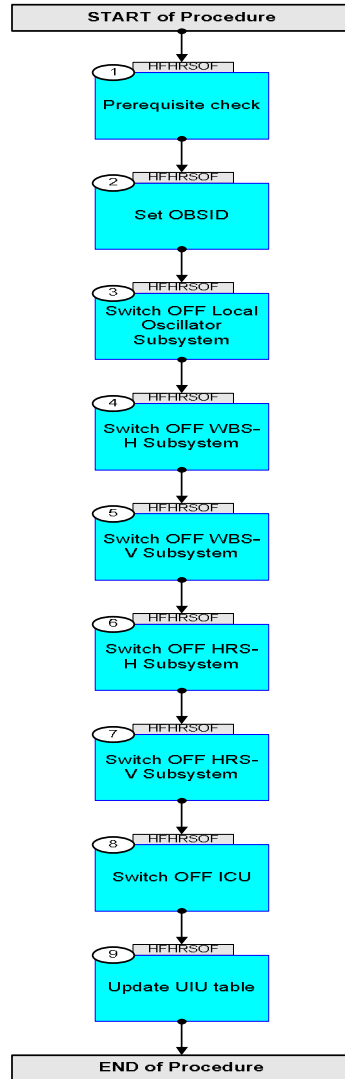


25/11/09	3	7	Updates due to Prime unit failure resulting in new operation scheme - Updated to reflect new mode name - AND added to UIU checks	R. Biggins	
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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HFHRSOF (Switch OFF HIFI)				
TimeTag Type: N				
Sub Schedule ID:				
□				
1		Prerequisite check		Next Step: 2
1.1		HSC/ICC input		□
		Verify that the HSC has supplied a valid OBSID value OBS_ID = 0xnnnn nnnn		
1.2		Verify: HIFI mode		□
		Verify Telemetry HF_DPR_CHLOOP_S HM198191	= CLOSE = OPEN	AND=ZAZ9C999
		Verify Telemetry HL_MODE_S HM258194	= standby1	AND=ZAZ9C999
		Verify Telemetry HI_Prime_red HM009190	= HIFI_redundant	AND=ZAZ9C999
1.3		Verify: Laser status		□
		Verify Telemetry HWH_Laser1_S HM017193	= OFF	AND=ZAZ9D999
		Verify Telemetry HWH_Laser2_S HM016193	= OFF	AND=ZAZ9D999
		Verify Telemetry HWV_Laser1_S HM056193	= OFF	AND=ZAZ9D999
		Verify Telemetry HWV_Laser2_S HM055193	= OFF	AND=ZAZ9D999
2		Set OBSID		Next Step: 3

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	HIFI_Set_OBS_ID HIFI_Set_OBS_ID <i>Command Parameter(s) :</i> HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 <i>Subsch. ID : 70</i> Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1EF20001 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1EF20001 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
3		Switch OFF Local Oscillator Subsystem		Next Step: 4
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID <i>Command Parameter(s) :</i> HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 <i>Subsch. ID : 70</i> Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DE60001 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DE60001 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.00	HIFI_notify_PDU_status HIFI_notify_PDU_status <i>Command Parameter(s) :</i> HIF_FCU_S HP006197 HIF_LCU_S HP007197 HIF_WBSV_S HP009197 HIF_WBSH_S HP008197 HIF_HRSV_S HP011197 HIF_HRSH_S HP010197 <i>Subsch. ID : 70</i> Det. descr. : Notifies the power status of the subssystems to the OBS	HC015289 ON OFF (Def) ON ON ON ON	
		Verify Telemetry HI_LCU_S HM000194	= OFF	AND=ZAZ9C999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DEB0001 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DEB0001 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.00	Execute Telecommand SwOff_HiFiLCU_R_L54 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) HIFI LCU Red - switch LCL_54 off	DC54B170	
		Verify: LCU LCL status HiFiLcuR_L54_1s WM42D565	= OFF	AND=ZAZ9C999
		Verify: LCU LCL current HiFiLCU_R_L54_I WM409565	= 0.0 A	AND=ZAZ9C999
4		Switch OFF WBS-H Subsystem		Next Step: 5
	ET=+ UT=+00.00.00	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DE60002 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DE60002 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	HIFI_notify_PDU_status HIFI_notify_PDU_status Command Parameter(s) : HIF_FCU_S HP006197 HIF_LCU_S HP007197 HIF_WBSV_S HP009197 HIF_WBSH_S HP008197 HIF_HRSV_S HP011197 HIF_HRSH_S HP010197 Subsch. ID : 70 Det. descr. : Notifies the power status of the subssystems to the OBS	HC015289 ON OFF (Def) ON OFF (Def) ON ON	
		Verify Telemetry HI_WBSH_S HM000193	= OFF	AND=ZAZ9C999
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DEB0002 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DEB0002 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.00	Execute Telecommand SwOff_HiFiWEH_L43 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) HIFI WEH - switch LCL_43 off	DC43B170	
		Verify: WBS-H LCL status HiFiWEV_L43_S WM82A565	= OFF	AND=ZAZ9C999
		Verify: WBS-H LCL current HiFiWEH_L43_I WM806565	= 0.0 A	AND=ZAZ9C999
5		Switch OFF WBS-V Subsystem		Next Step: 6

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DE60003 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DE60003 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.01	HIFI_notify_PDU_status HIFI_notify_PDU_status Command Parameter(s) : HIF_FCU_S HP006197 HIF_LCU_S HP007197 HIF_WBSV_S HP009197 HIF_WBSH_S HP008197 HIF_HRSV_S HP011197 HIF_HRSR_S HP010197 Subsch. ID : 70 Det. descr. : Notifies the power status of the subssystems to the OBS	HC015289 ON OFF (Def) OFF (Def) OFF (Def) ON ON	
		Verify Telemetry HI_WBSV_S HM001193	= OFF	AND=ZAZ9C999
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DEB0003 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DEB0003 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.00	Execute Telecommand SwOff_HiFiWEV_L44 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) HIFI WEV - switch LCL_44 off	DC44B170	
		Verify: WBS-V LCL status HiFiWEV_L44_S WM32A565	= OFF	AND=ZAZ9C999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify: WBS-V LCL current HifiWEV_L44_I WM306565	= 0.0 A	AND=ZAZ9C999
6		Switch OFF HRS-H Subsystem		Next Step: 7
	ET=+ UT=+00.00.00	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIF_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DE60004 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DE60004 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.01	HIFI_notify_PDU_status HIFI_notify_PDU_status Command Parameter(s) : HIF_FCU_S HP006197 HIF_LCU_S HP007197 HIF_WBSV_S HP009197 HIF_WBSH_S HP008197 HIF_HRSV_S HP011197 HIF_HRSH_S HP010197 Subsch. ID : 70 Det. descr. : Notifies the power status of the subssystems to the OBS	HC015289 ON OFF (Def) OFF (Def) OFF (Def) ON OFF (Def)	
		Verify Telemetry HI_HRSH_S HM000192	= OFF	AND=ZAZ9C999
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DEB0004 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DEB0004 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DEB0005 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DEB0005 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999
	ET=+ UT=+00.00.00	Execute Telecommand SwOff_HiFiHRV_L67 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) HIFI HRV - switch LCL_67 off	DC67B170	
		Verify: HRS-V LCL status HiFiHRV_L67_1s WM62C565	= OFF	AND=ZAZ9C999
		Verify: HRS-V LCL current HiFiHRV_L67_I WM608565	= 0.0 A	AND=ZAZ9C999
8		Switch OFF ICU		Next Step: 9
8.1		Switch OFF DPU		<input type="checkbox"/>
	ET=+ UT=+00.00.00	HIFI_Set_OBS_ID HIFI_Set_OBS_ID Command Parameter(s) : HIFI_BB_ID HP001197 HIFI_OBS_ID HP000197 Subsch. ID : 70 Det. descr. : Set Observation-ID and Building-Block-ID	HC014289 1DE60006 <hex> OBS_ID	
		Verify Telemetry BB_ID_per_hk HM004190	= 1DE60006 <hex>	AND=ZAZ9C999
		Verify Telemetry OBS_ID_per_hk HM003190	OBS_ID	AND=ZAZ9C999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		F2 DH020161 F3 DH021161 F4 DH022161 F5 DH023161 F6 DH024161 F7 DH025161 M12 DH051161 M_C DH043161 M8 DH038161 M9 DH039161 M10 DH040161 M11 DH041161 F12 DH050161 CNT DH042161 F8 DH026161 F9 DH027161 F10 DH028161 F11 DH029161 Subsch. ID : 10 Det. descr. : Configure SDB FDIR	Well TC Well TM Invalid Non-vital NOMINAL ON Ignore Flag Ignore CNT Ignore Flag Ignore Flag Ignore Flag Ignore Flag Ignore Flag ENABLED LoopCnt1 Bus A Healthy Healthy ENABLED	
		Wait up to 1 minute for the generation of the D_H_Hk_P64 packet from the CDMU (APID = 18)		
		Verify Telemetry HIFIB_OnOff DED11161	= OFF	AND=ZAZ9C999
		Verify Telemetry HIFIB_ValidInv DED15161	= Invalid	AND=ZAZ9C999
8.3		Switch OFF DPU LCL		<input type="checkbox"/>
	ET+= UT+=00.00.00	Execute Telecommand SwOff_HiFiICU_R_L68 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) HIFI ICU Red - switch LCL_68 off	DC68B170	
		Verify: ICU LCL status HiFiIcuR_L68_1S WM62D565	= OFF	AND=ZAZ9C999
		Verify: ICU LCL current HiFiICU_R_L68_I WM609565	= 0.0 A	AND=ZAZ9C999
9		Update UIU table		Next Step: END
	ET+= UT+=00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiHrh	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HifiHrhFuncSts DEL46171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiHrv	
		Verify Telemetry HifiHrvFuncSts DEL41171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiIfv	
		Verify Telemetry HifiIfvFuncSts DEL39171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiLcu	
		Verify Telemetry HifiLcuFuncSts DEL55171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiLsu	
		Verify Telemetry HifiLsuFuncSts DEL42171	= Off	AND=ZAD1B999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiWeh	
		Verify Telemetry HifiWehFuncSts DEL48171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiWev	
		Verify Telemetry HifiWevFuncSts DEL53171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiWoh	
		Verify Telemetry HifiWohFuncSts DEL40171	= Off	AND=ZAD1B999
	ET=+ UT=+00.00.01	Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159 HifiWov	
		Verify Telemetry HifiWovFuncSts DEL49171	= Off	AND=ZAD1B999
End of Procedure				