**RPW Operation Centre**

**RPW Calibration Software User Manual Template**

ROC-PRO-SFT-SUM-00043-LES

**Iss.01, Rev.00**

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**Acronym List**

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| **Acronym** | **Definition** |
| RCS | RPW Calibration Software |
| ROC | RPW Operation Centre |
| RPW | Radio and Plasma Waves instrument |
| SUM | Software User Manual |
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# General

## Scope of the Document

*The Software User Manual (SUM) shall contain a description of the purpose, objective, content and the reason prompting its preparation.*

## Applicable Documents

This document responds to the requirements of the documents listed in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Mark | **Reference/Iss/Rev** | **Title of the document** | **Authors** | **Date** |
|  | ROC-PRO-PIP-ICD-00037/1/0 | RPW Calibration Software Interface Control Document | M.Duarte, X.Bonnin | 16/11/2016 |
|  | ROC-PRO-DAT-NTT-00006-LES/1/0 | RPW Data Products | X.Bonnin | 23/12/2016 |
|  |  |  |  |  |
|  |  |  |  |  |

## Reference Documents

This document is based on the documents listed in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Mark | Reference/Iss/Rev | Title of the document | Authors | Date |
|  |  |  |  |  |
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# Conventions

*The SUM shall summarise symbols, stylistics conventions, and command syntax conventions used in the document.*

*NOTE an example of stylistic conventions is using boldface and courier font to distinguish user input. Examples of syntax conventions are the rules for combining commands, keywords and parameters.*

# Description of the software

## Purpose of the software

*The SUM shall include a description of the intended uses of the software, in terms of capabilities and benefits expected from its use.*

## Operations environment

*The SUM shall specify in which environment the software is expected to run. Especially, the interfaces with other software and/or systems shall be mentioned.*

## Software design overview

*The SUM shall give an overview of the software design in terms of components and internal interfaces.*

*A reference to an external document can be provided.*

## External interfaces

*The SUM shall include a description of the external interfaces that allow users, humans and/or machines, to call the software. In particular, it shall be mentioned if several interfaces with distinct purposes (e.g., normal, debug, testing modes) are implemented,*

*References to external documents (e.g. ICD) can be provided.*

## Software operating modes

*The SUM shall explain the what the user can do with the software in various states and modes of execution, including debug and testing modes. For each mode, the main operations performed by the software must be described step-by-step.*

## Description of the software data

### Software input data

*The SUM shall give a list of expected input data when the software runs normally. The list shall at least include a short content description, the purpose and the format of the input data. The mode(s) for which the software needs the inputs shall be also mentioned. The table below can be used as an example. (Note that the RPW Data set ID can be used for the input data name column.)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input data name | **Description** | **Purpose** | **Format** | **Required in the following mode(s)** |
|  |  |  |  |  |
|  |  |  |  |  |

Table 1. Software input data list.

*NOTE:*

* *The input data related to the software internal and testing uses shall not be described in this section, excepted if they are required to run the software in very specific cases/modes only.*
* *A reference to the detailed description of the input data shall be supplied. The reference can be a document or a file schema (e.g., CDF skeleton or XML schema). In the case where there is no reference, the full description shall be given in the present document.*

### Software output data

*The SUM shall give a list of expected output data products when the software runs normally. The list shall at least include a short content description and the format of the data products. The mode(s) for which the software generates the outputs shall be also mentioned. The table below can be used as an example. (Note that the RPW Data set ID can be used for the Output data name column.)*

|  |  |  |  |
| --- | --- | --- | --- |
| Output data name | **Description** | **Format** | **Product of the following mode(s)** |
|  |  |  |  |
|  |  |  |  |

Table 2. Software output data list.

*NOTE:*

* *The output data related to the software internal and testing uses shall not be described in this section.*
* *A reference to the detailed description of the output data shall be supplied. The reference can be a document or a file schema (e.g., CDF skeleton or XML schema). In the case where there is no reference, the full description shall be given in the present document.*

### Software installation and configuration files

*The SUM shall identify the files that are required to install and configure the software.*

*If references to a more detailed description of these files do exist, they shall be provided. If there is no reference, a full description shall be given in the present document.*

### Software internal data files

*The SUM shall identify the files that are internally used to run the software in a normal manner. It includes any data file that allows users to check the software execution history (e.g., log files). For each file, a short description, as well as the purpose and format shall be given.*

*If references to a detailed description of these files do exist, they shall be provided. If there is no reference, a full description shall be given in the present document.*

### Software testing data files

*The SUM shall identify the files that are specifically used to run the software for testing. It includes any data file that allows users to perform a diagnostic of the software behaviour (e.g., testing report file, input/output testing data files). For each file, a short content description, as well as the purpose and format shall be given.*

*If references to a detailed description of these files do exist, they shall be provided. If there is no reference, a full description shall be given in the present document.*

# Reference manual

## Software configuration requirements

### General

*The SUM shall describe the configuration hardware and software of the environment, the identification of all system components and the hardware, software, manual operations, and other resources needed for a user to install and run the software.*

### Hardware configuration requirements

*The SUM shall describe the hardware nominal configuration requires to run the software, including amount of memory needed and the volume of storage.*

### Software configuration requirements

*The SUM shall describe the software nominal configuration requires to run the software, including other software, such as operating systems, utilities, other supporting systems, and other facilities, equipment, or resources.*

## Operations manual

### Set‐up and initialisation

*The SUM shall describe any procedures to be performed by the user in order to install software on the equipment, to perform the installation, to configure the software, to delete or overwrite former files or data, and to enter parameters for software operation.*

### Getting started

*The SUM shall include the step‐by‐step procedures for beginning work, including any options available, and a check‐list for problem determination.*

### Normal operations

*The SUM shall identify the normal operations, to be performed by the user, for the use of software, including inputs from other software or hardware that may affect the software’s interface with the system, outputs, diagnostic or error messages or alarms.*

### Normal termination

*The SUM shall describe how the user can cease or interrupt use of the software and how to determine whether normal termination or cessation has occurred.*

### Error conditions

*The SUM shall describe the common error conditions that can occur as a result of executing a function, and how to detect that the error has occurred.*

### Recover runs

*The SUM shall include the detailed procedures for restart or recovery from errors or malfunctions occurring during processing and for ensuring continuity of operations in the event of emergencies.*

### Help method

*The SUM shall include the help information about method installation, in terms of the actions to be performed by the user, how to invoke a function, possible errors, how to resolve them and what results to expect.*

### Commands and operations

*If any, the SUM shall include a guide to the command language used, operations and functions.*

### Error messages

*The SUM shall list all error messages, diagnostic messages, and information messages that can occur while accomplishing any of the user’s functions, including the meaning of each message and the action to be taken after each such message.*

### Software testing operations

*The SUM shall detail how users can run the testing mode(s) of the software.*

### Software upgrading operations

*The SUM shall detail how users can update the software.*

### Software uninstalling operations

*If any, the SUM shall explain how to uninstall the software properly.*

# Tutorial

## Introduction

*The SUM shall describe how to use the software and what the software does, combining tutorials and reference information for both novices and experts.*

## Getting started

*The SUM shall include a welcoming introduction to the software.*

## Using the software on a typical task

*The SUM shall describe a typical use case of the software. Graphical pictures and diagrams to demonstrate the actions performed by the user can be used.*

# Appendices

## Troubleshooting & know issues

# List of TBC/TBD/TBWs

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| --- | --- | --- | --- |
| **TBC/TBD/TBW** | | | |
| Reference/Page/Location | Description | Type | Status |
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# Distribution list

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| **LISTS**  **See Contents lists in “Baghera Web”:**  **Project’s informations / Project’s actors / RPW\_actors.xls**  **and tab with the name of the list**  **or NAMES below** |  | **Tech\_LESIA** |  |
|  | **Tech\_MEB** |  |
|  | **Tech\_RPW** |  |
|  | **[Lead-]CoIs** |  |
|  | **Science-CoIs** |  |

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| **EXTERNAL (To modify if necessary)** |

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| CNES |  | C. FIACHETTI |  | AsI/CSRC |  | J.BRINEK |
|  | C. LAFFAYE |  |  | P.HELLINGER |
|  | R.LLORCA-CEJUDO |  |  | D.HERCIK |
|  | E.LOURME |  |  | P.TRAVNICEK |
|  | M-O. MARCHE |  | IAP |  | J.BASE |
|  | E.GUILHEM |  |  | J. CHUM |
|  | J.PANH |  |  | I. KOLMASOVA |
|  | B.PONTET |  |  | O.SANTOLIK |
|  |  |  |  | J. SOUCEK |
|  |  |  |  | L.UHLIR |
| IRFU |  | L. BYLANDER |  | IWF |  | G.LAKY |
|  | C.CULLY |  |  | T.OSWALD |
|  | A.ERIKSSON |  |  | H. OTTACHER |
|  | SE.JANSSON |  |  | H. RUCKER |
|  | A.VAIVADS |  |  | M.SAMPL |
|  |  |  |  | M. STELLER |
| LPC2E |  | P. FERGEAU |  | LPP |  | T.CHUST |
|  | G. JANNET |  |  | A. JEANDET |
|  | T.DUDOK de WIT |  |  | P.LEROY |
|  | M. KRETZSCHMAR |  |  | M.MORLOT |
|  | V. KRASNOSSELSKIKH |  |  |  |
| SSL |  | S.BALE |  |  |  |