Enable/Disable RM Alarms
File: H_CRP_AOC_D2AE.xls
Author: dsalt-hp

Procedure Summary

Objectives

Each of the alarms processed by the RM can be individually enabled and disabled. The enable filter is applied as the last stage in the alarm processing chain. The filter applies a simple logical end between the binary alarm status and the enable/disable signal. The effect of the enable/disable stage is to force the filtered status of any disabled alarm to 0 (low) so that the alarm will always appear inactive to alarm pattern matching logic independently of the status of the raw alarm signal at the input of the RM. The enable/disable status of all alarms is stored in the dedicated RM register.

The default status of the alarms is shown in the figure. All 3 CRS's can generate alarm signals that arrive at the input of the RM. The enable/disable mechanism is used to select which CRS alarm will be recognised by the RM. At any time during the mission only one CRS alarm input should be enabled.

If any of the alarm inputs inluded in the alarm patterns recognised by the RM is disabled, the RM will not respond ot any change of the signal and no reconfiguration will be triggered.

For the PM Select alarm, disabling has consequeces that go beyond a direct response from the RM. The filtered status of this signal is used to condition alarm patterns in such a way that level 4 alarms are recognised only if the main PM of the current configuration is selected. This mechanism is also used to prevent continuous retriggering of level 4 alarms, since the PM Select relay is switched at the beginning of the reconfiguration sequence preventing the RM from recognising a level 4 pattern. The low status of the PM Select signal indicates PMA as the active processor. If the PM Select alarm is disabled, its filtered status will be forced to "low" permanently. As a result, if the ACC is operated in its nominal configuration with PMA and main and PMB as redundant, it will be possible for an ARAD alarm to trigger more than once. In the ACC configuration with PMB used as the main processor and PMA as redundant, permanently low of the PM select relay will prevent the RM from reacting to any level 4 alarm.

USAGE:

The procedure can be used in three cases, all of which should be considered contingencies.

1. Select a different CRS for ARAD alarm generation. It should be kept that only CRS alarm should be enabled at a time.
2. Disable a failed alarm input (signal frozen or unreliable).
3. Correct a bit flip in the alarm enable register.

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NOTES:

The effect of the enable/disable stage in alarm processing is not seen in the filtered alarm status register, even though it affects the status of the alarms at the input of the alarm pattern recognition logic.

Summary of Constraints

N/A

Spacecraft Configuration

Start of Procedure

N/A

End of Procedure

N/A

Reference File(s)

Input Command Sequences

Output Command Sequences

HRAD2AE1
HRAD2AE2
HRAD2AE3
HRAD2AE4

Referenced Displays

ANDs **GRDs** **SLDs**

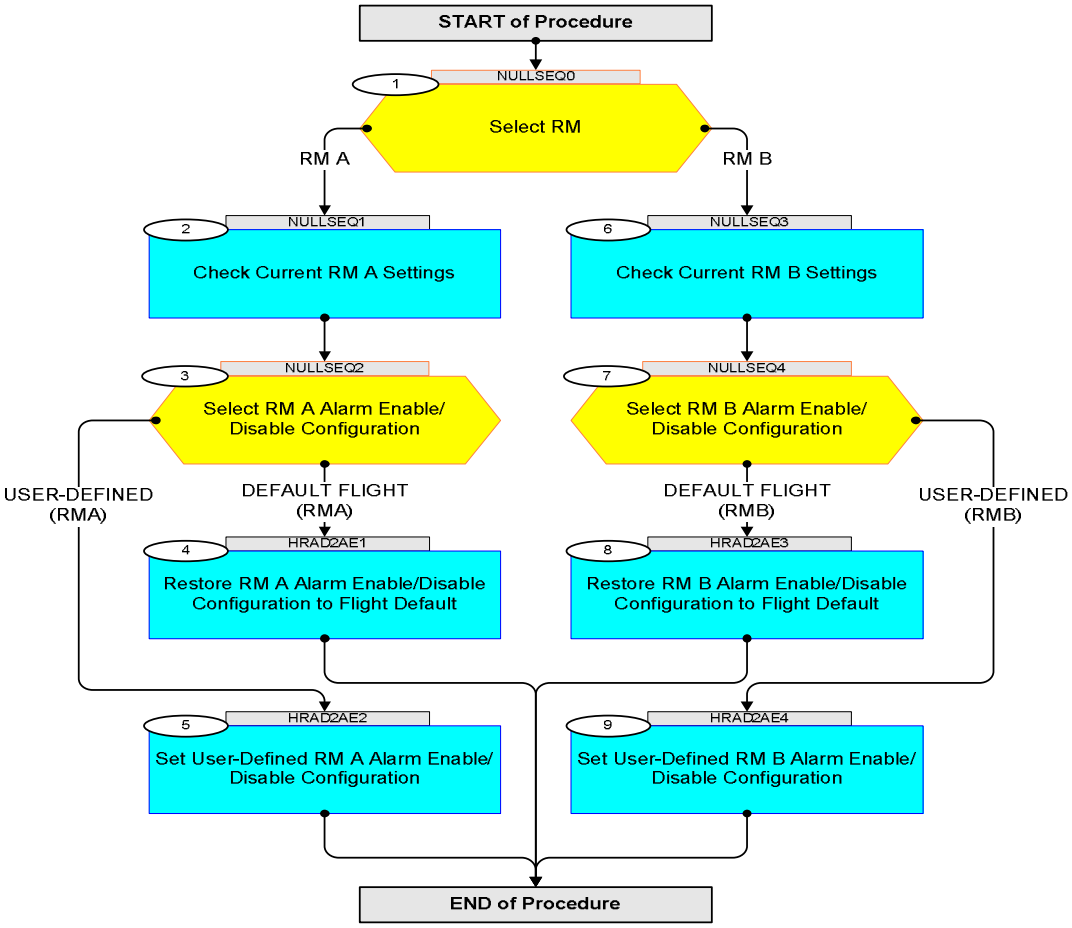
ZAAM2999
ZAA07999

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
10/01/09	2	1	Created	dsalt-hp	

Enable/Disable RM Alarms
File: H_CRP_AOC_D2AE.xls
Author: dsalt-hp

Procedure Flowchart Overview



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Beginning of Procedure		
		TC Seq. Name :NULLSEQ0 ( ) *TimeTag Type: N* *Sub Schedule ID:*		
1		*Select RM*		Next Step: RM A 2 RM B 6
		Select the reconfiguration module that needs change of alarm enable/disable configuration: *RM A -> GO TO STEP 2* *RM B -> GO TO STEP 6*		
		TC Seq. Name :NULLSEQ1 ( ) *TimeTag Type:* *Sub Schedule ID:*		
2		*Check Current RM A Settings*		Next Step: 3
		This step verifies if the current alarm enable/disable configuration is as expected. The enable/disable setting of each alarm can be read from the RMH_AENSET macro parameter, which is part of the telemetry packet returned by the TC_GET_RM_STATUS command.		
2.1		*Uplink Sequence HFADRMR1*		
		Execute Sequence **HFADRMR1 GetRmAstatusReport**		
2.2		*Check RM Alarm Enable/Disable Configuration*		
		Verify Telemetry **AENSET WD AEW5A109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1 AEW5B109**	**<to be read>**	AND=ZAAM2999

Enable/Disable RM Alarms
File: H_CRP_AOC_D2AE.xls
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Step No.	Time	Activity/Remarks		TC/TLM	Display/ Branch
		Verify Telemetry **AENSET CRS2**	**AEW5C109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS3**	**AEW5D109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD1**	**AEW5E109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD2**	**AEW5F109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1**	**AEW5G109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2**	**AEW5H109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8**	**AEW5J109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU**	**AEW5K109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMACOCOS**	**AEW5L109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD**	**AEW5M109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW**	**AEW5N109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU**	**AEW5P109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS**	**AEW5R109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD**	**AEW5S109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW**	**AEW5T109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect**	**AEW5U109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable**	**AEW5V109**	**<to be read>**	AND=ZAAM2999
		TC Seq. Name :NULLSEQ2 ( )			
		TimeTag Type: *Sub Schedule ID:*			

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3		*Select RM A Alarm Enable/Disable Configuration*		Next Step: DEFAULT FLIGHT (RMA) 4 USER-DEFINED (RMA) 5
		Options are to restore the default alarm enable/disable configuration for flight or to define a new alarm enable/disable configuration: *Restore flight defaults -> GO TO STEP 4* *Define new configuration -> GO TO STEP 5*		
		TC Seq. Name :HRAD2AE1 (SetRmAdefAlarmEnaCfg) *TimeTag Type: N* *Sub Schedule ID:*		
4		*Restore RM A Alarm Enable/Disable Configuration to Flight Default*		Next Step: END
		This step restores the default RM alarm enable/disable configuration for flight. Default configuration is as highlighted in table 1 attached at the back of this procedure.		
4.1		*Uplink Sequence HRAD2AE1*		
4.1.1		*Disable RM A*		
		Execute Telecommand **Ext_ACC_RM_A_Disable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM A Disable - Mission Specific	**DCM22170**	
		Verify Telemetry **RMA_fromTTR-RMA** **AEE91050**	**= DISABLED**	AND=ZAA07999
		Verify Telemetry **RMA_fromTTR-RMB** **AEE92050**	**= DISABLED**	AND=ZAA07999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
4.1.2		*Set RM Alarm Enable/Disable Configuration*		
		Execute Telecommand **EnableAlarm CRS1 RMA** *Command Parameter(s) :* **SetAlm DF86Cmd AH8G3001** **SetAlm DD86Cmd AH8G4001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) SET RM ALARM - EnableAlarm CRS1 RMA	**ACZWM109** **Enable 86** **Enable 86**	
		Execute Telecommand **Fire Set RM Alarm** *Command Parameter(s) :* **FireFun DF86Cmd AH8F1001** **FireFun DD86Cmd AH8F2001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,4) Fire Command - Fire Set RM Alarm	**ACZ5N109** **Enable 86** **Enable 86**	
4.1.3		*Verify Update via RM A Status Report*		
		Execute Telecommand **Get RM-A status** *Command Parameter(s) :* **RMStat DF86Cmd AH841001** **RMStat DD86Cmd AH842001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) - Get RM-A status	**ACZZ4109** **Enable 86** **Enable 86**	
		Verify Packet Reception **TM 8-6 for RM Status parametrized** *Packet Details:* **APID:** **Type:** **Subtype:** **PI1:** **PI2:**	**A86_RMStatus** **512** **8** **6** **41600** **1**	
		Verify Telemetry **AENSET WD AEW5A109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1 AEW5B109**	**= ENABLED**	AND=ZAAM2999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **AENSET CRS2 AEW5C109**	**= DISABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS3 AEW5D109**	**= DISABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD1 AEW5E109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD2 AEW5F109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1 AEW5G109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2 AEW5H109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8 AEW5J109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU AEW5K109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMACOCOS AEW5L109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD AEW5M109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW AEW5N109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU AEW5P109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS AEW5R109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD AEW5S109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW AEW5T109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect AEW5U109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable AEW5V109**	**= ENABLED**	AND=ZAAM2999
4.1.4		*Enable RM A*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Ext_ACC_RM_A_Enable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM A Enable - Mission Specific	**DCM21170**	
		Verify Telemetry **RMA_fromTTR-RMA** **AEE91050**	**= ENABLED**	AND=ZAA07999
		Verify Telemetry **RMA_fromTTR-RMB** **AEE92050**	**= ENABLED**	AND=ZAA07999
		TC Seq. Name :HRAD2AE2 (SetRmAuserAlarmEnaCf) *TimeTag Type: N* *Sub Schedule ID:* *Formal Parameter List :* SetAlm WD Togg AenaWdTg= SetAlarm CRS1 AenaCrs1= SetAlarm CRS2 AenaCrs2= SetAlarm CRS3 AenaCrs3= SetAlarm AAD1 AenaAad1= SetAlarm AAD2 AenaAad2= SetAlm SepStr1 AenaSep1= SetAlm SepStr2 AenaSep2= SetAlm PMASyEr AenaAcpu=	□	
		SetAlm PMAAlAl AenaAcoc= SetAlarm PMAUnV AenaAuvd= SetAlm PMASwAl AenaAswA= SetAlm PMBSyEr AenaBcpu= SetAlm PMBAlAl AenaBcoc= SetAlarm PMBUnV AenaBuvd= SetAlm PMBSwAl AenaBswA= SetAlarm Sel PM AenaPmSe= SetAlarm WD Ena AenaWdEn=	□	
5		*Set User-Defined RM A Alarm Enable/Disable Configuration*		Next Step: END
		This step lets you define a new RM alarm polarity configuration. In flight this sequence should be used to resolve contingencies in the following specific cases: *1. Select a different CRS for ARAD alarm generation, although it is recommended to use procedure H_CRP_AOC_3DET (Set CRS Detection Unit) in this case.* *2. Disable a failed alarm input (signal frozen or unreliable)* *3. Correct a bit flip in the alarm enable register*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5.1		*Uplink Sequence HRAD2AE2*		
5.1.1		*Disable RM A*		
		Execute Telecommand **Ext_ACC_RM_A_Disable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM A Disable - Mission Specific	**DCM22170**	
		Verify Telemetry **RMA_fromTTR-RMA** **AEE91050**	**= DISABLED**	AND=ZAA07999
		Verify Telemetry **RMA_fromTTR-RMB** **AEE92050**	**= DISABLED**	AND=ZAA07999
5.1.2		*Set RM Alarm Enable/Disable Configuration*		
		When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are: - ***AenaWdTg*** *= Watchdog toggle alarm enable/disable status* - ***AenaCrs1*** *= CRS 1 alarm enable/disable status* - ***AenaCrs2*** *= CRS 2 alarm enable/disable status* - ***AenaCrs3*** *= CRS 3 alarm enable/disable status* - ***AenaAad1*** *= AAD 1 alarm enable/disable status* - ***AenaAad2*** *= AAD 2 alarm enable/disable status* - ***AenaSep1*** *= Separation strap 1 alarm enable/ disable status* - ***AenaSep2*** *= Separation strap 2 alarm enable/ disable status*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		- ***AenaAcpu*** *= PM A CPU alarm enable/disable status* - ***AenaAcoc*** *= PM A COCOS alarm enable/disable status* - ***AenaAuvd*** *= PM A undervoltage detection alarm enable/disable status* - ***AenaAswA*** *= PM A software alarm enable/disable status* - ***AenaBcpu*** *= PM B CPU alarm enable/disable status* - ***AenaBcoc*** *= PM B COCOS alarm enable/disable status* - ***AenaBuvd*** *= PM B undervoltage detection alarm enable/disable status* - ***AenaBswA*** *= PM B software alarm enable/disable status* - ***AenaPmSe*** *= PM select alarm enable/disable status* - ***AenaWdEn*** *= Watchdog enable alarm enable/disable status*		
		Execute Telecommand **Set RMA Alarms** *Command Parameter(s) :* **SetAlm DF86Cmd AH8G3001** **SetAlm DD86Cmd AH8G4001** **SetAlm WD Togg AHJ81001** **SetAlarm CRS1 AHJ82001** **SetAlarm CRS2 AHJ83001** **SetAlarm CRS3 AHJ84001** **SetAlarm AAD1 AHJ85001** **SetAlarm AAD2 AHJ86001** **SetAlm SepStr1 AHJ87001** **SetAlm SepStr2 AHJ88001** **SetAlm Extrnl7 AHG81001**	**ACZWL109** **Enable 86** **Enable 86** **AenaWdTg** **AenaCrs1** **AenaCrs2** **AenaCrs3** **AenaAad1** **AenaAad2** **AenaSep1** **AenaSep2** **1 <dec>**	
		SetAlm PMASyEr AHG82001 **SetAlm PMAAlAl AHG83001** **SetAlarm PMAUnV AHG84001** **SetAlm PMASwAl AHG85001** **SetAlm PMBSyEr AHG86001** **SetAlm PMBAlAl AHG87001** **SetAlarm PMBUnV AHG88001** **SetAlm PMBSwAl AHL81001** **SetAlarm Sel PM AHL82001** **SetAlm NotUse1 AHL83001** **SetAlm NotUse2 AHL84001** **SetAlm NotUse3 AHL85001** **SetAlarm WD Ena AHL86001** *TC Control Flags :*	**AenaAcpu** **AenaAcoc** **AenaAuvd** **AenaAswA** **AenaBcpu** **AenaBcoc** **AenaBuvd** **AenaBswA** **AenaPmSe** **1 <dec>** **1 <dec>** **1 <dec>** **AenaWdEn**	
		GBM IL DSE **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) SET RM ALARM - Set RMA Alarms		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Fire Set RM Alarm** *Command Parameter(s) :* **FireFun DF86Cmd AH8F1001** **FireFun DD86Cmd AH8F2001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,4) Fire Command - Fire Set RM Alarm	**ACZ5N109** **Enable 86** **Enable 86**	
5.1.3		*Verify Update via RM A Status Report*		
		Execute Telecommand **Get RM-A status** *Command Parameter(s) :* **RMStat DF86Cmd AH841001** **RMStat DD86Cmd AH842001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) - Get RM-A status	**ACZZ4109** **Enable 86** **Enable 86**	
		Verify Packet Reception **TM 8-6 for RM Status parametrized** *Packet Details:* **APID:** **Type:** **Subtype:** **PI1:** **PI2:**	**A86_RMStatus** **512** **8** **6** **41600** **1**	
		Verify Telemetry **AENSET WD AEW5A109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1 AEW5B109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS2 AEW5C109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS3 AEW5D109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD1 AEW5E109**	**<user defined setting>**	AND=ZAAM2999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **AENSET AAD2 AEW5F109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1 AEW5G109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2 AEW5H109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8 AEW5J109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU AEW5K109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMACOCOS AEW5L109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD AEW5M109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW AEW5N109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU AEW5P109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS AEW5R109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD AEW5S109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW AEW5T109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect AEW5U109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable AEW5V109**	**<user defined setting>**	AND=ZAAM2999
5.1.4		*Enable RM A*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Ext_ACC_RM_A_Enable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM A Enable - Mission Specific	**DCM21170**	
		Verify Telemetry **RMA_fromTTR-RMA** **AEE91050**	**= ENABLED**	AND=ZAA07999
		Verify Telemetry **RMA_fromTTR-RMB** **AEE92050**	**= ENABLED**	AND=ZAA07999
		TC Seq. Name :NULLSEQ3 ( ) *TimeTag Type:* *Sub Schedule ID:*		
6		*Check Current RM B Settings*		Next Step: 7
		This step verifies if the current alarm enable/disable configuration is as expected. The enable/disable setting of each alarm can be read from the RMH_AENSET macro parameter, which is part of the telemetry packet returned by the TC_GET_RM_STATUS command.		
6.1		*Uplink Sequence HFADRMR2*		
		Execute Sequence **HFADRMR2 GetRmBstatusReport**		
6.2		*Check RM Alarm Enable/Disable Configuration*		
		Verify Telemetry **AENSET WD** **AEW5A109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1** **AEW5B109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS2** **AEW5C109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS3** **AEW5D109**	**<to be read>**	AND=ZAAM2999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **AENSET AAD1 AEW5E109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD2 AEW5F109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1 AEW5G109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2 AEW5H109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8 AEW5J109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU AEW5K109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMACOCOS AEW5L109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD AEW5M109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW AEW5N109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU AEW5P109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS AEW5R109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD AEW5S109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW AEW5T109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect AEW5U109**	**<to be read>**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable AEW5V109**	**<to be read>**	AND=ZAAM2999
		TC Seq. Name :NULLSEQ4 ( ) *TimeTag Type:* *Sub Schedule ID:* □		
7		*Select RM B Alarm Enable/Disable Configuration*		Next Step: DEFAULT FLIGHT (RMB) 8 USER-DEFINED (RMB) 9

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Options are to restore the default alarm enable/disable configuration for flight or to define a new alarm enable/disable configuration: *Restore flight defaults -> GO TO STEP 8* *Define new configuration -> GO TO STEP 9*		
		TC Seq. Name :HRAD2AE3 (SetRmBdefAlarmEnaCfg) *TimeTag Type: N* *Sub Schedule ID:*		
8		*Restore RM B Alarm Enable/Disable Configuration to Flight Default*		Next Step: END
		This step restores the default RM alarm enable/disable configuration for flight. Default configuration is as highlighted in table 1 attached at the back of this procedure.		
8.1		*Uplink Sequence HRAD2AE3*		
8.1.1		*Disable RM B*		
		Execute Telecommand **Ext_ACC_RM_B_Disable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM B Disable - Mission Specific	**DCM25170**	
		Verify Telemetry **RMB_fromTTR-RMA** **AEE93050**	**= DISABLED**	AND=ZAA07999
		Verify Telemetry **RMB_fromTTR-RMB** **AEE94050**	**= DISABLED**	AND=ZAA07999
8.1.2		*Set RM Alarm Enable/Disable Configuration*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **EnableAlarm CRS1 RMB** *Command Parameter(s) :* **SetAlm DF86Cmd AH8G3001** **SetAlm DD86Cmd AH8G4001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) SET RM ALARM - EnableAlarm CRS1 RMB	**ACZWU109** **Enable 86** **Enable 86**	
		Execute Telecommand **Fire Set RM Alarm** *Command Parameter(s) :* **FireFun DF86Cmd AH8F1001** **FireFun DD86Cmd AH8F2001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,4) Fire Command - Fire Set RM Alarm	**ACZ5N109** **Enable 86** **Enable 86**	
8.1.3		*Verify Update via RM B Status Report*		
		Execute Telecommand **Get RM-B status** *Command Parameter(s) :* **RMStat DF86Cmd AH841001** **RMStat DD86Cmd AH842001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) - Get RM-B status	**ACZZ5109** **Enable 86** **Enable 86**	
		Verify Packet Reception **TM 8-6 for RM Status parametrized** *Packet Details:* **APID:** **Type:** **Subtype:** **PI1:** **PI2:**	**A86_RMStatus** **512** **8** **6** **41600** **1**	
		Verify Telemetry **AENSET WD AEW5A109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1 AEW5B109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS2 AEW5C109**	**= DISABLED**	AND=ZAAM2999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **AENSET CRS3 AEW5D109**	**= DISABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD1 AEW5E109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD2 AEW5F109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1 AEW5G109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2 AEW5H109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8 AEW5J109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU AEW5K109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMACOCOS AEW5L109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD AEW5M109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW AEW5N109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU AEW5P109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS AEW5R109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD AEW5S109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW AEW5T109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect AEW5U109**	**= ENABLED**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable AEW5V109**	**= ENABLED**	AND=ZAAM2999
8.1.4		*Enable RM B*		
		Execute Telecommand **Ext_ACC_RM_B_Enable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM B Enable - Mission Specific	**DCM24170**	

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **RMB_fromTTR-RMA** **AEE93050**	**= ENABLED**	AND=ZAA07999
		Verify Telemetry **RMB_fromTTR-RMB** **AEE94050**	**= ENABLED**	AND=ZAA07999
		TC Seq. Name :HRAD2AE4 (SetRmBuserAlarmEnaCf) *TimeTag Type: N* *Sub Schedule ID:* *Formal Parameter List :* SetAlm WD Togg AenaWdTg= SetAlarm CRS1 AenaCrs1= SetAlarm CRS2 AenaCrs2= SetAlarm CRS3 AenaCrs3= SetAlarm AAD1 AenaAad1= SetAlarm AAD2 AenaAad2= SetAlm SepStr1 AenaSep1= SetAlm SepStr2 AenaSep2= SetAlm PMASyEr AenaAcpu=		
		SetAlm PMAAlAl AenaAcoc= SetAlarm PMAUnV AenaAuvd= SetAlm PMASwAl AenaAswA= SetAlm PMBSyEr AenaBcpu= SetAlm PMBAlAl AenaBcoc= SetAlarm PMBUnV AenaBuvd= SetAlm PMBSwAl AenaBswA= SetAlarm Sel PM AenaPmSe= SetAlarm WD Ena AenaWdEn=		
9		*Set User-Defined RM B Alarm Enable/Disable Configuration*		Next Step: END
		This step lets you define a new RM alarm polarity configuration. In flight this sequence should be used to resolve contingencies in the following specific cases: *1. Select a different CRS for ARAD alarm generation, although it is recommended to use procedure H_CRP_AOC_3DET (Set CRS Detection Unit) in this case.* *2. Disable a failed alarm input (signal frozen or unreliable)* *3. Correct a bit flip in the alarm enable register*		
9.1		*Uplink Sequence HRAD2AE4*		
9.1.1		*Disable RM B*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Ext_ACC_RM_B_Disable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM B Disable - Mission Specific	**DCM25170**	
		Verify Telemetry **RMB_fromTTR-RMA** **AEE93050**	**= DISABLED**	AND=ZAA07999
		Verify Telemetry **RMB_fromTTR-RMB** **AEE94050**	**= DISABLED**	AND=ZAA07999
9.1.2		*Set RM Alarm Enable/Disable Configuration*		
		When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are: - ***AenaWdTg*** *= Watchdog toggle alarm enable/disable status* - ***AenaCrs1*** *= CRS 1 alarm enable/disable status* - ***AenaCrs2*** *= CRS 2 alarm enable/disable status* - ***AenaCrs3*** *= CRS 3 alarm enable/disable status* - ***AenaAad1*** *= AAD 1 alarm enable/disable status* - ***AenaAad2*** *= AAD 2 alarm enable/disable status* - ***AenaSep1*** *= Separation strap 1 alarm enable/ disable status* - ***AenaSep2*** *= Separation strap 2 alarm enable/ disable status*		
		- ***AenaAcpu*** *= PM A CPU alarm enable/disable status* - ***AenaAcoc*** *= PM A COCOS alarm enable/disable status* - ***AenaAuvd*** *= PM A undervoltage detection alarm enable/disable status* - ***AenaAswA*** *= PM A software alarm enable/disable status* - ***AenaBcpu*** *= PM B CPU alarm enable/disable status* - ***AenaBcoc*** *= PM B COCOS alarm enable/disable status* - ***AenaBuvd*** *= PM B undervoltage detection alarm enable/disable status* - ***AenaBswA*** *= PM B software alarm enable/disable status* - ***AenaPmSe*** *= PM select alarm enable/disable status* - ***AenaWdEn*** *= Watchdog enable alarm enable/disable status*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Set RMB Alarms** *Command Parameter(s) :* **SetAlm DF86Cmd AH8G3001** **SetAlm DD86Cmd AH8G4001** **SetAlm WD Togg AHJ81001** **SetAlarm CRS1 AHJ82001** **SetAlarm CRS2 AHJ83001** **SetAlarm CRS3 AHJ84001** **SetAlarm AAD1 AHJ85001** **SetAlarm AAD2 AHJ86001** **SetAlm SepStr1 AHJ87001** **SetAlm SepStr2 AHJ88001** **SetAlm Extrnl7 AHG81001** **SetAlm PMASyEr AHG82001** **SetAlm PMAAlAl AHG83001** **SetAlarm PMAUnV AHG84001** **SetAlm PMASwAl AHG85001** **SetAlm PMBSyEr AHG86001** **SetAlm PMBAlAl AHG87001** **SetAlarm PMBUnV AHG88001** **SetAlm PMBSwAl AHL81001** **SetAlarm Sel PM AHL82001** **SetAlm NotUse1 AHL83001** **SetAlm NotUse2 AHL84001** **SetAlm NotUse3 AHL85001** **SetAlarm WD Ena AHL86001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) SET RM ALARM - Set RMB Alarms	**ACZWT109** **Enable 86** **Enable 86** **AenaWdTg** **AenaCrs1** **AenaCrs2** **AenaCrs3** **AenaAad1** **AenaAad2** **AenaSep1** **AenaSep2** **1 <dec>** **AenaAcpu** **AenaAcoc** **AenaAuvd** **AenaAswA** **AenaBcpu** **AenaBcoc** **AenaBuvd** **AenaBswA** **AenaPmSe** **1 <dec>** **1 <dec>** **1 <dec>** **AenaWdEn**	
		Execute Telecommand **Fire Set RM Alarm** *Command Parameter(s) :* **FireFun DF86Cmd AH8F1001** **FireFun DD86Cmd AH8F2001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,4) Fire Command - Fire Set RM Alarm	**ACZ5N109** **Enable 86** **Enable 86**	
9.1.3		*Verify Update via RM B Status Report*		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand **Get RM-B status** *Command Parameter(s) :* **RMStat DF86Cmd AH841001** **RMStat DD86Cmd AH842001** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(8,1) - Get RM-B status	**ACZZ5109** **Enable 86** **Enable 86**	
		Verify Packet Reception **TM 8-6 for RM Status parametrized** *Packet Details:* **APID:** **Type:** **Subtype:** **PI1:** **PI2:**	**A86_RMStatus** **512** **8** **6** **41600** **1**	
		Verify Telemetry **AENSET WD AEW5A109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS1 AEW5B109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS2 AEW5C109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET CRS3 AEW5D109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD1 AEW5E109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET AAD2 AEW5F109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap1 AEW5G109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Strap2 AEW5H109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET Ext8 AEW5J109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA CPU AEW5K109**	**<user defined setting>**	AND=ZAAM2999

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **AENSET PMACOCOS AEW5L109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA UVD AEW5M109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMA SW AEW5N109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB CPU AEW5P109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMBCOCOS AEW5R109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB UVD AEW5S109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMB SW AEW5T109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET PMSelect AEW5U109**	**<user defined setting>**	AND=ZAAM2999
		Verify Telemetry **AENSET WDEnable AEW5V109**	**<user defined setting>**	AND=ZAAM2999
9.1.4		*Enable RM B*		
		Execute Telecommand **Ext_ACC_RM_B_Enable** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : External ACC RM B Enable - Mission Specific	**DCM24170**	
		Verify Telemetry **RMB_fromTTR-RMA AEE93050**	**= ENABLED**	AND=ZAA07999
		Verify Telemetry **RMB_fromTTR-RMB AEE94050**	**= ENABLED**	AND=ZAA07999

End of Procedure

Tables & Figures

No.	Alarm	Default Alarm Enable/Disable Configuration for Flight	
		Raw	Calibrated
(00)	Watchdog Toggle	1	Enabled
(01)	CRS 1	1	Enabled
(02)	CRS 2	0	Disabled
(03)	CRS 3	0	Disabled
(04)	AAD 1	1	Enabled
(05)	AAD 2	1	Enabled
(06)	Separation Strap 1	1	Enabled
(07)	Separation Strap 2	1	Enabled
(08)	External 8	1	Enabled
(09)	PM A CPU	1	Enabled
(10)	PM A COCOS	1	Enabled
(11)	PM A Under-Voltage Detection	1	Enabled
(12)	PM A Software Alarm	1	Enabled
(13)	PM B CPU	1	Enabled
(14)	PM B COCOS	1	Enabled
(15)	PM B Under-Voltage Detection	1	Enabled
(16)	PM B Software Alarm	1	Enabled
(17)	PM Select	1	Enabled
(18)	Unused	1	Enabled
(19)	Unused	1	Enabled
(20)	Unused	1	Enabled
(21)	Watchdog Enable	1	Enabled
(22)	Unused	0	Disabled
(23)	Unused	0	Disabled
(24)	Unused	0	Disabled
(25)	Unused	0	Disabled
(26)	Unused	0	Disabled
(27)	Unused	0	Disabled
(28)	Unused	0	Disabled
(29)	Unused	0	Disabled
(30)	Unused	0	Disabled
(31)	Unused	0	Disabled

Table 1 : Default Alarm Enable/Disable Configuration for Flight