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INTEGRAL SPECTROMETER



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ANNEX 22

SPI TASK PARAMETER FILE (TPF)



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EUROPEAN SPACE AGENCY
DIRECTORATE OF TECHNICAL & OPERATIONAL SUPPORT
MISSION OPERATIONS DEPARTMENT

INTEGRAL

SPI Task Parameter File (TPF)
MOC-SPI ICD

INT-MOC-SYS-ICD-????-TOS-OGI

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ESOC

EUROPEAN SPACE OPERATIONS CENTRE



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CHANGE RECORD SHEET

DATE	ISSUE / REV. NO.	PAGE / PARA AFFECTED	DESCRIPTION
2002/03/28	1/ 0	All	1 st issue

DOCUMENT APPROVAL

PREPARED BY	ORGANISATION	SIGNATURE	DATE
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APPROVED BY	ORGANISATION	SIGNATURE	DATE
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1 Introduction

During the nominal flight control operations MOC will have to uplink several hundreds of command parameters in order to properly set the SPI instrument configuration for the planned operations.

The Instrument Support Team defines the parameter values for a particular instrument configuration. The parameters have to be transferred to the MOC Flight Control Team (FCT), which is in charge to execute the change of the instrument on-board configuration.

IMPORTANT: The update of any on-board parameter must be approved following the established procedure, which will involve among the others: Project Rep./Flight Operations Director/SOM approvals, depending on the mission phase.

It is clear that due to the large number of parameters, an electronic file interface has to be established between the SPI Support Team and the MOC Flight Control Team, in order to increase the reliability of receiving and correctly process the values for a new instrument configuration.

2 Purpose

The purpose of this ICD is to specify the file format and the content and provide an example of the files containing the parameter values.

The file format will be compatible with the SCOS2000 Task Parameter ICD annexed to this document.

MOC can process these files on the Integral Mission Control System (IMCS) to generate the correspondent commands and fulfil the following essential requirements:

- Carry it out in near real-time as part of the pre-planned activities. This means being able to uplink the commands within a reasonable delay once the approved input is received.
- Update the commands in a reliable way, since operator manual editing is not required
- MOC operations computer network (OPS-LAN) security policy is fulfilled
- Archive and keep track of the files



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3 File Transfer Aspects

3.1 Routine Phase

TBD

3.2 Commissioning Phase

During the Commissioning Phase the value of the parameters cannot be pre-planned and will have to be defined/tuned by the Instrument Teams in real-time (or near real-time) on the basis of the in-flight instrument response.

The idea is that during the Commissioning Phase the Instrument Teams on their Workstations (also called PI W/S's) installed at MOC can generate these files.

The files have to be transferred to a safe, intermediate place, outside the IMCS OPS-LAN, where they can be collected, processed and archived for configuration control by the MOC Flight Control Team.

The designated intermediate place is the ISDS (Integral Secure Data Server), which is the prime communication server with the IMCS outside world (file transfer and TM distribution with ISDC and ISOC) via a Firewall (located in a B/H=Bastion Host).

The following are the specifications for the requirements and the procedures related to this file transfer capability from the PI W/S's to the ISDS.

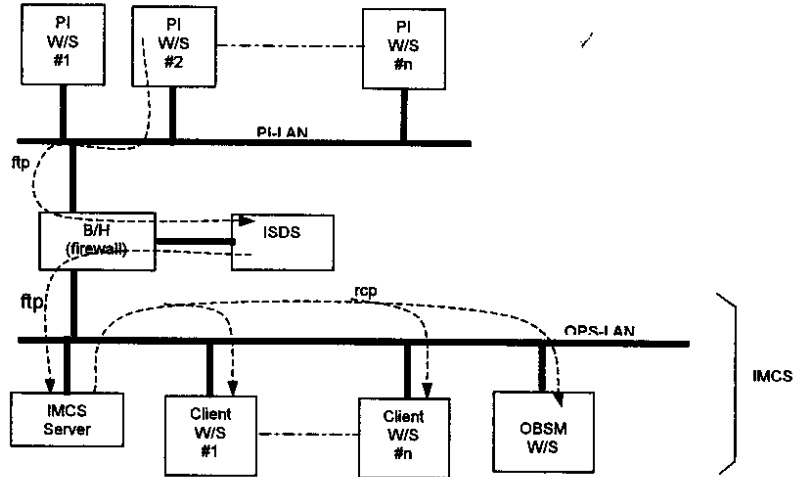
3.2.1 Requirements / Procedures

- 1) The File Transfer capability will be set up at MOC and will be operational at least during the Commissioning Phase of Integral (up to 2-3 months post Launch, including the PV phase).
- 2) The File Transfer capability will be based on standard IP applications and will consist of three steps:
 - a - ftp transfer from PI W/S to ISDS initiated by the PI W/S operator
 - b - ftp transfer from ISDS to IMCS Server initiated by MOC FCT/SW Support member
 - c - rcp transfer from IMCS Server to the IMCS Client W/S initiated by MOC FCT/SW Support member. The files will be finally processed on the Client W/S.
- 3) The PI W/S's will be able to establish an ftp connection with ISDS (IP address = not reported in this document for security reasons) onto a dedicated account (e.g. usr = isdsext ; password = *****):
NOTE: The Network communication setup will be handled by ESOC Communication department. Details are here masked for security reasons.
- 4) The ISDS "isdsext" account will have /home/isdsext/ as home directory on ISDS
- 5) File read/write/delete privileges and possibility to make sub-directories will be allowed in this home directory.
- 6) The following subdirectories will be already defined and assigned the corresponding Instruments:
 - OMC
 - JEMX1
 - JEMX2
 - SPI
 - IBIS

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7) The applicable network configuration is:



3.2.2 Configuration Control

- 1) In order to keep track of all the files distributed from the IMCS Server to the Client W/S's, the files will be also copied into a dedicated archive directory of the OBSM Client W/S.
- 2) Appropriate file naming conventions will be established in agreement with SPI Support Team to uniquely identify each file version and the intended use.



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4 File Content Specifications

The list of TPF files for the SPI DPE1 commanding chain is defined in Annex-A.

The list of TPF files for the SPI DPE2 commanding chain is defined in Annex-A1.

Each TPF file is associated to a predefined sequence of commands. This sequence of commands is defined in Annex-B for DPE1, Annex-B1 for DPE2.

The TPF content specification is defined in Annex-C (DPE1) and Annex-C1 (DPE2).

NOTE: The values reported are for example only.

4.1 General TPF requirements

1. The TPF files shall be built in accordance with the SCOS2000 TPF ICD RD[1]
2. Each TPF file shall be in UNIX-ASCII format.
3. The TPF is character and position sensitive. Fields are spaced by blank spaces. Records by Carriage Return.
4. Each TPF shall have a header composed by 5 records as follows :

column:

0	1	2	3	4
012345678901234567890123456789012345678901234567890				

header content:

```
dSnnnn S
      M F m
```

} 2 blank lines

yyyy-mm-ddThh:mm:ssZ - <comment>

where:

- dSnnnn : denotes the code of the associated TC sequence, in particular d denotes the DPE ('E' for DPE1, 'F' for DPE2) and nnnn denotes the MOC Flight Control Procedure nr generating the sequence
 - m : is the number of parameter records
 - yyyy-mm-ddThh:mm:ssZ : is the creation date of the TPF
 - <comment> : is a free user defined string. It is pre-assigned in this case by MOC to describe the scope of the TPF.
5. Full specification of the header is reported by Annex-C and C1. Except for the file generation time, which shall be filled accordingly, it cannot be changed.
 6. Each TPF shall have a predefined nr of parameter records and parameter names
NOTE: for simplicity it was decided to use the database identifiers of the command parameters as parameter names.
 7. Each parameter record shall fully comply with section 2.3 of SCOS2000 TPF ICD in Annex-D, except for the comment field which can extend over the 80th column (TBC).
 - 7.1. Full specification of the PARAMETER NAME and COMMENT fields is reported by Annex-C and C1. Their value cannot be changed.
 - 7.2. SPI Support Team is free to assign the content of the following fields :
 - VALUE TYPE: R = Raw | E = Engineering for text (alias) or numeric calibrations



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- **PARAMETER VALUE:** Note that if it is an ASCII string for text-calibrated values, the string must fully match the database text calibration for that command parameter
- **VALUE UNIT:** Optional field. Applicable for Engineering values. If not blank it must match the unit defined in the database
- **VALUE RADIX:** Optional field. Applicable for Raw values. It must be D=Decimal | H=Hex | O=Octal.
NOTE: Though optional, it is advisable always to assign the radix for raw values, in order to avoid any value interpretation problem.

4.1.1 File Naming Conventions

The following naming convention shall apply for the TPF files:

dSnnnn_AAAAAAAAA_ccccccc_vvvv.TPF

where :

- **dSnnnn** : denotes the code of the associated TC sequence, in particular **d** denotes the DPE ('E' for DPE1, 'F' for DPE2) and **n** denotes the MOC Flight Control Procedure nr generating the sequence
- **AAAAAAAA** : always 8 characters, uppercase, denoting the SA and parameters to which the TPF applies. This code is pre-assigned by MOC.
- **ccccc** : always 5 characters, lowercase, denoting the purpose of the TPF. This code can be assigned by the TPF producer (SPI Team or MOC) on a case by case basis
- **vvvv** : always 4 digits, denoting the version number of the TPF identified by the preceding string **DSnnnn_AAAAAAAAA_bbbbbbb**. It must be incremented by one at any new version, starting from 0001.

Regarding the generation time of the TPF, it will be part of the header of each TPF.

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5 Annexes

5.1 Annex – A: DPE1 TPF List



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5.2 Annex – B: DPE1 TPF TC Sequences



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Document

5.3 Annex – C: DPE1 TPF Body Specification



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5.4 Annex – A1: DPE2 TPF List

TBD

5.5 Annex – B1: DPE2 TPF TC Sequences

TBD

5.6 Annex – C1: DPE2 TPF Body Specification

TBD

5.7 Annex – D: SCOS2000 Task Parameter ICD



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Annex-A:

SPI Task Parameter File (TPF) ICD :

DPE1 TPF List

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ES1700_IASW-PAR_ccccccc_vvvv.TPF SPI1 IASW Configuration Parameters	Nr.Para: 35	Parent TC seq: ES1700
ES1710_AF-CH-OO_ccccccc_vvvv.TPF SPI1 AFEE Chains On/Off Config	Nr.Para: 41	Parent TC seq: ES1710
ES1711_AF-LW-DT_ccccccc_vvvv.TPF SPI1 AFEE Low Thresholds	Nr.Para: 19	Parent TC seq: ES1711
ES1712_AF-CHPAR_ccccccc_vvvv.TPF SPI1 AFEE Chain Parameters	Nr.Para: 95	Parent TC seq: ES1712
ES1713_AF-HVSET_ccccccc_vvvv.TPF SPI1 AFEE High Voltage Settings	Nr.Para: 19	Parent TC seq: ES1713
ES1720_DF-SMPAR_ccccccc_vvvv.TPF SPI1 DFEE Software Parameters	Nr.Para: 6	Parent TC seq: ES1720
ES1721_DF-CLPAR_ccccccc_vvvv.TPF SPI1 DFEE Control Lines Parameters	Nr.Para: 85	Parent TC seq: ES1721
ES1722_DF-AFADJ_ccccccc_vvvv.TPF SPI1 DFEE AFEE Config Lines Adjustment	Nr.Para: 44	Parent TC seq: ES1722
ES1730_AS-VTPLS_ccccccc_vvvv.TPF SPI1 ACS Pulse Width/Masking	Nr.Para: 96	Parent TC seq: ES1730
ES1731_AS-HV-ED_ccccccc_vvvv.TPF SPI1 ACS High Voltage Enable/Disable	Nr.Para: 92	Parent TC seq: ES1731
ES1732_AS-SERVS_ccccccc_vvvv.TPF SPI1 ACS System Services	Nr.Para: 368	Parent TC seq: ES1732
ES1733_AS-VICNF_ccccccc_vvvv.TPF SPI1 ACE Veto Signal Config	Nr.Para: 458	Parent TC seq: ES1733
ES1734_AS-RT-MT_ccccccc_vvvv.TPF SPI1 ACS FEE Rate Meter	Nr.Para: 183	Parent TC seq: ES1734
ES1735_AS-VTDLY_ccccccc_vvvv.TPF SPI1 ACS Veto Signal Delay	Nr.Para: 93	Parent TC seq: ES1735
ES1736_AS-EVTGR_ccccccc_vvvv.TPF SPI1 ACS FEE Event Trigger Threshold	Nr.Para: 92	Parent TC seq: ES1736
ES1737_AS-ENDSC_ccccccc_vvvv.TPF SPI1 ACS FEE Energy Discriminator	Nr.Para: 92	Parent TC seq: ES1737
ES1738_AS-HVSET_ccccccc_vvvv.TPF SPI1 ACE FEE High Voltage	Nr.Para: 93	Parent TC seq: ES1738
ES1740_PD-DETD_ccccccc_vvvv.TPF SPI1 PSD Detectors Enable/Disable	Nr.Para: 48	Parent TC seq: ES1740
ES1741_PD-LWTHR_ccccccc_vvvv.TPF SPI1 PSD Energy Low Thresholds	Nr.Para: 20	Parent TC seq: ES1741
ES1742_PD-HGTHR_ccccccc_vvvv.TPF SPI1 PSD Energy High Thresholds	Nr.Para: 19	Parent TC seq: ES1742



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ES1743_PD-ADOPS_ccccccc_vvvv.TPF

SPI1 PSD AD Offsets Nr.Para: 8 Parent TC seq: ES1743

ES1744_PD-LIBSL_ccccccc_vvvv.TPF

SPI1 PSD Library Selection and Control Nr.Para: 95 Parent TC seq: ES1744

ES1745_PD-CV-RT_ccccccc_vvvv.TPF

SPI1 PSD Curve Transmission Rates Nr.Para: 4 Parent TC seq: ES1745

ES1750_DIAG-PAR_ccccccc_vvvv.TPF

SPI1 Diagnostic Parameters Nr.Para: 192 Parent TC seq: ES1750

Total Nr of parameters: 2297

Total Nr of files: 24

Where :

- ccccccc is a user-defined string (always 8 chars long) to denote the purpose of the TPF

- vvvv denotes the version nr of the TPF



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Annex-B:

SPI Task Parameter File (TPF)

ICD :

DPE1 TC Sequences

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TC seq Name: **ES1700**
Description: SPI1 IASW Configuration Parameters
Nr.Parameters: 35
TPF name: ES1700_IASW-PAR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0518	TC DEF CONF-IA	Non exposure parameters for IASW configuration	00.00.00	N	R
2	E0519	TC DEF EXP IAS	Special TC for exposure configuration	00.00.05	N	R
3	E0523	TC-R CONF IASW	Request for non exposure configuration	00.00.10	N	R 64039
4	E0524	TC-R EXP IASW	Request for exposure configuration	00.00.05	N	R 64040

TC seq Name: **ES1710**
Description: SPI1 AFEE Chains On/Off Config
Nr.Parameters: 41
TPF name: ES1710_AF-CH-OO_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0004	TC-C AF CH-OO	Chains ON/OFF configuration and regeneration setting for AFEE	00.00.00	N	R
2	E0014	TC-R AF CH-OO	Request Chain ON/OFF configuration, generation settings for dete	00.00.10	N	R 64003

TC seq Name: **ES1711**
Description: SPI1 AFEE Low Thresholds
Nr.Parameters: 19
TPF name: ES1711_AF-LW-DT_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0002	TC-C AF LWDT	AFEE low threshold setting	00.00.00	N	R
2	E0012	TC-R AF LWDT	Requests Low Threshold settings for detectors 0 to 18	00.00.10	N	R 64001

TC seq Name: **ES1712**
Description: SPI1 AFEE Chain Parameters
Nr.Parameters: 95
TPF name: ES1712_AF-CHPAR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0003	TC-C AF CH-PAR	Chain parameter setting	00.00.00	N	R
2	E0013	TC-R AF CH-PAR	Request Chain parameters settings for detectors 0 to 18	00.00.10	N	R 64002



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TC seq Name: **ES1713**

Description: SPI1 AFEE High Voltage Settings

Nr.Parameters: 19

TPF name: ES1713_AP-HVSET_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0001	TC-C AF HV	AFEE High Voltage setting	00.00.00	N R	
2	E0011	TC-R AF HV	Request High Voltage setting for detectors 0 to 18	00.00.10	N R	64000

TC seq Name: **ES1720**

Description: SPI1 DFEE Software Parameters

Nr.Parameters: 6

TPF name: ES1720_DF-SWPAR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0101	TC-C DF SW-PAR	DFEE software parameters settings TBD	00.00.00	N R	
2	E0111	TC-R DF SW-PAR	Request Software parameters	00.00.10	N R	64006

TC seq Name: **ES1721**

Description: SPI1 DFEE Control Lines Parameters

Nr.Parameters: 85

TPF name: ES1721_DF-CLPAR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0102	TC-C DF CL-LIN	Front end lines reset and parameters settings for: dead time cal	00.00.00	N R	
2	E0112	TC-R DF CL-LIN	Request Control line parameters	00.00.10	N R	64004

TC seq Name: **ES1722**

Description: SPI1 DFEE AFEE Config Lines Adjustment

Nr.Parameters: 44

TPF name: ES1722_DF-AFADJ_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0103	TC-C DF AF-ADJ	AFEE Front end and state machine definition	00.00.00	N R	
2	E0113	TC-R DF AF-ADJ	Request AFEE adjustment state machine configuration lines	00.00.10	N R	64005



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TC seq Name: **ES1730**
Description: SPI1 ACS Pulse Width/Masking
Nr.Parameters: 96
TPF name: ES1730_AS-VTPLS_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0222	TC-C AS VTO-PL	Veto pulse width setting Veto masked for FEE setting Overall vet	00.00.00	S	O
2	E0272	TC-R AS VTO-PL	Request Veto pulse width Request Veto masked for FEE Request ove	00.00.40	N	R 64026

TC seq Name: **ES1731**
Description: SPI1 ACS High Voltage Enable/Disable
Nr.Parameters: 92
TPF name: ES1731_AS-HV-ED_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0224	TC-C AS HV-ED	ISB communication ON/OFF for each FEE	00.00.00	S	O
2	E0273	TC-R AS HV-ED	Request for FEE HV ISB communication ON/OFF	00.00.40	N	R 64046

TC seq Name: **ES1732**
Description: SPI1 ACS System Services
Nr.Parameters: 368
TPF name: ES1732_AS-SERVS_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0201	TC-C AS SERV1	System Service 1 (watchdog, test config, response, HV conf) FEE	00.00.00	N	R
2	E0202	TC-C AS SERV2	System Service 2 (watchdog, test config, response, HV conf) FEE	00.00.05	N	R
3	E0203	TC-C AS SERV3	System Service 3 (watchdog, test config, response, HV conf) FEE 6	00.00.05	S	O
4	E0251	TC-R AS SERV1	Request for system service (watchdog, test config, response cond	00.00.40	N	R 64007
5	E0252	TC-R AS SERV2	Request for system service (watchdog, test config, response cond	00.00.05	N	R 64008
6	E0253	TC-R AS SERV3	Request for system service (watchdog, test config, response cond	00.00.05	N	R 64009



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TC seq Name: **ES1733**

Description: SPI1 ACE Veto Signal Config

Nr.Parameters: 458

TPF name: ES1733_AS-VTCNF_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0204	TC-C AS VTO-CN	Veto signal configuration 1 for FEE 0 to 30	00.00.00	N R	
2	E0205	TC-C AS VTO-CN	Veto signal configuration 2 for FEE 31 to 61	00.00.05	N R	
3	E0206	TC-C AS VTO-CN	Veto signal configuration for FEE 62 to 91	00.00.05	S O	
4	E0254	TC-R AS VTO-CN	Request Veto signal generation condition for FEE 0 to 30	00.00.40	N R	64010
5	E0255	TC-R AS VTO-CN	Request Veto signal generation condition for FEE 31 to 61	00.00.05	N R	64011
6	E0256	TC-R AS VTO-CN	Request Veto signal generation condition for FEE 62 to 91	00.00.05	N R	64012

TC seq Name: **ES1734**

Description: SPI1 ACS FEE Rate Meter

Nr.Parameters: 183

TPF name: ES1734_AS-RT-MT_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0207	TC-C AS RATE-M	Rate meter setting for FEE 0 to 30	00.00.00	N R	
2	E0208	TC-C AS RATE-M	Rate meter setting for FEE 31 to 61	00.00.05	N R	
3	E0209	TC-C AS RATE-M	Rate meter setting for FEE 62 to 91	00.00.05	S O	
4	E0257	TC-R AS RATE-M	Request Rate meter for FEE 0 to 30	00.00.40	N R	64013
5	E0258	TC-R AS RATE-M	Request Rate meter for FEE 31 to 61	00.00.05	N R	64014
6	E0259	TC-R AS RATE-M	Request Rate meter for FEE 61 to 91	00.00.05	N R	64015

TC seq Name: **ES1735**

Description: SPI1 ACS Veto Signal Delay

Nr.Parameters: 93

TPF name: ES1735_AS-VTDLY_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0210	TC-C AS VTO-DL	Veto signal delay setting for FEE 0 to 30	00.00.00	N R	
2	E0211	TC-C AS VTO-DL	Veto signal delay setting for FEE 31 to 61	00.00.05	N R	
3	E0212	TC-C AS VTO-DL	Veto signal delay setting for FEE 62 to 91	00.00.05	S O	
4	E0260	TC-R AS VTO-DL	Request Veto delay for FEE 0 to 30	00.00.40	N R	64016
5	E0261	TC-R AS VTO-DL	Request Veto delay for FEE 31 to 61	00.00.05	N R	64017
6	E0262	TC-R AS VTO-DL	Request Veto delay for FEE 62 to 91	00.00.05	N R	64018



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TC seq Name: **ES1736**

Description: SPI1 ACS FEE Event Trigger Threshold

Nr. Parameters: 92

TPF name: ES1736_AS-EVTGR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0213	TC-C AS EVT-TG	Event trigger threshold definition for FEE 0 to 30	00.00.00	N R	
2	E0214	TC-C AS EVT-TG	Event trigger threshold definition for FEE 31 to 61	00.00.05	N R	
3	E0215	TC-C AS EVT-TG	Event trigger threshold definition for FEE 62 to 91	00.00.05	S O	
4	E0263	TC-R AS EVT-TG	Request Event trigger threshold for FEE 0 to 30	00.00.40	N R	64019
5	E0264	TC-R AS EVT-TG	Request Event trigger threshold for FEE 31 to 61	00.00.05	N R	64020
6	E0265	TC-R AS EVT-TG	Request Event trigger threshold for FEE 62 to 91	00.00.05	N R	64021

TC seq Name: **ES1737**

Description: SPI1 ACS FEE Energy Discriminator

Nr. Parameters: 92

TPF name: ES1737_AS-ENDSC_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0216	TC-C AS NRG-DS	Energy discriminator definition for FEE 0 to 30	00.00.00	N R	
2	E0217	TC-C AS NRG-DS	Energy discriminator definition for FEE 31 to 61	00.00.05	N R	
3	E0218	TC-C AS NRG-DS	Energy discriminator definition for FEE 62 to 91	00.00.05	S O	
4	E0266	TC-R AS NRG-DS	Request Energy discriminator for FEE 0 to 30	00.00.40	N R	64022
5	E0267	TC-R AS NRG-DS	Request Energy discriminator for FEE 31 to 61	00.00.05	N R	64023
6	E0268	TC-R AS NRG-DS	Request Energy discriminator for FEE 62 to 91	00.00.05	N R	64024



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TC seq Name: **ES1738**

Description: SPI1 ACE FEE High Voltage

Nr.Parameters: 93

TPF name: ES1738_AS-HVSET_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0219	TC-C AS HV1	High voltage setting for FEE 0 to 30	00.00.00	N	R
2	E0220	TC-C AS HV2	High voltage setting for FEE 31 to 61	00.00.05	N	R
3	E0221	TC-C AS HV3	High voltage setting for FEE 62 to 91	00.00.05	S	O
4	E0269	TC-R AS HV1	Request High voltage for FEE 0 to 30	00.00.40	N	R 64025
5	E0270	TC-R AS HV2	Request High voltage for FEE 31 to 61	00.00.05	N	R 64026
6	E0271	TC-R AS HV3	Request High voltage for FEE 62 to 91	00.00.05	N	R 64027

TC seq Name: **ES1740**

Description: SPI1 PSD Detectors Enable/Disable

Nr.Parameters: 48

TPF name: ES1740_PD-DETED_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0300	TC-C PD DET-EN	Detector enables settings	00.00.00	N	R
2	E0320	TC-R PD DET-EN	Detector enable	00.00.10	N	R 64029

TC seq Name: **ES1741**

Description: SPI1 PSD Energy Low Thresholds

Nr.Parameters: 20

TPF name: ES1741_PD-LMTHR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0301	TC-C PD LW-THR	Low Threshold for energy settings (Channel 0 to 8)	00.00.00	N	R
2	E0302	TC-C PD LW-THR	Low Threshold for energy settings (Channels 9 to 18)	00.00.05	N	R
3	E0321	TC-R PD LW-THR	Low Threshold for energy 1 (channel 0 to 8)	00.00.10	N	R 64031
4	E0322	TC-R PD LW-THR	Low Threshold for energy 2 (channel 9 to 18)	00.00.05	N	R 64031



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TC seq Name: **ES1742**

Description: SPI1 PSD Energy High Thresholds

Nr.Parameters: 19

TPF name: ES1742_PD-HGTHR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0303	TC-C PD HG-THR	High Threshold for energy settings (Channels 0 to 8)	00.00.00	N	R
2	E0304	TC-C PD HG-THR	High Threshold for energy settings (channels 9 to 18)	00.00.05	N	R
3	E0323	TC-R PD HG-THR	High Threshold for energy 1 (channel 0 to 8)	00.00.10	N	R 64032
4	E0324	TC-R PD HG-THR	High Threshold for energy 2 (channel 9 to 18)	00.00.05	N	R 64033

TC seq Name: **ES1743**

Description: SPI1 PSD AD Offsets

Nr.Parameters: 8

TPF name: ES1743_PD-ADOPS_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0305	TC-C PD AD-OFS	A/D offsets settings	00.00.00	N	R
2	E0325	TC-R PD AD-OFS	A/D offsets	00.00.10	N	R 64034

TC seq Name: **ES1744**

Description: SPI1 PSD Library Selection and Control

Nr.Parameters: 95

TPF name: ES1744_PD-LIBSL_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0306	TC-C PD LIB-SE	Definition of library selection and control settings 1. Detector	00.00.00	N	R
2	E0307	TC-C PD LIB-SE	Definition of library selection and control settings 2. Detector	00.00.05	N	R
3	E0308	TC-C PD LIB-SE	Definition of library selection and control settings 3. Detector	00.00.05	N	R
4	E0326	TC-R PD LIB-SE	Library selection and control 1 (channel 0 to 6)	00.00.10	N	R 64035
5	E0327	TC-R PD LIB-SE	Library selection and control 2 (channel 6 to 12)	00.00.05	N	R 64036
6	E0328	TC-R PD LIB-SE	Library selection and control 3 (channel 13 to 18)	00.00.05	N	R 64037



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TC seq Name: **ES1745**

Description: SPI1 PSD Curve Transmission Rates

Nr. Parameters: 4

TPF name: ES1745_PD-CV-RT_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0309	TC-C PD CRV-RT	Definition of curve transmission rates	00.00.00	N	R
2	E0329	TC-R PD CRV-RT	Curve transmission rates	00.00.10	N	R 64038

TC seq Name: **ES1750**

Description: SPI1 Diagnostic Parameters

Nr. Parameters: 192

TPF name: ES1750_DIAG-PAR_cccccccc_vvvv.TPF

Nr	TC_ID	Descr.	Long Description	[hh:mm:ss]	INTLCK	TMPKT
1	E0581	TC DIAG N1	Load diag table N1	00.00.00	N	R
2	E0582	TC DIAG N2	Load diag table N2	00.00.02	N	R
3	E0583	TC DIAG N3	Load diag table N3	00.00.02	N	R
4	E0584	TC DIAG N4	Load diag table N4	00.00.02	N	R
5	E0585	TC DIAG N5	Load diag table N5	00.00.02	N	R
6	E0586	TC DIAG N6	Load diag table N6	00.00.02	N	R
7	E0591	TC-R DIAG N1	Request diagnostic tables definition N1	00.00.10	N	R 64901
8	E0592	TC-R DIAG N2	Request diagnostic tables definition N2	00.00.02	N	R 64902
9	E0593	TC-R DIAG N3	Request diagnostic tables definition N3	00.00.02	N	R 64903
10	E0594	TC-R DIAG N4	Request diagnostic tables definition N4	00.00.02	N	R 64904
11	E0595	TC-R DIAG N5	Request diagnostic tables definition N5	00.00.02	N	R 64905
12	E0596	TC-R DIAG N6	Request diagnostic tables definition N6	00.00.02	N	R 64906



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Annex-C:

SPI Task Parameter File (TPF) ICD :

DPE1 TPF Body

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TPF name: ES1700_IASW-PAK_ccccccc_vvvv.TPF

ES1700 S
M F 35

YYYY-mm-ddThh:mm:ssZ - SPI1 IASW Configuration Parameters

E8936	E	CONF	TWE3936	R	SW	RAD-MOD	-	Radiation mode	
E8937	E	ENABLE	TWE3937	R	SW	BGD-CAP	-	High background count	
E8938	R	50000	D	TWE3938	R	SW	TH-RD-OV	-	Counting threshold for radiation overflow
E8939	R	3	D	TWE3939	R	SW	FT-RD-OV	-	Counting filter for radiation overflow
E8940	R	40000	D	TWE3940	R	SW	TH-RD-NO	-	Counting threshold for radiation nominal level
E8941	R	3	D	TWE3941	R	SW	FT-RD-NO	-	Counting filter for radiation nominal level
E8942	R	3	D	TWE3942	R	SW	CNT-FTR	-	Counting filter for cold plate monitoring
E8943	E	AUTOMATIC	TWE3943	R	SW	AF-NRG	L	-	AFEE energy mode
E8944	E	DISABLE	TWE3944	R	SW	RCOMP-CA	-	Automatic reconfiguration capability	
E8946	E	ENABLE	TWE3946	R	SW	RAD-CAP	-	Radiation belts crossing detection capability	
E8953	E	ENABLE	TWE3953	R	SW	IM-EC	L	-	Imminent eclipse detection
E8947	E	8	sec	TWE3947	R	SW	DY-BF-RD	-	Delay before radiation belts
E8950	E	8	sec	TWE3950	R	SW	DY-AP-RD	-	Delay after radiation belts
E8954	E	8	sec	TWE3954	R	SW	DY-BF-EC	-	Delay before eclipse
E8949	E	1	sec	TWE3949	R	SW	AS-MEM-D	-	ACS ROM / RAM delay
E8952	E	0.125	sec	TWE3952	R	SW	PD-MEM-D	-	PSD ROM / RAM delay
E8956	E	9	sec	TWE3956	R	SW	DF-MEM-D	-	DFEE ROM / RAM delay
E8960	E	ENABLE	TWE3960	R	SW	IM-SW	L	-	Imminent switch off detection capability
E8961	E	ENABLE	TWE3961	R	SW	ESAM	L	-	ESAM detection capability
E8962	E	ENABLE	TWE3962	R	SW	AP-LV-TP	-	AFEE LV temperature monitoring capability	
E8963	E	ENABLE	TWE3963	R	SW	COLD-CAP	-	Cold plate temperature monitoring capability	
E8964	E	109	degK	TWE3964	R	SW	COLD-THR	-	Cold plate temperature threshold
E8965	E	109	degK	TWE3965	R	SW	COLD-THR	-	Cold plate temperature threshold
E8966	E	109	degK	TWE3966	R	SW	COLD-THR	-	Cold plate temperature threshold
E8967	E	109	degK	TWE3967	R	SW	COLD-THR	-	Cold plate temperature threshold
E8968	E	ENABLE	TWE3968	R	SW	COR-CAP	-	Correlation capability	
E8969	R	1	D	TWE3969	R	SW	HK-AQ-RT	-	HK acquisition rate
E8970	R	5000	word	TWE3970	R	SW	LG-HL-DF	-	Length of the block HSL DFEE
E8971	R	3	D	TWE3971	R	SW	LSL-ERR	-	Cyclic LSL error filter
E8972	E	8	sec	TWE3972	R	SW	DY-BF-AT	-	Delay before auto-test configuration
E8973	E	32	sec	TWE3973	R	SW	DY-BF-CF	-	Delay before configuration acquisition
E8974	E	ALL PE	TWE3974	R	SW	SPECTRA	-	Constituents of the spectra	
E8977	E	328.6	degK	TWE3977	R	SW	AP-LV-TH	-	AFEE LV monitoring threshold
E8978	R	3	D	TWE3978	R	SW	AP-LV-FT	-	AFEE LV monitoring filter



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84976

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1420

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INT83976 R SW SP-AC-DU

- Spectra accumulation duration



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 TPF Name: E51710_AF-Ch-00_cccccccc_vvvv.TPF

E51710 S
 M F 4 1

yyyy-mm-ddthh:mm:ssz - SPIII APER Chains On/Off Config

E5177	E ON	TM E0177 R AF LVPS-00	-	Detector #7	Low Power Supply ON/OFF command
E5176	E ON	TM E0176 R AF LVPS-00	-	Detector #6	Low Power Supply ON/OFF command
E5175	E ON	TM E0175 R AF LVPS-00	-	Detector #5	Low Power Supply ON/OFF command
E5174	E ON	TM E0174 R AF LVPS-00	-	Detector #4	Low Power Supply ON/OFF command
E5173	E ON	TM E0173 R AF LVPS-00	-	Detector #3	Low Power Supply ON/OFF command
E5172	E ON	TM E0172 R AF LVPS-00	-	Detector #2	Low Power Supply ON/OFF command
E5171	E ON	TM E0171 R AF LVPS-00	-	Detector #1	Low Power Supply ON/OFF command
E5170	E ON	TM E0170 R AF LVPS-00	-	Detector #0	Low Power Supply ON/OFF command
E5185	E ON	TM E0185 R AF LVPS-00	-	Detector #15	Low Power Supply ON/OFF command
E5184	E ON	TM E0184 R AF LVPS-00	-	Detector #14	Low Power Supply ON/OFF command
E5183	E ON	TM E0183 R AF LVPS-00	-	Detector #13	Low Power Supply ON/OFF command
E5182	E ON	TM E0182 R AF LVPS-00	-	Detector #12	Low Power Supply ON/OFF command
E5181	E ON	TM E0181 R AF LVPS-00	-	Detector #11	Low Power Supply ON/OFF command
E5180	E ON	TM E0180 R AF LVPS-00	-	Detector #10	Low Power Supply ON/OFF command
E5179	E ON	TM E0179 R AF LVPS-00	-	Detector #9	Low Power Supply ON/OFF command
E5178	E ON	TM E0178 R AF LVPS-00	-	Detector #8	Low Power Supply ON/OFF command
E5188	E ON	TM E0188 R AF LVPS-00	-	Detector #18	Low Power Supply ON/OFF command
E5187	E ON	TM E0187 R AF LVPS-00	-	Detector #17	Low Power Supply ON/OFF command
E5186	E ON	TM E0186 R AF LVPS-00	-	Detector #16	Low Power Supply ON/OFF command
E5197	E OFF	TM E0197 R AF HVPS-00	-	Detector #7	High Power Supply ON/OFF command
E5196	E OFF	TM E0196 R AF HVPS-00	-	Detector #6	High Power Supply ON/OFF command
E5195	E OFF	TM E0195 R AF HVPS-00	-	Detector #5	High Power Supply ON/OFF command
E5194	E OFF	TM E0194 R AF HVPS-00	-	Detector #4	High Power Supply ON/OFF command
E5193	E OFF	TM E0193 R AF HVPS-00	-	Detector #3	High Power Supply ON/OFF command
E5192	E OFF	TM E0192 R AF HVPS-00	-	Detector #2	High Power Supply ON/OFF command
E5191	E OFF	TM E0191 R AF HVPS-00	-	Detector #1	High Power Supply ON/OFF command
E5190	E OFF	TM E0190 R AF HVPS-00	-	Detector #0	High Power Supply ON/OFF command
E5205	E OFF	TM E0205 R AF HVPS-00	-	Detector #15	High Power Supply ON/OFF command
E5204	E OFF	TM E0204 R AF HVPS-00	-	Detector #14	High Power Supply ON/OFF command
E5203	E OFF	TM E0203 R AF HVPS-00	-	Detector #13	High Power Supply ON/OFF command
E5202	E OFF	TM E0202 R AF HVPS-00	-	Detector #12	High Power Supply ON/OFF command
E5201	E OFF	TM E0201 R AF HVPS-00	-	Detector #11	High Power Supply ON/OFF command
E5200	E OFF	TM E0200 R AF HVPS-00	-	Detector #10	High Power Supply ON/OFF command
E5199	E OFF	TM E0199 R AF HVPS-00	-	Detector #9	High Power Supply ON/OFF command



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E5198 E OFF TM E0198 R AF HVPS-00 - Detector #8 High Power Supply ON/OFF command
 E5208 E OFF TM E0208 R AF HVPS-00 - Detector #19 High Power Supply ON/OFF command
 E5207 E OFF TM E0207 R AF HVPS-00 - Detector #17 High Power Supply ON/OFF command
 E5206 E OFF TM E0206 R AF HVPS-00 - Detector #16 High Power Supply ON/OFF command
 E5209 E 62K/128K TM E0209 R CR CRX-RNG - Temperature range selection for Cold Plate and Thermal Braids
 E5003 E OUTGASSING TM E0003 R CR ANLG-1 L - Outgassing/annealing selection for system 1
 E5004 E OUTGASSING TM E0004 R CR ANLG-2 L - Outgassing/annealing selection for system 2
TPF name: ES1711_AF-LW-DT_cocccccc_yyyy.TPF

ES1711 S M F 19

YYYY-mm-ddTth:mm:ssZ - SPI1 AFBE Low Thresholds

E5030	E 20	keV	TM E0030 R AF LMDT L0	- Low detection threshold for detector #0 in the range 20-300keV by step of 3keV
E5031	E 20	keV	TM E0031 R AF LMDT L1	- Low detection threshold for detector #1 in the range 20-300keV by step of 3keV
E5032	E 20	keV	TM E0032 R AF LMDT L2	- Low detection threshold for detector #2 in the range 20-300keV by step of 3keV
E5033	E 20	keV	TM E0033 R AF LMDT L3	- Low detection threshold for detector #3 in the range 20-300keV by step of 3keV
E5034	E 20	keV	TM E0034 R AF LMDT L4	- Low detection threshold for detector #4 in the range 20-300keV by step of 3keV
E5035	E 20	keV	TM E0035 R AF LMDT L5	- Low detection threshold for detector #5 in the range 20-300keV by step of 3keV
E5036	E 20	keV	TM E0036 R AF LMDT L6	- Low detection threshold for detector #6 in the range 20-300keV by step of 3keV
E5037	E 20	keV	TM E0037 R AF LMDT L7	- Low detection threshold for detector #7 in the range 20-300keV by step of 3keV
E5038	E 20	keV	TM E0038 R AF LMDT L8	- Low detection threshold for detector #8 in the range 20-300keV by step of 3keV
E5039	E 20	keV	TM E0039 R AF LMDT L9	- Low detection threshold for detector #9 in the range 20-300keV by step of 3keV
E5040	E 20	keV	TM E0040 R AF LMDT L10	- Low detection threshold for detector #10 in the range 20-300keV by step of 3keV
E5041	E 20	keV	TM E0041 R AF LMDT L11	- Low detection threshold for detector #11 in the range 20-300keV by step of 3keV
E5042	E 20	keV	TM E0042 R AF LMDT L12	- Low detection threshold for detector #12 in the range 20-300keV by step of 3keV
E5043	E 20	keV	TM E0043 R AF LMDT L13	- Low detection threshold for detector #13 in the range 20-300keV by step of 3keV
E5044	E 20	keV	TM E0044 R AF LMDT L14	- Low detection threshold for detector #14 in the range 20-300keV by step of 3keV
E5045	E 20	keV	TM E0045 R AF LMDT L15	- Low detection threshold for detector #15 in the range 20-300keV by step of 3keV
E5046	E 20	keV	TM E0046 R AF LMDT L16	- Low detection threshold for detector #16 in the range 20-300keV by step of 3keV
E5047	E 20	keV	TM E0047 R AF LMDT L17	- Low detection threshold for detector #17 in the range 20-300keV by step of 3keV
E5048	E 20	keV	TM E0048 R AF LMDT L18	- Low detection threshold for detector #18 in the range 20-300keV by step of 3keV



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ES1712 S
M F 95

yyyy-mm-ddThh:mm:ssZ - SPI11 AFEE Chain Parameters

E5050	E ON	TM E0050 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #0
E5070	E OMEV/8MEV	TM E0070 R AF WRK-RNG	- Selection of the detector #0 working range: 20Kev-2Mev / 2Mev-8Mev
E5090	E AUTO	TM E0090 R AF WRK-M/A	- Manual or automatic selection of the detector #0 working range setting
E5130	E DISABLE	TM E0130 R AF REDT-DF	- Redundant AFEE output #0 selection to DFEE
E5150	E ENABLE	TM E0150 R AF MAIN-DF	- Main AFEE output #0 selection to DFEE
E5051	E ON	TM E0051 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #1
E5071	E OMEV/8MEV	TM E0071 R AF WRK-RNG	- Selection of the detector #1 working range: 20Kev-2Mev / 2Mev-8Mev
E5091	E AUTO	TM E0091 R AF WRK-M/A	- Manual or automatic selection of the detector #1 working range setting
E5131	E DISABLE	TM E0131 R AF REDT-DF	- Redundant AFEE output #1 selection to DFEE
E5151	E ENABLE	TM E0151 R AF MAIN-DF	- Main AFEE output #1 selection to DFEE
E5052	E ON	TM E0052 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #2
E5072	E OMEV/8MEV	TM E0072 R AF WRK-RNG	- Selection of the detector #2 working range: 20Kev-2Mev / 2Mev-8Mev
E5092	E AUTO	TM E0092 R AF WRK-M/A	- Manual or automatic selection of the detector #2 working range setting
E5132	E DISABLE	TM E0132 R AF REDT-DF	- Redundant AFEE output #2 selection to DFEE
E5152	E ENABLE	TM E0152 R AF MAIN-DF	- Main AFEE output #2 selection to DFEE
E5053	E ON	TM E0053 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #3
E5073	E OMEV/8MEV	TM E0073 R AF WRK-RNG	- Selection of the detector #3 working range: 20Kev-2Mev / 2Mev-8Mev
E5093	E AUTO	TM E0093 R AF WRK-M/A	- Manual or automatic selection of the detector #3 working range setting
E5133	E DISABLE	TM E0133 R AF REDT-DF	- Redundant AFEE output #3 selection to DFEE
E5153	E ENABLE	TM E0153 R AF MAIN-DF	- Main AFEE output #3 selection to DFEE
E5054	E ON	TM E0054 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #4
E5074	E OMEV/8MEV	TM E0074 R AF WRK-RNG	- Selection of the detector #4 working range: 20Kev-2Mev / 2Mev-8Mev
E5094	E AUTO	TM E0094 R AF WRK-M/A	- Manual or automatic selection of the detector #4 working range setting
E5134	E DISABLE	TM E0134 R AF REDT-DF	- Redundant AFEE output #4 selection to DFEE
E5154	E ENABLE	TM E0154 R AF MAIN-DF	- Main AFEE output #4 selection to DFEE
E5055	E ON	TM E0055 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #5
E5075	E OMEV/8MEV	TM E0075 R AF WRK-RNG	- Selection of the detector #5 working range: 20Kev-2Mev / 2Mev-8Mev
E5095	E AUTO	TM E0095 R AF WRK-M/A	- Manual or automatic selection of the detector #5 working range setting
E5135	E DISABLE	TM E0135 R AF REDT-DF	- Redundant AFEE output #5 selection to DFEE
E5155	E ENABLE	TM E0155 R AF MAIN-DF	- Main AFEE output #5 selection to DFEE
E5076	E OMEV/8MEV	TM E0076 R AF WRK-RNG	- High energy clamping OFF (desaturating impulse) for detector #6
E5096	E AUTO	TM E0096 R AF WRK-M/A	- Manual or automatic selection of the detector #6 working range setting
E5136	E DISABLE	TM E0136 R AF REDT-DF	- Redundant AFEE output #6 selection to DFEE



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E5156	E ENABLE	TM E0156 R AF MAIN-DF	- Main AFEE output #6 selection to DFEE
E5057	E ON	TM E0057 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #7
E5077	E OMEV/8MEV	TM E0077 R AF WRK-RNG	- Selection of the detector #7 working range: 20Kev-2MeV / 2MeV-8MeV
E5097	E AUTO	TM E0097 R AF WRK-M/A	- Manual or automatic selection of the detector #7 working range setting
E5137	E DISABLE	TM E0137 R AF REDT-DF	- Redundant AFEE output #7 selection to DFEE
E5157	E ENABLE	TM E0157 R AF MAIN-DF	- Main AFEE output #7 selection to DFEE
E5058	E ON	TM E0058 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #8
E5078	E OMEV/8MEV	TM E0078 R AF WRK-RNG	- Selection of the detector #8 working range: 20Kev-2MeV / 2MeV-8MeV
E5098	E AUTO	TM E0098 R AF WRK-M/A	- Manual or automatic selection of the detector #8 working range setting
E5138	E DISABLE	TM E0138 R AF REDT-DF	- Redundant AFEE output #8 selection to DFEE
E5158	E ENABLE	TM E0158 R AF MAIN-DF	- Main AFEE output #8 selection to DFEE
E5059	E ON	TM E0059 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #9
E5079	E OMEV/8MEV	TM E0079 R AF WRK-RNG	- Selection of the detector #9 working range: 20Kev-2MeV / 2MeV-8MeV
E5099	E AUTO	TM E0099 R AF WRK-M/A	- Manual or automatic selection of the detector #9 working range setting
E5139	E DISABLE	TM E0139 R AF REDT-DF	- Redundant AFEE output #9 selection to DFEE
E5159	E ENABLE	TM E0159 R AF MAIN-DF	- Main AFEE output #9 selection to DFEE
E5060	E ON	TM E0060 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #10
E5080	E OMEV/8MEV	TM E0080 R AF WRK-RNG	- Selection of the detector #10 working range: 20Kev-2MeV / 2MeV-8MeV
E5100	E AUTO	TM E0100 R AF WRK-M/A	- Manual or automatic selection of the detector #10 working range setting
E5140	E DISABLE	TM E0140 R AF MAIN-DF	- Redundant AFEE output #10 selection to DFEE
E5160	E ENABLE	TM E0160 R AF MAIN-DF	- Main AFEE output #10 selection to DFEE
E5061	E ON	TM E0061 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #11
E5081	E OMEV/8MEV	TM E0081 R AF WRK-RNG	- Selection of the detector #11 working range: 20Kev-2MeV / 2MeV-8MeV
E5101	E AUTO	TM E0101 R AF WRK-M/A	- Manual or automatic selection of the detector #11 working range setting
E5141	E DISABLE	TM E0141 R AF REDT-DF	- Redundant AFEE output #11 selection to DFEE
E5062	E ON	TM E0062 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #12
E5082	E OMEV/8MEV	TM E0082 R AF WRK-RNG	- Selection of the detector #12 working range: 20Kev-2MeV / 2MeV-8MeV
E5102	E AUTO	TM E0102 R AF WRK-M/A	- Manual or automatic selection of the detector #12 working range setting
E5142	E DISABLE	TM E0142 R AF MAIN-DF	- Redundant AFEE output #12 selection to DFEE
E5162	E ENABLE	TM E0162 R AF MAIN-DF	- Main AFEE output #12 selection to DFEE
E5063	E ON	TM E0063 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #13
E5083	E OMEV/8MEV	TM E0083 R AF WRK-RNG	- Selection of the detector #13 working range: 20Kev-2MeV / 2MeV-8MeV
E5103	E AUTO	TM E0103 R AF WRK-M/A	- Manual or automatic selection of the detector #13 working range setting
E5143	E DISABLE	TM E0143 R AF MAIN-DF	- Redundant AFEE output #13 selection to DFEE
E5163	E ENABLE	TM E0163 R AF MAIN-DF	- Main AFEE output #13 selection to DFEE
E5064	E ON	TM E0064 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #14
E5084	E OMEV/8MEV	TM E0084 R AF WRK-RNG	- Selection of the detector #14 working range: 20Kev-2MeV / 2MeV-8MeV
E5104	E AUTO	TM E0104 R AF WRK-M/A	- Manual or automatic selection of the detector #14 working range setting
E5144	E DISABLE	TM E0144 R AF MAIN-DF	- Redundant AFEE output #14 selection to DFEE



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E5164	E ENABLE	TME0164 R AF MAIN-DP	- Main AFEE output #14 selection to DFEE
E5065	E ON	TME0065 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #15
E5085	E OMEV/8MEV	TME0085 R AF WRK-RNG	- Selection of the detector #15 working range: 20KeV-2MeV / 2MeV-8MeV
E5105	E AUTO	TME0105 R AF WRK-M/A	- Manual or automatic selection of the detector #15 working range setting
E5145	E DISABLE	TME0145 R AF MAIN-DF	- Redundant AFEE output #15 selection to DFEE
E5165	E ENABLE	TME0165 R AF MAIN-DF	- Main AFEE output #15 selection to DFEE
E5066	E ON	TME0066 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #16
E5086	E OMEV/8MEV	TME0086 R AF WRK-RNG	- Selection of the detector #16 working range: 20KeV-2MeV / 2MeV-8MeV
E5106	E AUTO	TME0106 R AF WRK-M/A	- Manual or automatic selection of the detector #16 working range setting
E5146	E DISABLE	TME0146 R AF MAIN-DF	- Redundant AFEE output #16 selection to DFEE
E5166	E ENABLE	TME0166 R AF MAIN-DF	- Main AFEE output #16 selection to DFEE
E5067	E ON	TME0067 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #17
E5087	E OMEV/8MEV	TME0087 R AF WRK-RNG	- Selection of the detector #17 working range: 20KeV-2MeV / 2MeV-8MeV
E5107	E AUTO	TME0107 R AF WRK-M/A	- Manual or automatic selection of the detector #17 working range setting
E5147	E DISABLE	TME0147 R AF MAIN-DF	- Redundant AFEE output #17 selection to DFEE
E5167	E ENABLE	TME0167 R AF MAIN-DF	- Main AFEE output #17 selection to DFEE
E5068	E ON	TME0068 R AF HNRG-OO	- High energy clamping OFF (desaturating impulse) for detector #18
E5088	E OMEV/8MEV	TME0088 R AF WRK-RNG	- Selection of the detector #18 working range: 20KeV-2MeV / 2MeV-8MeV
E5108	E AUTO	TME0108 R AF WRK-M/A	- Manual or automatic selection of the detector #18 working range setting
E5148	E DISABLE	TME0148 R AF MAIN-DF	- Redundant AFEE output #18 selection to DFEE
E5168	E ENABLE	TME0168 R AF MAIN-DF	- Main AFEE output #18 selection to DFEE



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TPF name: ES1713_MF-RVSEZ_ccccccc_vvvv.TPF

ES1713 S
M F 19

yyyy-mm-ddThh:mm:ssZ - SPI1 AFEE High Voltage Settings

E 0	KV	TM E0010 R AF HV L0	- High Voltage level for detector #0 in the range 0-5000V by step of 100V
E 0	KV	TM E0011 R AF HV L1	- High Voltage level for detector #1 in the range 0-5000V by step of 100V
E 0	KV	TM E0012 R AF HV L2	- High Voltage level for detector #2 in the range 0-5000V by step of 100V
E 0	KV	TM E0013 R AF HV L3	- High Voltage level for detector #3 in the range 0-5000V by step of 100V
E 0	KV	TM E0014 R AF HV L4	- High Voltage level for detector #4 in the range 0-5000V by step of 100V
E 0	KV	TM E0015 R AF HV L5	- High Voltage level for detector #5 in the range 0-5000V by step of 100V
E 0	KV	TM E0016 R AF HV L6	- High Voltage level for detector #6 in the range 0-5000V by step of 100V
E 0	KV	TM E0017 R AF HV L7	- High Voltage level for detector #7 in the range 0-5000V by step of 100V
E 0	KV	TM E0018 R AF HV L8	- High Voltage level for detector #8 in the range 0-5000V by step of 100V
E 0	KV	TM E0019 R AF HV L9	- High Voltage level for detector #9 in the range 0-5000V by step of 100V
E 0	KV	TM E0020 R AF HV L10	- High Voltage level for detector #10 in the range 0-5000V by step of 100V
E 0	KV	TM E0021 R AF HV L11	- High Voltage level for detector #11 in the range 0-5000V by step of 100V
E 0	KV	TM E0022 R AF HV L12	- High Voltage level for detector #12 in the range 0-5000V by step of 100V
E 0	KV	TM E0023 R AF HV L13	- High Voltage level for detector #13 in the range 0-5000V by step of 100V
E 0	KV	TM E0024 R AF HV L14	- High Voltage level for detector #14 in the range 0-5000V by step of 100V
E 0	KV	TM E0025 R AF HV L15	- High Voltage level for detector #15 in the range 0-5000V by step of 100V
E 0	KV	TM E0026 R AF HV L16	- High Voltage level for detector #16 in the range 0-5000V by step of 100V
E 0	KV	TM E0027 R AF HV L17	- High Voltage level for detector #17 in the range 0-5000V by step of 100V
E 0	KV	TM E0028 R AF HV L18	- High Voltage level for detector #18 in the range 0-5000V by step of 100V

TPF name: ES1720_DP-SWFAR_ccccccc_vvvv.TPF

ES1720 S
M F 6

yyyy-mm-ddThh:mm:ssZ - SPI1 DFEE Software Parameters

E 0	TM E2697 R DT INIB-COD	- Inhibition auto-test CODE
E 0	TM E2698 R DT INIB-ASI	- Inhibition auto-test ASIC
E 0	TM E2699 R DT INIB-RAM	- Inhibition auto-test RAM
R 3	TM E2700 R DT BR-THR L	- Nb HSL error threshold (NbHslErrThreshold)
E 0	TM E2695 R DF ENHSLER	- SnsHsLErrAct
E 0	TM E2696 R DF ENHSLERF	- NhsLErrActThreshold



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ESI721 S
M F 85

YYYY-mm-ddThh:mm:ssZ - SPI1 DPBE Control Lines Parameters

E7701	E NO RESET	TM E2701 R DF RST-TFR	- Reset Front TFrame (RstFrontFrame)
E7702	E NO RESET	TM E2702 R DF RST-DTO	- Reset Front Veto (RstFrontVeto)
E7703	E NO RESET	TM E2703 R DF RST-PSD	- Reset Front PSD (RstFrontPsd)
E7722	E NO RESET	TM E2722 R DF FR-AF L1	- Reset Front AFEE n. 18 (RstFrontAfee)
E7721	E NO RESET	TM E2721 R DF FR-AF L1	- Reset Front AFEE n. 17 (RstFrontAfee)
E7720	E NO RESET	TM E2720 R DF FR-AF L1	- Reset Front AFEE n. 16 (RstFrontAfee)
E7719	E NO RESET	TM E2719 R DF FR-AF L1	- Reset Front AFEE n. 15 (RstFrontAfee)
E7718	E NO RESET	TM E2718 R DF FR-AF L1	- Reset Front AFEE n. 14 (RstFrontAfee)
E7717	E NO RESET	TM E2717 R DF FR-AF L1	- Reset Front AFEE n. 13 (RstFrontAfee)
E7716	E NO RESET	TM E2716 R DF FR-AF L1	- Reset Front AFEE n. 12 (RstFrontAfee)
E7715	E NO RESET	TM E2715 R DF FR-AF L1	- Reset Front AFEE n. 11 (RstFrontAfee)
E7714	E NO RESET	TM E2714 R DF FR-AF L1	- Reset Front AFEE n. 10 (RstFrontAfee)
E7713	E NO RESET	TM E2713 R DF FR-AF L9	- Reset Front AFEE n. 9 (RstFrontAfee)
E7712	E NO RESET	TM E2712 R DF FR-AF L8	- Reset Front AFEE n. 8 (RstFrontAfee)
E7711	E NO RESET	TM E2711 R DF FR-AF L7	- Reset Front AFEE n. 7 (RstFrontAfee)
E7710	E NO RESET	TM E2710 R DF FR-AF L6	- Reset Front AFEE n. 6 (RstFrontAfee)
E7709	E NO RESET	TM E2709 R DF FR-AF L5	- Reset Front AFEE n. 5 (RstFrontAfee)
E7708	E NO RESET	TM E2708 R DF FR-AF L4	- Reset Front AFEE n. 4 (RstFrontAfee)
E7707	E NO RESET	TM E2707 R DF FR-AF L3	- Reset Front AFEE n. 3 (RstFrontAfee)
E7706	E NO RESET	TM E2706 R DF FR-AF L2	- Reset Front AFEE n. 2 (RstFrontAfee)
E7705	E NO RESET	TM E2705 R DF FR-AF L1	- Reset Front AFEE n. 1 (RstFrontAfee)
E7704	E NO RESET	TM E2704 R DF FR-AF L0	- Reset Front AFEE n. 0 (RstFrontAfee)
E7723	E NO RESET	TM E2723 R DF CNT-VPSD	- Reset Count VPSD (RstCountVpsd)
E7742	E NO RESET	TM E2742 R DF CNT-AF L	- Reset Count AFEE n. 18 (RstCountAfee)
E7741	E NO RESET	TM E2741 R DF CNT-AF L	- Reset Count AFEE n. 17 (RstCountAfee)
E7740	E NO RESET	TM E2740 R DF CNT-AF L	- Reset Count AFEE n. 16 (RstCountAfee)
E7739	E NO RESET	TM E2739 R DF CNT-AF L	- Reset Count AFEE n. 15 (RstCountAfee)
E7738	E NO RESET	TM E2738 R DF CNT-AF L	- Reset Count AFEE n. 14 (RstCountAfee)
E7737	E NO RESET	TM E2737 R DF CNT-AF L	- Reset Count AFEE n. 13 (RstCountAfee)
E7736	E NO RESET	TM E2736 R DF CNT-AF L	- Reset Count AFEE n. 12 (RstCountAfee)
E7735	E NO RESET	TM E2735 R DF CNT-AF L	- Reset Count AFEE n. 11 (RstCountAfee)
E7734	E NO RESET	TM E2734 R DF CNT-AF L	- Reset Count AFEE n. 10 (RstCountAfee)
E7733	E NO RESET	TM E2733 R DF CNT-AF L	- Reset Count AFEE n. 9 (RstCountAfee)
E7732	E NO RESET	TM E2732 R DF CNT-AF L	- Reset Count AFEE n. 8 (RstCountAfee)