

ACC PM Switchover File: H_CRP_SYS_PMSA.xls Author: F. Keck

Procedure Summary

Objectives

Perform ACC PM switchover.

Summary of Constraints

Each ACC reboot leads to SA(S)M, which means that the LGA must be used and a maximum of 5k TM rate will be available in this case. Therefore the TM rate must be changed to 5k via LGA before each ACC reboot.

The PM switchover must be coordinated with the SGS (e.g. mission planning shall not plan instrument activities during this DTCP). No ACMS commands must be in the MTL for this DTCP.

Expected impact on the nominal DTCP activities: - Complete dump of packet store 3 unlikely

Expected Duration: 1h 30min

Spacecraft Configuration

Start of Procedure

Mode = NOM/SCM Instruments must be in standby/safemode

End of Procedure

Mode = NOM/SCM Instruments in standby/safemode

Reference File(s)

Input Command Sequences

GRDs

Output Command Sequences HCYPMSA

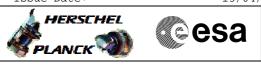
Referenced Displays

ANDS

SLDs (None)

Configuration Control Information

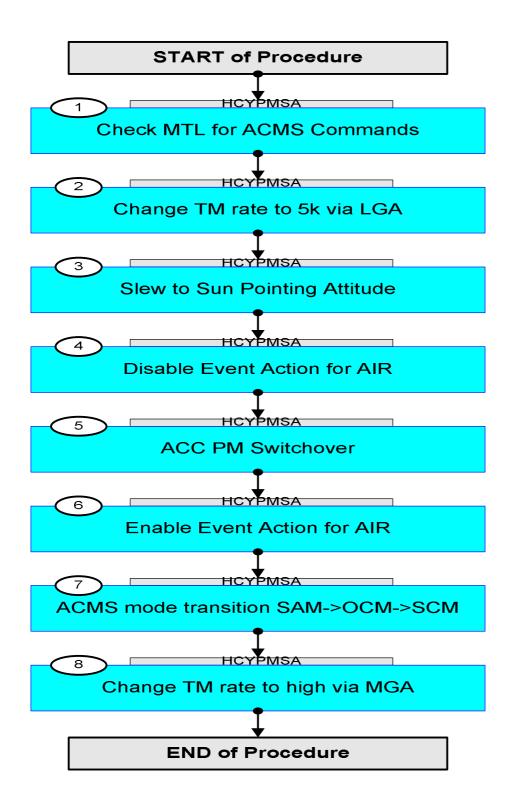
DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
05/03/09	2.1	1	Created	F. Keck	
17/03/09		1.01	Validation : Improvement using H-SVT-3 outcome	F. Keck	
17/03/09		1.02	Validation : Typo and annex correction	F. Keck	
17/03/09		1.03	Validation : Another typo.	F. Keck	
			Validation : Adding EAT adjustment to ignore expected AIR caused by ACC PM		
25/03/09		1.04	switchover.	F. Keck	



			Validation : Leaving MTL fully enabled, because it's required by some subsystem		
25/03/09	2.2	1.05	procedures	F. Keck	
15/04/09	2.3	2	Databse update	F. Keck	
07/07/09		3	Added SCM slew to sun pointing before mode transition to SM	F. Keck	
10/07/09	2.5	4	Added step to reboot from image 1 after the ACC switchover	F. Keck	



Procedure Flowchart Overview





Cesa

Step Display/ Branch No. Time Activity/Remarks TC/TLM Beginning of Procedure TC Seq. Name : HCYPMSA (ACC PM Switchover) TimeTag Type: N Sub Schedule ID: Next Step: 1 Check MTL for ACMS Commands 2 Ensure that the MTL does not contain ACMS commands in this DTCP. Info: The MTL cannot be disabled, because time tagged TCs are used by some ACMS procedures. Next Step: 2 3 Change TM rate to 5k via LGA Adjust TM routing/storing to 5k TM rate. Execute Procedure: H_CRP_DHS_HKCY Cycle through HK / Periodic / Diag CDMU packets The sequences of following procedures contain MTL commands. For following procedure select "Sun acquisition otherwise (SUN1)' RFDN SWs position BBAB D/L path: TX1 - TWTA1 - LGA1 U/L path: LGA1 - RX1 (MGA - RX2) Execute Procedure: $\texttt{H_FCP_TTC_SWX}$ Configure RFDN switches Execute Procedure: H_CRP_TTC_TUL2 \mathtt{Tx} and \mathtt{TM} encoder in use configuration for LR2 Execute Procedure: H_FCP_TTC_TU01 Switch ON TX and TWTA in use

ACC PM Switchover

Author: F. Keck

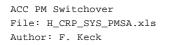
File: H_CRP_SYS_PMSA.xls



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		On the following day(s) the Ranging at the end of the		
I		DTCP(s) must be skipped.		
I		Proble Proving while on the and inform ECC to show		
l		Enable Ranging while on 5k and inform ECC to start Ranging.		
I		This should provide enough additional Ranging data to		
I		cover this situation.		
l				
l		Execute Procedure:		
I		H_FCP_TTC_TURM		
I		Transponder in use Ranging Activation/Deactivation		
l				
3		Clau ta Cun Daintian Attituda		Next Step: 4
3		Slew to Sun Pointing Attitude		4
		To safe fuel and minimise the thruster impact on the		
l		orbit by the transition to SAM, the slew to sun		
l		pointing will be performed while in SCM.		
l				
		TPFs required from FD to perform this step.		
Ļ				
l		Execute Procedure:		
l		H_FCP_AOC_3S01		
l		Perform SCM Fine Pointing		
l				
l				
				Next Step:
4		Disable Event Action for AIR		5
l				
		The ACC PM Switchover will be done via the ACMS RM,		
l		which will raise an AIR.		
l		To avoid a CDMU reaction on this AIR, the both action		
l		entries in the EAT must be disabled.		
l				
l		Execute Procedure:		
l		H_FCP_DHS_3049 Event-action table maintenance		
l		Event-action table maintenance		
l				
				Next Step:
5		ACC PM Switchover		6
l				
l		Execute Procedure:		
l		H_CRP_AOC_XN2S		
l		Command ACMS from any nominal mode to SM		
l				
L				
		The sequences of following procedure contain MTL		
l		commands.		
L				



Execute Procedure: R_CEP_AOQ_SEAL Recovery from SW with return to PMA or PMB	Brancl	Display/	TC/TLM		Activity/Remark		Time	Step No.
Select ACC B Image 1 S.1.1 Option 1) Reboot ACC-A Image 1 S.1.1 Option 1) Reboot ACC-A Image 1 S.1.1 Option 1) Reboot ACC-A Image 1 Select ACC A Image 1 ACY46109 Control Flags : Option 1) Reboot ACC-A Image 1 ACY46109 Control Flags : Option 1) Reboot ACC-A Image 1 ACY46109 Control Flags : Option 1 (Control Flags : Option 1 (Control Flags : Option 2) Reboot ACC-A Image 1 MCY46109 Verify Telemetry ACC_A_IMAGE AEEGHOSO Frage 1 (None) Execute Telecommand Frage 1 ACY42109 Control Flags : Option 2) Reboot ACC-B Image 1 Select ACC B Image 1 ACY48109 Control Flags : Option 2) Reboot ACC-B Image 1 ACY48109 Control Flags : Option 2) Reboot ACC-B Image 1 ACY48109 Control Flags : Opton 2) Reb				r PMB		H_CRP_AOC_XS2A		
The previous step ended having the new ACC using the software of image 1. If the software of image 1 shall be used by the ACC another ACC reset is required. Choose the appropriate substep below: 5.1.1 Option 1) Reboot ACC-A Image 1 Execute Telecommand Select ACC A Image 1 ACY46109 TC Control Flags : OBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific NCY42109 Verify Telemetry ACQ_A_IMAGE Verify Telemetry ACQ_A_IMAGE ACY42109 C Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Rebot ACC-B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Y Det. descr. : TC(2,3) - PM A Reset - Mission Specific TC Control Flags : GBM IL DSE Y Subsch. ID : 20								
software of image 2. If the software of image 1 shall be used by the ACC another ACC reset is required. Choose the appropriate substep below: 5.1.1 Option 1) Reboot ACC-A Image 1 Execute Telecommand Select ACC A Image 1 ACY46109 ACY46109 ACY46109 C Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific Verify Telemetry ACC_A_INAGE AEE8H050 = Image 1 (None) Execute Telecommand FM A Reset ACY42109 C Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand FM A Reset ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY42109 ACY4210 ACY4210 ACY42109 ACY4210 ACY4210 ACY4210 ACY4210					on of Active Image	Option: Correctic		5.1
another ACC reset is required. Choose the appropriate substep below: 5.1.1 Option 1) Reboot ACC-A Image 1 Kxecute Telecommand Select ACC A Image 1 ACY46109 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific Verify Telemetry ACC_A_IMAGE AEEEHO50 = Image 1 (None) Execute Telecommand FM A Reset ACY42109 ACY42109 C Control Flags : GBM IL DSE Y Det. descr. : TC(2,3) - FM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 C Control Flags : GBM IL DSE Y Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY48109 ACY4810 ACY48109 ACY48109 ACY4810 ACY481				ACC using the				
S.1.1 Option 1) Rebot ACC-A Image 1 ACY46109 Freque Telecommand Select ACC A Image 1 ACY46109 TC Control Flags : GBM IL DSE Y ACY46109 Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific - Image 1 (None) Verify Telemetry ACC_A_IMAGE AEE88050 = Image 1 (None) Execute Telecommand FR A Reset ACY42109 - Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific - Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific				ed by the ACC				
Execute Telecommand Select ACC A Image 1 ACY46109 TC Control Flags : GEM IL DSE Y ACY46109 Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific - Image 1 (None) Verify Telemetry ACC_A_IMAGE AEE88050 - Image 1 (None) Execute Telecommand TC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific ACY42109 5.1.2 Option 2) Reboot ACC-B Image 1 ACY48109 Fxecute Telecommand Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109					priate substep bel	Choose the approp		
Execute Telecommand Select ACC A Image 1 ACY46109 TC Control Flags : GEM IL DSE Y ACY46109 Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific - Image 1 (None) Verify Telemetry ACC_A_IMAGE AEE88050 - Image 1 (None) Execute Telecommand TC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific ACY42109 5.1.2 Option 2) Reboot ACC-B Image 1 ACY48109 Fxecute Telecommand Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109								
Select ACC A Image 1 ACY46109 TC Control Flags : GBM IL DSE Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Verify Telemetry ACC_A_IMAGE AEE8H050 Execute Telecommand FM A Reset C Control Flags : GBM IL DSE Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Execute Telecommand Select ACC B Image 1 ACY48109 Execute Telecommand Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109 C Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109					ACC-A Image 1	Option 1) Reboot		5.1.1
GBM IL DSE Y Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific = Image 1 Verify Telemetry ACC_A_IMAGE AEE8H050 = Image 1 Execute Telecommand TC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific ACY42109 5.1.2 Option 2) Reboot ACC-B Image 1 ACY48109 FC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109 FC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission ACY48109			ACY46109	CC A Image 1		Execute Telecomma		
Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC A Image 1 - Mission Specific Verify Telemetry ACC_A_IMAGE AEE8H050 Execute Telecommand FC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission				GBM IL DSE	:	TC Control Flags		
Verify Telemetry ACC_A_IMAGE AEE8H050 = Image 1 (None) Execute Telecommand PM A Reset ACY42109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Y 5.1.2 Option 2) Reboot ACC-B Image 1					(2,3) - Select ACC			
ACC_A_IMAGE AEE8H050 = Image 1 (None) Execute Telecommand PM A Reset ACY42109 ACY42109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Image 1 Image 1 5.1.2 Option 2) Reboot ACC-B Image 1 Image 1 ACY48109 TC Control Flags : GBM IL DSEY Subsch. ID : 20 Image 1 TC Control Flags : GBM IL DSEY Subsch. ID : 20 Image 1 TC Control Flags : GBM IL DSEY Subsch. ID : 20 Image 1 - Mission						Specific		
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PM A Reset ACY42109 TC Control Flags : GBM IL DSE Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 ACY48109 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission		(None)	= Image 1	AEE8H050		verily relemetry		
GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission			ACY42109	PM A Reset	and	Execute Telecomma		
Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific Det. descr. : TC(2,3) - PM A Reset - Mission Specific 5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission				GBM IL DSE	:	TC Control Flags		
5.1.2 Option 2) Reboot ACC-B Image 1 Execute Telecommand Select ACC B Image 1 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission					(2,3) - PM A Reset			
Execute Telecommand Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission								
Execute Telecommand Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission								
Select ACC B Image 1 ACY48109 TC Control Flags : GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission					ACC-B Image 1	Option 2) Reboot		5.1.2
GBM IL DSE Y Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission			ACY48109	CC B Image 1		Execute Telecomma		
Subsch. ID : 20 Det. descr. : TC(2,3) - Select ACC B Image 1 - Mission						TC Control Flags		
					(2,3) - Select ACC			
Verify Telemetry ACC_B_IMAGE AEE8J050 = Image 1 (None)		(None)	= Image 1	AEE8J050		Verify Telemetry		





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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand	ACY52109	
			ACISZIUS	
		TC Control Flags : GBM IL DSE		
		Y		
		Subsch. ID : 20 Det. descr. : TC(2,3) - PM B Reset - Mission Specific		
6		Enable Event Action for AIR		Next Step: 7
		Execute Procedure: H_FCP_DHS_3049 Event-action table maintenance		
7		ACMS mode transition SAM->OCM->SCM		Next Step: 8
1		ACMS MODE LIANSILION SAM->OCM->SCM		0
		TPFs required from FD to perform this step.		
		Execute Procedure: H_CRP_AOC_XA2C Recovery from SIR		
		The SCM slew shall bring the MGA back to DTCP attitude.		
8		Change TM rate to high via MGA		Next Step: END
		Inform ECC to stop Ranging.		
		Execute Procedure: H_FCP_TTC_TURM Transponder in use Ranging Activation/Deactivation		
		The sequences of following procedures contain MTL		
		commands.		
		For following procedure select "Nominal/Earth acquisition (NOM1)"		
		RFDN SWs position ABAB D/L path: TX1 - TWTA1 - MGA U/L path: MGA - RX1 (LGA1 - RX2)		
		Execute Procedure: H_FCP_TTC_SWX Configure RFDN switches		



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch			
		Execute Procedure: H_FCP_TTC_TUHR Tx and TM encoder in use configuration for HR					
		Execute Procedure: H_FCP_TTC_TU01 Switch ON TX and TWTA in use					
		Setting the default TM packet downlink and storage configuration (H_FCP_DHS_1003) is included in the TUHR procedure above.					
	End of Procedure						

