

Switching a MM bank ON or OFF
File: H_FCP_DHS_3017.xls
Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to switch ON or OFF the selected memory bank.

Summary of Constraints

Each MM board has four physical memory banks that can be individually switched ON or OFF.

The mapping of the MM after a cold start is set to default, i.e. logic bank 0 is mapped to physical bank 0.

The physical bank, to which logic bank 0 is mapped, must be the first bank to be switched ON and the last bank to be switched OFF (BSW uses the bank mapped at position 0 for storage of internal data and communication buffers).

If it is switched OFF a bank where ASW buffers or packets stores are allocated, the buffers and packet stores will be deallocated.

The duration of a bank switch ON is approximately 12 minutes. Thus between two commands bank switch ON it is necessary to wait at least 12 minutes.

The banks are switched ON/OFF through TC(8,4,2,5); this TC will fail when there is an ongoing:

- TC(8,4,2,3) Check Mass Memory
- TC(8,4,2,4) Map Mass Memory
- TC(8,4,2,5) Turn Bank on/off
- TC(8,4,2,6) Initialise Mass Memory

Notice that to acquire the MM banks mapping it is necessary to enable the generation of

Spacecraft Configuration

Start of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

End of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD3017B
HFD3017C

Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZAB999
 ZAD22999

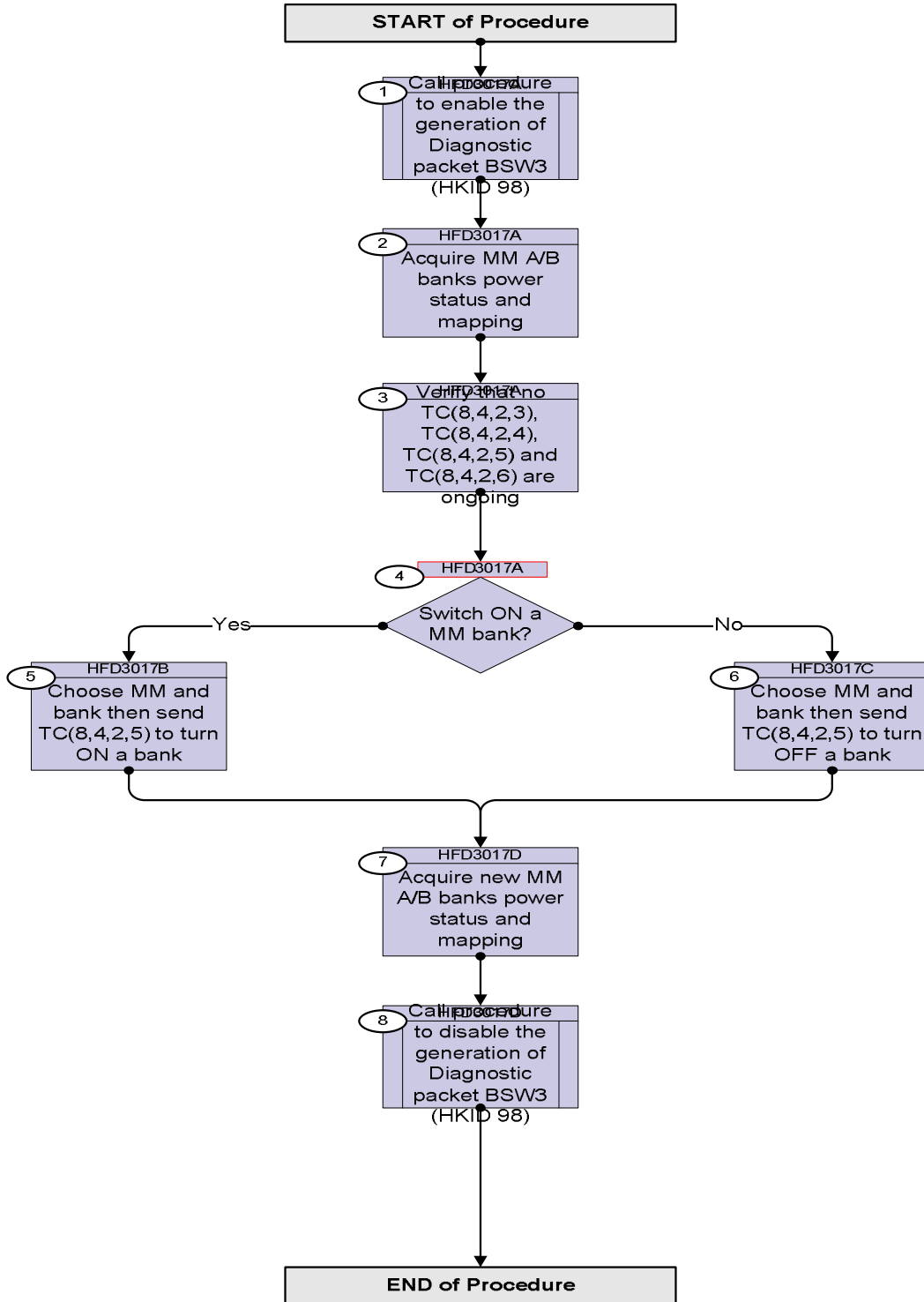
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
16/11/07		1	Created	cmevi-hp	
10/12/07		2	Formal parameters introduced.	cmevi-hp	
16/01/08	1	3	Batch update of TC flags	S. Manganelli	
14/11/08		4	Procedure updated according to latest version received from industry on 29/09/2008	cmevi-hp	
12/01/09	2	5	Updated following OBSW 3_8	S. Manganelli	

Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



Procedure Flowchart Overview



Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HFD3017A (Acquire power status)				
TimeTag Type: Sub Schedule ID: □				
1		Call procedure to enable the generation of Diagnostic packet BSW3 (HKID 98)		Next Step: 2
		Execute procedure H_FCP_DHS_3033.		
2		Acquire MM A/B banks power status and mapping		Next Step: 3
		The following parameters report, for each bank of the Mass Memory A and B, the power status and the mapping.		
		Verify Telemetry PWR_Sts_BankA0 DEECG160		AND=ZAZAB999
		Verify Telemetry A0_Phys_Bank DEEE1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA1 DEECH160		AND=ZAZAB999
		Verify Telemetry A1_Phys_Bank DEEF1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA2 DEECZ160		AND=ZAZAB999
		Verify Telemetry A2_Phys_Bank DEEG1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA3 DEECJ160		AND=ZAZAB999
		Verify Telemetry A3_Phys_Bank DEEH1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB0 DEECK160		AND=ZAZAB999
		Verify Telemetry B0_Phys_Bank DEEEG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB1 DEECL160		AND=ZAZAB999
		Verify Telemetry B1_Phys_Bank DEEEFG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB2 DEECM160		AND=ZAZAB999

Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry B2_Phys_Bank DEEGG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB3 DEECN160		AND=ZAZAB999
		Verify Telemetry B3_Phys_Bank DEEHG160		AND=ZAZAB999
3		Verify that no TC(8,4,2,3), TC(8,4,2,4), TC(8,4,2,5) and TC(8,4,2,6) are ongoing		Next Step: 4
		Verify Telemetry TC_8-4-2-3_x DEE0J161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-4_x DEE0K161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-5_x DEE0L161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-6_x DEE0M161	= FALSE	AND=ZAD22999
4		Switch ON a MM bank?		Next Step: Yes 5 No 6
<p>TC Seq. Name :HFD3017B (Turn bank ON)</p> <p>TimeTag Type: N Sub Schedule ID: <input type="checkbox"/></p>				
5		Choose MM and bank then send TC(8,4,2,5) to turn ON a bank		Next Step: 7
		<p>In the TC(8,4,2,5) it is necessary to set the following parameters:</p> <p>- Mass Memory 0 = Mass Memory A 1 = Mass Memory B</p> <p>- Bank 0 = Bank 0 1 = Bank 1 2 = Bank 2 3 = Bank 3</p>		

Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



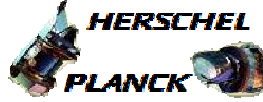
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <div style="text-align: right;">TurnBankOn</div> Command Parameter(s) : <div style="display: flex; justify-content: space-between;"> <div>EQU</div> <div>DH025160</div> <div>MM</div> </div> <div style="display: flex; justify-content: space-between;"> <div>BNK</div> <div>DH031160</div> <div>BANK</div> </div> TC Control Flags : <div style="display: flex; justify-content: space-between;"> <div></div> <div>GBM IL DSE</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div></div> <div>--Y -- ---</div> <div></div> </div> Subsch. ID : 10 Det. descr. : Turn Bank On	DC805160	
TC Seq. Name :HFD3017C (Turn bank OFF) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
6		Choose MM and bank then send TC(8,4,2,5) to turn OFF a bank		Next Step: 7
		In the TC(8,4,2,5) it is necessary to set the following parameters: - Mass Memory 0 = Mass Memory A 1 = Mass Memory B - Bank 0 = Bank 0 1 = Bank 1 2 = Bank 2 3 = Bank 3		
		Execute Telecommand <div style="text-align: right;">TurnBankOff</div> Command Parameter(s) : <div style="display: flex; justify-content: space-between;"> <div>EQU</div> <div>DH025160</div> <div>MM</div> </div> <div style="display: flex; justify-content: space-between;"> <div>BNK</div> <div>DH031160</div> <div>BANK</div> </div> TC Control Flags : <div style="display: flex; justify-content: space-between;"> <div></div> <div>GBM IL DSE</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div></div> <div>--Y -- ---</div> <div></div> </div> Subsch. ID : 10 Det. descr. : Turn Bank Off	DC825160	
TC Seq. Name :HFD3017D (Acquire new status) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				

Switching a MM bank ON or OFF
 File: H_FCP_DHS_3017.xls
 Author: S. Manganelli



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
7		Acquire new MM A/B banks power status and mapping		Next Step: 8
		Verify Telemetry PWR_Sts_BankA0 DEECG160		AND=ZAZAB999
		Verify Telemetry A0_Phys_Bank DEEE1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA1 DEECH160		AND=ZAZAB999
		Verify Telemetry A1_Phys_Bank DEEF1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA2 DEECZ160		AND=ZAZAB999
		Verify Telemetry A2_Phys_Bank DEEG1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankA3 DEECJ160		AND=ZAZAB999
		Verify Telemetry A3_Phys_Bank DEEH1160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB0 DEECK160		AND=ZAZAB999
		Verify Telemetry B0_Phys_Bank DEEEG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB1 DEECL160		AND=ZAZAB999
		Verify Telemetry B1_Phys_Bank DEEFG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB2 DEECM160		AND=ZAZAB999
		Verify Telemetry B2_Phys_Bank DEEGG160		AND=ZAZAB999
		Verify Telemetry PWR_Sts_BankB3 DEECN160		AND=ZAZAB999
		Verify Telemetry B3_Phys_Bank DEEHG160		AND=ZAZAB999
8		Call procedure to disable the generation of Diagnostic packet BSW3 (HKID 98)		Next Step: END
		Execute procedure H_FCP_DHS_3033.		

Switching a MM bank ON or OFF
File: H_FCP_DHS_3017.xls
Author: S. Manganelli



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
End of Procedure				