

Recovery from a CCU A or CCU B Non-Vital RT Invalid
File: H_CRP_CCU_RTR.xls
Author: E. Picallo



Procedure Summary

Objectives

This procedure describes the steps needed to perform a configuration check after CCU RT communication failure after reception of one of the following events:

- TM (5,2,158) CCU A Non-Vital RT Invalid
- TM (5,2,159) CCU B Non-Vital RT Invalid

These events are generated when a bus error during communication with the corresponding RT has triggered the DLL FDIR sequence. Unit is declared "Invalid" in the RTA Configuration Matrix and no further communication with it will be performed (until it is configured to "Valid" again).

The aim is to try to reestablish communication with the corresponding CCU.

Summary of Constraints

If the decontamination is ongoing when this failure occurs, it is stopped via an EAT entry.

In this case, it is important to know in which decontamination phase the CCU failure has occurred, in order to decide in which conditions to restart it. Refer to the dedicated contingency procedure H_CRP_SYS_DEC2 (Restart telescope decontamination)

Spacecraft Configuration

Start of Procedure

CDMU in default configuration
CCU A ON and RT Invalid
or
CCU B ON and RT Invalid

End of Procedure

CDMU in default configuration
CCU A ON and RT Valid, CCU B ON and RT Valid
or
CCU A OFF and RT Invalid, CCUB ON and RT Valid
or
CCU A ON and RT Valid, CCU B OFF and RT Invalid

Reference File(s)

Input Command Sequences

Output Command Sequences

HRKRTR1
HRKRTR2

Referenced Displays

ANDs GRDs SLDs
ZAZ9L999

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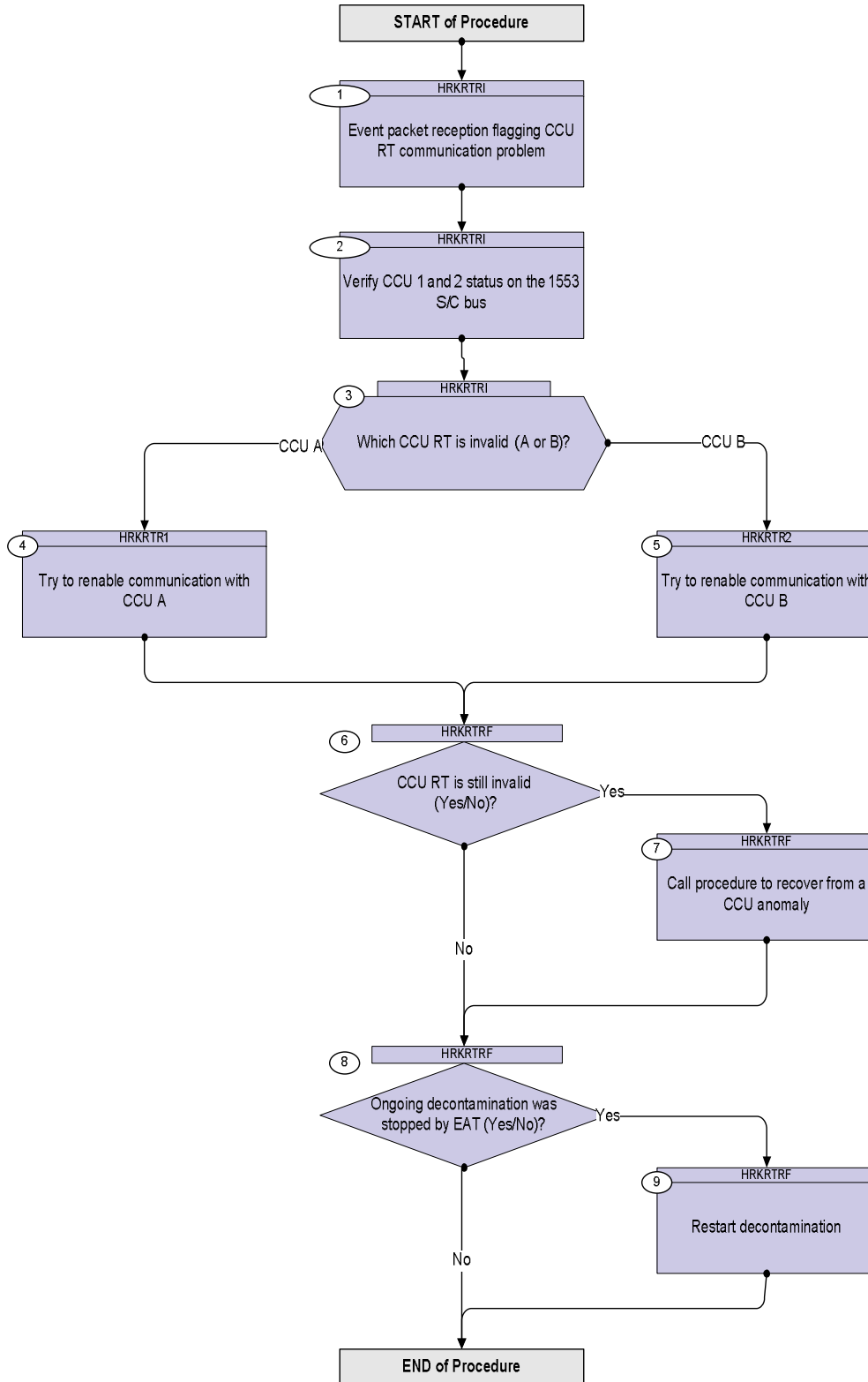
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
09/10/08		1	Created	E. Picallo	
26/11/08	2	2	database alignment	E. Picallo	
21/02/09	2.1	3	Added cause and effect of the failure. <input type="checkbox"/> Called new procedure to restart decontamination	E. Picallo	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch										
Beginning of Procedure														
<p><i>TC Seq. Name :HRKRTRI (CCU RT Anomaly Init)</i> Recovery from a CCU A or CCU B Non-Vital RT Invalid Initial</p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>														
1		Event packet reception flagging CCU RT communication problem		Next Step: 2										
		Verify Packet Reception CdmuBsw Event 5-2 CCU A non-vital RT Invalid Packet Details: <table style="margin-left: 20px;"> <tr><td>APID:</td><td>16</td></tr> <tr><td>Type:</td><td>5</td></tr> <tr><td>Subtype:</td><td>2</td></tr> <tr><td>PI1:</td><td>158</td></tr> <tr><td>PI2:</td><td>158</td></tr> </table>	APID:	16	Type:	5	Subtype:	2	PI1:	158	PI2:	158	(5,2)-0558	
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		OR Verify Packet Reception CdmuBsw Event 5-2 CCU B non-vital RT Invalid Packet Details: <table style="margin-left: 20px;"> <tr><td>APID:</td><td>16</td></tr> <tr><td>Type:</td><td>5</td></tr> <tr><td>Subtype:</td><td>2</td></tr> <tr><td>PI1:</td><td>159</td></tr> <tr><td>PI2:</td><td>159</td></tr> </table>	APID:	16	Type:	5	Subtype:	2	PI1:	159	PI2:	159	(5,2)-0559	
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Subtype:	2													
PI1:	159													
PI2:	159													
2		Verify CCU 1 and 2 status on the 1553 S/C bus		Next Step: 3										
		Verify Telemetry CCUA_OnOff DED3G161		AND=ZAZ9L999										
		Verify Telemetry CCUA_ValidInval DED3K161		AND=ZAZ9L999										
		Verify Telemetry CCUB_OnOff DED41161		AND=ZAZ9L999										
		Verify Telemetry CCUB_ValidInval DED45161		AND=ZAZ9L999										
3		Which CCU RT is invalid (A or B)?		Next Step: CCU A 4 CCU B 5										
<p><i>TC Seq. Name :HRKRTRI (CCU A RT Anomaly)</i> Recovery from a CCU A Non-Vital RT Invalid</p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>														

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4		Try to renable communication with CCU A		Next Step: 6																																																																																																																				
		<p>Send TC(8,4,10,1) to set the CCU A status On and Valid in the 1553 S/C bus.</p> <p>It is necessary to set, in this case, the following parameters:</p> <ul style="list-style-type: none"> - DH011161 = 7 (CCU A) - DH018161 = On - DH022161 = Valid <p>The remaining parameters of the TC have been set but they are not important because are masked.</p>																																																																																																																						
		<p>Execute Telecommand</p> <p style="text-align: center;">ConfiguresDBFDIR</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 20%;">RTA</td> <td style="width: 20%;">DH011161</td> <td style="width: 30%;">CCU A</td> </tr> <tr> <td></td> <td>M0</td> <td>DH030161</td> <td>Update status</td> </tr> <tr> <td></td> <td>M1</td> <td>DH031161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M2</td> <td>DH032161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M3</td> <td>DH033161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M4</td> <td>DH034161</td> <td>Update status</td> </tr> <tr> <td></td> <td>M5</td> <td>DH035161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M6</td> <td>DH036161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M7</td> <td>DH037161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>F0</td> <td>DH018161</td> <td>ON</td> </tr> <tr> <td></td> <td>F1</td> <td>DH019161</td> <td>Dead</td> </tr> <tr> <td></td> <td>F2</td> <td>DH020161</td> <td>Sick TC</td> </tr> <tr> <td></td> <td>F3</td> <td>DH021161</td> <td>Sick TM</td> </tr> <tr> <td></td> <td>F4</td> <td>DH022161</td> <td>Valid</td> </tr> <tr> <td></td> <td>F5</td> <td>DH023161</td> <td>Non-vital</td> </tr> <tr> <td></td> <td>F6</td> <td>DH024161</td> <td>NOMINAL</td> </tr> <tr> <td></td> <td>F7</td> <td>DH025161</td> <td>OFF</td> </tr> <tr> <td></td> <td>M12</td> <td>DH051161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M_C</td> <td>DH043161</td> <td>Ignore CNT</td> </tr> <tr> <td></td> <td>M8</td> <td>DH038161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M9</td> <td>DH039161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M10</td> <td>DH040161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>M11</td> <td>DH041161</td> <td>Ignore Flag</td> </tr> <tr> <td></td> <td>F12</td> <td>DH050161</td> <td>DISABLED</td> </tr> <tr> <td></td> <td>CNT</td> <td>DH042161</td> <td>LoopCnt1</td> </tr> <tr> <td></td> <td>F8</td> <td>DH026161</td> <td>Bus A</td> </tr> <tr> <td></td> <td>F9</td> <td>DH027161</td> <td>Unhealthy</td> </tr> <tr> <td></td> <td>F10</td> <td>DH028161</td> <td>Unhealthy</td> </tr> <tr> <td></td> <td>F11</td> <td>DH029161</td> <td>DISABLED</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Configure SDB FDIR</p>		RTA	DH011161	CCU A		M0	DH030161	Update status		M1	DH031161	Ignore Flag		M2	DH032161	Ignore Flag		M3	DH033161	Ignore Flag		M4	DH034161	Update status		M5	DH035161	Ignore Flag		M6	DH036161	Ignore Flag		M7	DH037161	Ignore Flag		F0	DH018161	ON		F1	DH019161	Dead		F2	DH020161	Sick TC		F3	DH021161	Sick TM		F4	DH022161	Valid		F5	DH023161	Non-vital		F6	DH024161	NOMINAL		F7	DH025161	OFF		M12	DH051161	Ignore Flag		M_C	DH043161	Ignore CNT		M8	DH038161	Ignore Flag		M9	DH039161	Ignore Flag		M10	DH040161	Ignore Flag		M11	DH041161	Ignore Flag		F12	DH050161	DISABLED		CNT	DH042161	LoopCnt1		F8	DH026161	Bus A		F9	DH027161	Unhealthy		F10	DH028161	Unhealthy		F11	DH029161	DISABLED	DC005161	
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		F9 DH027161 F10 DH028161 F11 DH029161 TC Control Flags : Subsch. ID : 10 Det. descr. : Configure SDB FDIR GBM IL DSE --Y -- ---	Unhealthy Unhealthy DISABLED	
5.1		Verify CCU 2 status on the 1553 S/C bus		<input type="checkbox"/>
		Verify Telemetry CCUB_OnOff DED41161	= ON	AND=ZAZ9L999
		Verify Telemetry CCUB_ValidInval DED45161		AND=ZAZ9L999
TC Seq. Name : HRKRTRF (CCU RT Anomaly Final) Recovery from a CCU B Non-Vital RT Invalid Final TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
6		CCU RT is still invalid (Yes/No)?		Next Step: Yes 7 No 8
		Verify communication with the failed RT (CCU A or CCU B): - reception of CCU HK data and monitoring packets - RT remains valid and no reception of events: . TM(5,2,158) "CCU A Non-Vital RT Invalid" or . TM(5,2,159) "CCU B Non-Vital RT Invalid"		
		If the RT is still invalid, refer to procedure: "H_CRP_CCUR CCU Anomaly" To switch the failed CCU OFF and switch it ON again.		
7		Call procedure to recover from a CCU anomaly		Next Step: 8
		Execute Procedure: H_CRP_CCUR CCU Anomaly		
8		Ongoing decontamination was stopped by EAT (Yes/No)?		Next Step: Yes 9 No END

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9		Restart decontamination		Next Step: END
		If the decontamination was ongoing before the CCU RT problem, it is important to know in which decontamination phase it has been stopped and in which conditions it must be restarted.		
		Execute Procedure H_CRP_SYS_DEC2 Restart telescope decontamination		
End of Procedure				