




<b>Publication Year</b>	2016
<b>Acceptance in OA</b>	2023-01-26T10:19:48Z
<b>Title</b>	JUNO Jiram payload contingency plan
<b>Authors</b>	CICCHETTI, ANDREA, NOSCHESI, RAFFAELLA
<b>Handle</b>	<a href="http://hdl.handle.net/20.500.12386/33070">http://hdl.handle.net/20.500.12386/33070</a>

		Date 05/05/2016 Issue 7 Revision 0 Page 1 of 6
	<b>JUNO/JIRAM</b>	

# JUNO

## *JIRAM Payload Contingency Plan*


OLD CATALOGUE:

JIR-IAPS-UR-002-2015/ INAF/IAPS-2015-18 / ISSUE 7 / REVISION 0

**PREPARED by** : A. Cicchetti, R. Noschese

**CHECKED by** : A. Adriani

**APPROVED by** : A. Adriani, A. Mura


		<b>Date</b> 05/05/2016 <b>Issue</b> 7 <b>Revision</b> 0 <b>Page 2 of 6</b>
	<b>JUNO/JIRAM</b>	

## 1 INTRODUCTION

The aim of this technical note is to provide to the Juno project the on-board configuration of JIRAM that should be loaded and then executed by the instrument, whenever it is necessary to verify the correct functioning of the instrument. This Payload Contingency Plan consists of two timelines, the first one to be used if the Spacecraft Dynamics are enabled, the second one if the Spacecraft Dynamics are not enabled.

Timeline duration = 00:22:23

Total Data Volume = 89.6 Mb

	<b>JUNO/JIRAM</b>	<b>Date</b> 05/05/2016 <b>Issue</b> 7 <b>Revision</b> 0 <b>Page 3 of 6</b>

## 2 JIRAM CONTINGENCY PLAN Tc CONFIGURATION WHEN THE SPACE CRAFT DYNAMICS ARE ENABLED

### 1) Heater Operation Enable

```

Ref_Time + 00:00:00 THRM_SET_PT_SEL("JIRAM_OH", "OPERATIONAL")
Ref_Time + 00:00:01 THRM_SET_PT_SEL("JIRAM_DECON", "OPERATIONAL")
Ref_Time + 03:10:01 THRM_SET_PT_SEL("JIRAM_ELECT_BP", "OPERATIONAL")

```

### 2) Power On Block

```

Ref_Time + 05:21:01 CMD, JRM_POWER, VC2(21), ON (Close Power Supply Relay)
Ref_Time + 05:21:03 JRM_ENA_TIME_UPD("ENABLE")
Ref_Time + 05:21:05 JRM_ENA_ATT_DATA("ENABLE")
Ref_Time + 05:21:25 JRM_EEPROM_LOAD("USE_DEF_PARAMS", "DISABLE", 0x00000000,
0x00000000, 0, 0x00000000)
Ref_Time + 05:23:25 JRM_SAFE()
Ref_Time + 05:23:39 JRM_DEF_PAR(6000)

```

### 3) JRM\_StandBy Block

```

Ref_Time + 05:23:43 JRM_SET_PAR(111,2)
Ref_Time + 05:23:47 JRM_STANDBY("ON", "ON", "ON")
Ref_Time + 05:23:51 JRM_SCI_PAR("SCI_I1_S3", 120, 1, 10, "IDIS_SDIS", "HSSL",
"ENABLE", "DARK", "DISABLE", 0, 956, 2, 150, "LOW", "LOW",
"POINT", -57343, 2, 150, "LOW", "LOW", "SPIN", 0,
"NO_SUMMED_SCI")


```

### 4) JRM Calibration Block Lamp 1

```

Ref_Time + 05:23:55 JRM_ERROR_LOG
Ref_Time + 05:23:59 JRM_CAL_PAR(8, 14, 8, 14, 30, 700, 30, 700, 30, 700, 30, 700,
30, 700, 200, 200, 153, 153)
Ref_Time + 05:24:03 JRM_GET_PAR(6000)
Ref_Time + 05:24:07 JRM_START_HS_REC
Ref_Time + 05:24:11 JRM_CALIBRATION("CAL_I1_S1", "IDIS_SDIS", "DISABLE", 1,
"LAMP_1")
Ref_Time + 05:28:11 JRM_STOP_HS_REC

```

	<b>JUNO/JIRAM</b>	<b>Date</b> 05/05/2016 <b>Issue</b> 7 <b>Revision</b> 0 <b>Page 4 of 6</b>

### 5) JRM Calibration Block Lamp 2

```

Ref_Time + 05:28:15 JRM_ERROR_LOG
Ref_Time + 05:28:19 JRM_CAL_PAR(8,14,8,14,30,700,30,700,30,700,30,700,30,
700,200,200,153,153)
Ref_Time + 05:28:23 JRM_GET_PAR(6000)
Ref_Time + 05:28:27 JRM_START_HS_REC
Ref_Time + 05:28:31 JRM_CALIBRATION("CAL_I1_S1","IDIS_SDIS","DISABLE",1,
"LAMP_2")
Ref_Time + 05:32:31 JRM_STOP_HS_REC

```

### 6) JRM Calibration Block Both Lamps

```

Ref_Time + 05:32:35 JRM_ERROR_LOG
Ref_Time + 05:32:39 JRM_CAL_PAR(8,14,8,14,15,350,15,350,15,350,15,350,15,
350,200,200,153,153)
Ref_Time + 05:32:43 JRM_GET_PAR(6000)
Ref_Time + 05:32:47 JRM_START_HS_REC
Ref_Time + 05:32:51 JRM_CALIBRATION("CAL_I1_S1","IDIS_SDIS","DISABLE",1,
"BOTH_LAMPS")
Ref_Time + 05:36:51 JRM_STOP_HS_REC

```

### 7) JRM Nominal Science Block

```

Ref_Time + 05:36:55 JRM_ERROR_LOG
Ref_Time + 05:36:59 JRM_SET_PAR(74,2470)
Ref_Time + 05:37:03 JRM_SCI_PAR("SCI_I1_S1",10,1,0,"IDIS_SDIS","HSSL",
"ENABLE","DARK","DISABLE",0,0,60,5000,"LOW","LOW",
"POINT",-57343,60,5000,"LOW","LOW","SPIN",0,
"NO_SUMMED_SCI")
Ref_Time + 05:37:07 JRM_GET_PAR(6000)
Ref_Time + 05:37:11 JRM_START_HS_REC
Ref_Time + 05:37:15 JRM_SCIENCE
Ref_Time + 05:43:15 JRM_STOP_HS_REC

```

### 8) Power Off Block

```

Ref_Time + 05:43:21 JRM_ENA_ATT_DATA("DISABLE")
Ref_Time + 05:43:22 JRM_ENA_TIME_UPD("DISABLE")
Ref_Time + 05:43:24 CMD,JRM_POWER,VC2(21),OFF (Open Power Supply Relay)
Ref_Time + 05:43:25 JRM_STOP_HS_REC()

```

### 9) Heater Operation Block Disable

```

Ref_Time + 05:43:35 THRM_SET_PT_SEL("JIRAM_OH","NON_OPERATIONAL")
Ref_Time + 05:43:36 THRM_SET_PT_SEL("JIRAM_DECON","NON_OPERATIONAL")
Ref_Time + 05:43:38 THRM_SET_PT_SEL("JIRAM_ELECT_BP","NON_OPERATIONAL")

```

### 3 JIRAM CONTINGENCY PLAN Tc CONFIGURATION WHEN THE SPACE CRAFT DYNAMICS ARE NOT ENABLED

#### 1) Heater Operation Enable

```
Ref_Time + 00:00:00 THRM_SET_PT_SEL("JIRAM_OH", "OPERATIONAL")
Ref_Time + 00:00:01 THRM_SET_PT_SEL("JIRAM_DECON", "OPERATIONAL")
Ref_Time + 03:10:01 THRM_SET_PT_SEL("JIRAM_ELECT_BP", "OPERATIONAL")
```

#### 2) Power On Block


```
Ref_Time + 05:21:01 CMD, JRM_POWER, VC2(21), ON (Close Power Supply Relay)
Ref_Time + 05:21:03 JRM_ENA_TIME_UPD("ENABLE")
Ref_Time + 05:21:05 JRM_ENA_ATT_DATA("ENABLE")
Ref_Time + 05:21:25 JRM_EEPROM_LOAD("USE_DEF_PARAMS", "DISABLE", 0x00000000,
0x00000000, 0, 0x00000000)
Ref_Time + 05:23:25 JRM_SAFE()
Ref_Time + 05:23:39 JRM_DEF_PAR(6000)
```

#### 3) JRM\_StandBy Block

```
Ref_Time + 05:23:43 JRM_SET_PAR(111, 2)
Ref_Time + 05:23:47 JRM_STANDBY("ON", "ON", "ON")
Ref_Time + 05:23:51 JRM_SCI_PAR("SCI_I1_S3", 120, 1, 10, "IDIS_SDIS", "HSSL",
"ENABLE", "DARK", "DISABLE", 30, 956, 2, 150, "LOW", "LOW",
"POINT", -57343, 2, 150, "LOW", "LOW", "SPIN", 0,
"NO_SUMMED_SCI")
```

#### 4) JRM Calibration Block Lamp 1

```
Ref_Time + 05:23:55 JRM_ERROR_LOG
Ref_Time + 05:23:59 JRM_CAL_PAR(8, 14, 8, 14, 30, 700, 30, 700, 30, 700, 30, 700,
30, 700, 200, 200, 153, 153)
Ref_Time + 05:24:03 JRM_GET_PAR(6000)
Ref_Time + 05:24:07 JRM_START_HS_REC
Ref_Time + 05:24:11 JRM_CALIBRATION("CAL_I1_S1", "IDIS_SDIS", "DISABLE", 1,
"LAMP_1")
Ref_Time + 05:28:11 JRM_STOP_HS_REC
```

	<b>JUNO/JIRAM</b>	<b>Date</b> 05/05/2016 <b>Issue</b> 7 <b>Revision</b> 0 <b>Page 6 of 6</b>

### 5) JRM Calibration Block Lamp 2

```

Ref_Time + 05:28:15 JRM_ERROR_LOG
Ref_Time + 05:28:19 JRM_CAL_PAR(8,14,8,14,30,700,30,700,30,700,30,700,30,700,30,700,200,200,153,153)
Ref_Time + 05:28:23 JRM_GET_PAR(6000)
Ref_Time + 05:28:27 JRM_START_HS_REC
Ref_Time + 05:28:31 JRM_CALIBRATION("CAL_I1_S1","IDIS_SDIS","DISABLE",1,"LAMP_2")
Ref_Time + 05:32:31 JRM_STOP_HS_REC

```

### 6) JRM Calibration Block Both Lamps

```

Ref_Time + 05:32:35 JRM_ERROR_LOG
Ref_Time + 05:32:39 JRM_CAL_PAR(8,14,8,14,15,350,15,350,15,350,15,350,15,350,200,200,153,153)
Ref_Time + 05:32:43 JRM_GET_PAR(6000)
Ref_Time + 05:32:47 JRM_START_HS_REC
Ref_Time + 05:32:51 JRM_CALIBRATION("CAL_I1_S1","IDIS_SDIS","DISABLE",1,"BOTH_LAMPS")
Ref_Time + 05:36:51 JRM_STOP_HS_REC

```

### 7) JRM Nominal Science Block

```

Ref_Time + 05:36:55 JRM_ERROR_LOG
Ref_Time + 05:36:59 JRM_SET_PAR(74,2470)
Ref_Time + 05:37:03 JRM_SCI_PAR("SCI_I1_S1",10,1,0,"IDIS_SDIS","HSSL","ENABLE","DARK","DISABLE",30,0,60,5000,"LOW","LOW","POINT",-57343,60,5000,"LOW","LOW","SPIN",0,"NO_SUMMED_SCI")
Ref_Time + 05:37:07 JRM_GET_PAR(6000)
Ref_Time + 05:37:11 JRM_START_HS_REC
Ref_Time + 05:37:15 JRM_SCIENCE
Ref_Time + 05:43:15 JRM_STOP_HS_REC

```

### 8) Power Off Block

```

Ref_Time + 05:43:21 JRM_ENA_ATT_DATA("DISABLE")
Ref_Time + 05:43:22 JRM_ENA_TIME_UPD("DISABLE")
Ref_Time + 05:43:24 CMD,JRM_POWER,VC2(21),OFF (Open Power Supply Relay)
Ref_Time + 05:43:25 JRM_STOP_HS_REC()

```

### 9) Heater Operation Block Disable

```

Ref_Time + 05:43:35 THRM_SET_PT_SEL("JIRAM_OH","NON_OPERATIONAL")
Ref_Time + 05:43:36 THRM_SET_PT_SEL("JIRAM_DECON","NON_OPERATIONAL")
Ref_Time + 05:43:38 THRM_SET_PT_SEL("JIRAM_ELECT_BP","NON_OPERATIONAL")

```