SPIRE-AST-DOC-002336

Title: **Documentation Identification Procedure and Documentation Management**

CI-No: N. A.

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Issue	Date	Sheet	Description of Change	Release
1	05.06.01	All	Initial Issue	
2	10.09.01	All	Update of Company Codes	
3	20.05.02	All	Inclusion of updates: • Company codes and Model identifiers • Project Abbreviations • Correspondence, changes and specification codes • E-mail identification • Deletion of page issue record	

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1   Introduction

The following rules shall be applied by all companies participating in the Herschel Project with respect to the identification, numbering and maintaining of all project related documentation, to ensure uniformity throughout the Herschel Industrial Group.

The application of these rules and codes is mandatory in all relevant project aspects.

1.1   Applicable Documents

AD 01	HP-2-ASED-RS-0001	Management Requirements Specification for Subco's
AD 02	HP-2-ASED-PL-0019	Configuration and Data Management Requirements
AD 03	HP-2-ASED-AM-0001	Utilisation of the Astrium FTP Server

2   Data management

2.1   Data Information System

The Contractor shall establish and operate a project-centralised documentation system to fulfil the information requirements of the Project. This system shall be capable of providing up-to-date information on all aspects of the documentation, permitting quick and easy access to users at all times. It shall, in particular, serve as a reference for technical interfaces and for introducing and executing all modifications.

All documentation to be made available to the Customer shall be in English and be included in the centralised documentation system.

The documentation centre must have effective, reliable and rapid means for reproduction and delivery at its disposal.

The documentation system shall adhere to the stipulations of the project Information Management Requirements.

The Contractor shall preserve the latest applicable issue of all documents prepared in the course of the project by the Sub-Contractor and its Sub-Contractor's up to delivery of contract and for 5 years thereafter and shall be readily accessible to the Customer. The disposal at the end of this period shall be reviewed by the Customer.

The system shall as a minimum include the following:

    a) Identification and marking of Contractor originated documentation.

    b) Maintenance of files of technical and project management data.

    c) Maintenance of files of engineering documentation i.e. drawings, specifications, plans, procedures etc.

    d) Systematic follow-up of data items which require action and/or response.

    e) Maintenance of a release recording system for engineering documentation including control of distribution.

    f) The recording and despatch of all technical and project data.

    g) Maintenance of history file/records such that previous issues/revisions of documentation can be retrieved.

2.2   Release System

The release of engineering drawings and associated lists, specifications, test procedures, and other manufacturing documentation shall be in accordance with the Contractor's internal release system which shall include procedures for:

a) Obtaining approval and authorising release of documentation

b) Controlling distribution

c) Storage and protection of original masters against damage and unauthorised withdrawal.

d) Ensuring that any photographic copy is maintained current with the master document.

e) Maintaining release records

The data to be recorded at initial issue shall include the identification number, title and issue status of the document, the identity of the higher level assemblies to which the document is called (Product Tree Identifier) and the date of release.

At each subsequent release, due to the embodiment of approved changes, the records shall be amended to include the identification number of the change, the revised issue status and date of reissue of the document.

2.3   Documentation Identification

A common documentation numbering system shall be used by all companies participating in the project. The Contractor and lower tier contractors shall comply with the following documentation identification requirements and shall control their own numbering routines. Traceability either in the form of bookkeeping or computer printout is required.

The document identification system covers the following major subjects:

- Configuration/Administration controlled Documents
- Correspondence
- Drawings (only for ICD's and Top Assembly)
- Meetings/Action Items

The breakdown of the project documentation is illustrated in fig. 2.3-1

BASELINE DOCUMENTATION SYSTEM

CONFIGURATION CONTROLLED DOCUMENTATION

ADMINISTRATION CONTROLLED DOCUMENTATION

CONTRACT BASELINE DOCUMENTS

Contractual Documents initiated by:
- Agency (*)
- Contractor
- Subcontractors

(*) DOCs may be excluded from numbering sceeme

CONFIGURATION CONTROLLED DOCUMENTS

MANAGEMENT & PROJECT CONTROL WORKING DOCUMENTS

ADMINISTATION NOTE	AM	RI	REVIEW ITEM DISCREPANCY NOTE
DOC. REQUIREM.. LIST	DR	WB	WORK BREAK-DOWN STRUCTURE
CHART SCHEDULE	CH	HO	HANDOUT PRESENTATION
CONTRACT	CO	MN	MINUTES OF MEETING
MEMORANDUM	MO	PO	PROPOSAL
NETWORK	NW	PP	PROGRESS REPORT
		WP	WORK PACKAGE DESCRIPTION

CORRESPONDENCE

FX	TELEFAX
EM	E-MAIL
LT	LETTER
	DISPATCH NOTES

HP-TTTT-VV-NNNN/YY

project code
company code
document type
ordinal number
calendaryear

CHANGES

CP	ENG. CHANGE PROPOSAL
CN	CONTRACT CHANGE NOTE
CR	CHANGE REQUEST
DC	DOCUMENT CHANGE REQUEST
DN	DOCUMENT CHANGE NOTE
NC	NON-CONFORMANCE REPORT

SPECIFICATIONS

DS	DESIGN SPECIFICATION
ES	EQUIPMENT DESIGN SPECIFICATION
IS	INTERFACE SPECIFICATION
PS	PROCUREMENT SPECIFICATION
SP	REQUIREMENT SPECIFICATION
SS	SUBSYSTEM DESIGN SPECIFICATION
TS	TEST SPECIFICATION
IC	INTERFACE CONTROL DOCUMENT
ST	STANDARD
DD	DETAILED DESIGN DOCUMENT

SYSTEM ENGINEERING WORKING DOCUMENTS

DP	ACCEPTANCE DATA PACKAGE
CB	CONFIGURATION BRAKDOWN STRUCTURE
DT	DOCUMENT TREE
HM	HARDWARE MATRIX
PT	PRODUCT TREE
CS	CONFIGURATION STATUS LIST
LI	LIST
MA	MANUAL
PL	PLAN
PR	PROCEDURE
RP	REPORT
RW	REQUEST FOR WAIVER
TN	TECHNICAL NOTE
AN	TP	TEST PROCEDURE
ANALYSIS	AN	
SW	TR	TEST REPORT
STATEMENT OF WORK	SW	

DRAWINGS

COMPANY INTERNAL NUMBERING SYSTEM TO BE APPLIED

+ Additional identification
For **ICD`s and Top Assembly** Drawings

HP-Z-TTTT-VV-NNNN

Project Code
Product Code
Company Code
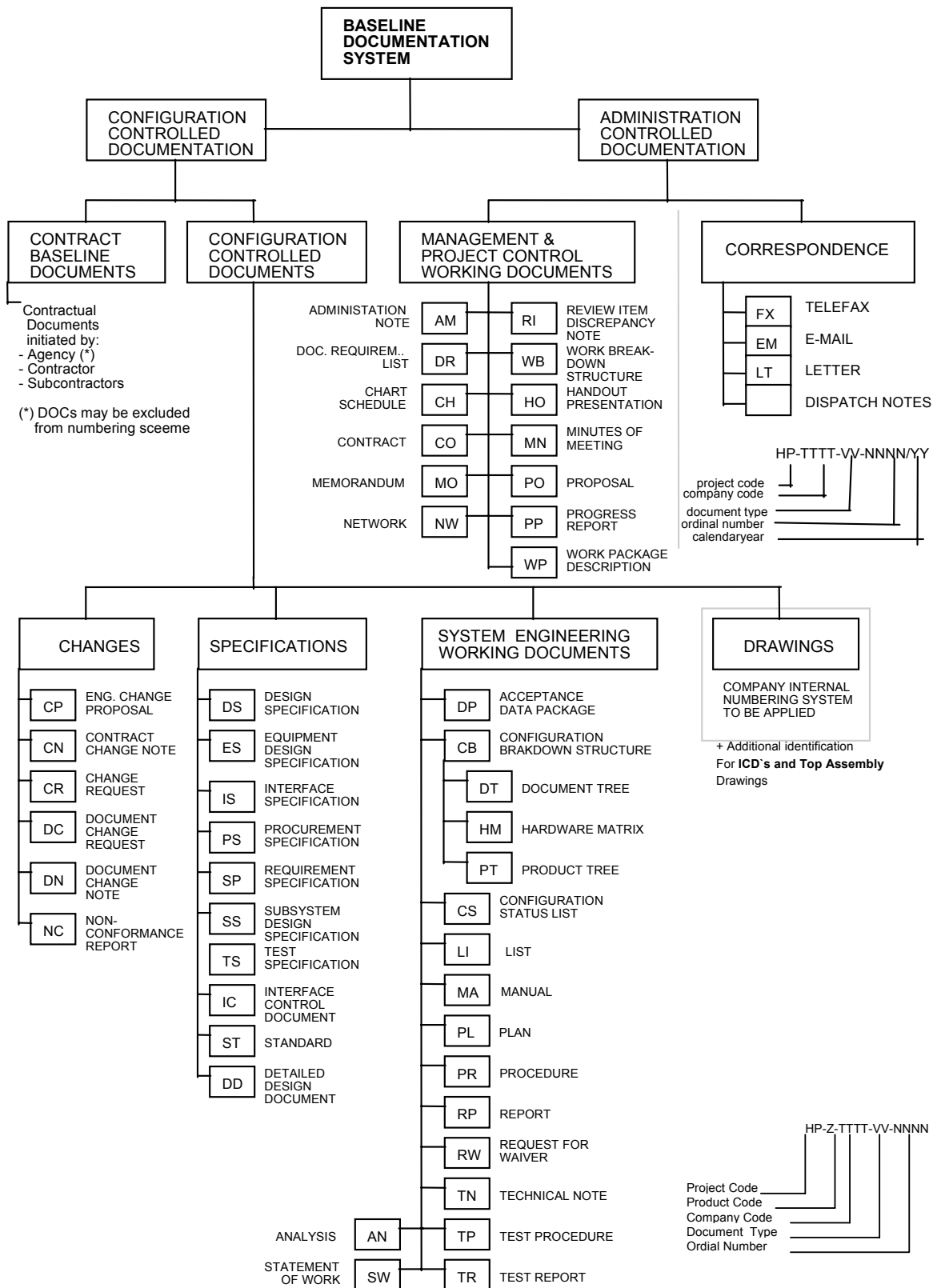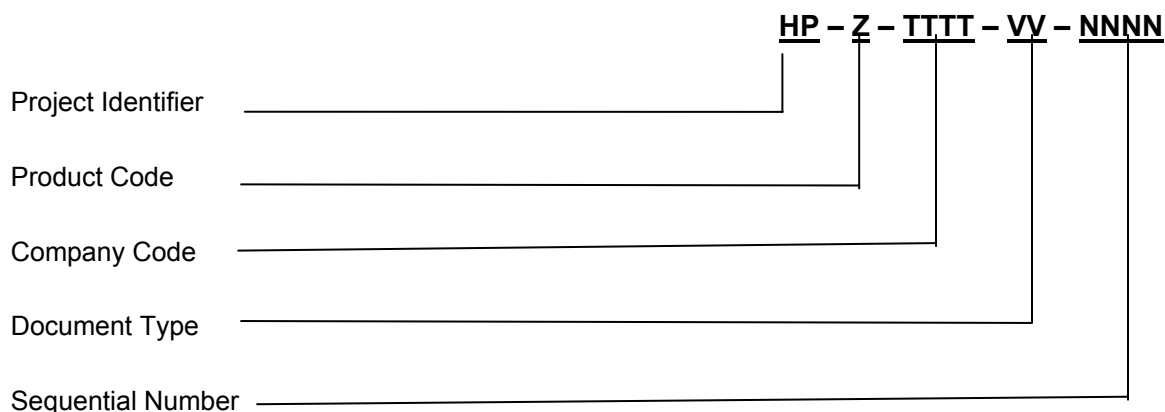Document Type
Ordial Number

Figure 2.3-1 Baseline Documentation System

2.3.1   Configuration/Administration controlled Documentation

The numbering system for this type of deliverable documentation shall be:

$$\underline{HP} - \underline{Z} - \underline{TTTT} - \underline{VV} - \underline{NNNN}$$

Project Identifier

Product Code

Company Code

Document Type

Sequential Number

Exception: The numbering system for correspondence (see para 2.3.2)

The company code and the document type shall be as defined in annex A.

It shall be ensured that two documents of the same company and document type shall have different sequential numbers.

The numbering of ECPs and CCNs shall be aligned such that the sequential number is not changed but only the document type is altered. Numbers once allocated shall not be re-used.

The sequential numbering shall be governed per company by the document type.

Identifier	Code	Description
Project Identifier	HP	Herschel Planck
Product Code	1	For SYSTEM Documentation
	2	For specific HERSCSHEL Documentation
	3	For specific PLANCK Documentation
	4	For SVM Documentation
Company code	TTTT	According to the List in the Appendix
Document Type	VV	According to the List in the Appendix
Sequential Number	NNNN	Sequential number governed by the document type

Figure 2.3-2 Document Identification Definition

2.3.2   Correspondence

The numbering system for correspondence (i. e. letters, telexes, telefaxes) shall be:

HP - TTTT – VV -N N N N / YY

Project Identifier

Company Code

Document Type

Sequential Number
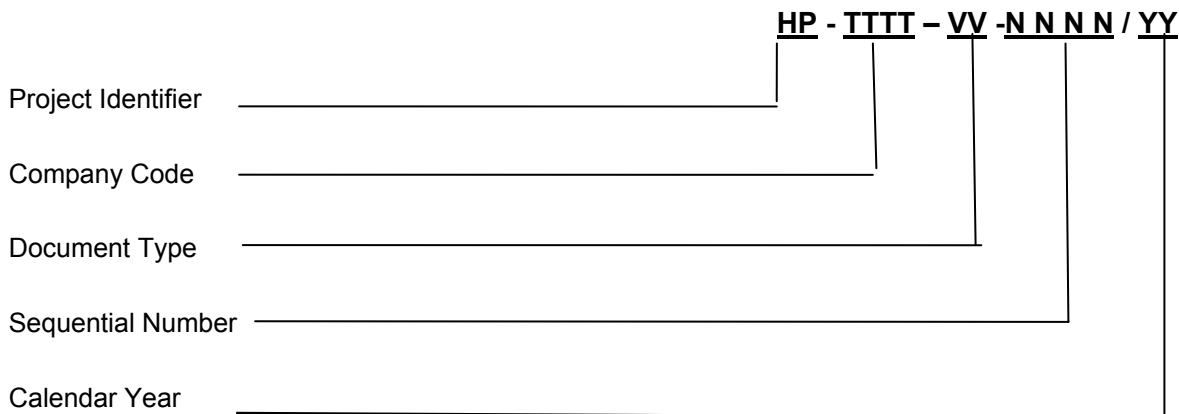
Calendar Year

The company code for correspondence shall be as defined in annex A.

The document Type shall be: LT for Letter
                                  FX for Fax

The sequential ordinal number for all correspondence shall restart with 0001 for every new calendar year.
The correspondence shall be in accordance with the standards defined in para 2.4.1 .

2.3.3   E-mail Identifier

All important E-mails shall be identified according to the following identification system:

HP - TTTT – VV -N N N N / YY

Project Identifier

Company Code

Document Type

Sequential Number

Calendar Year
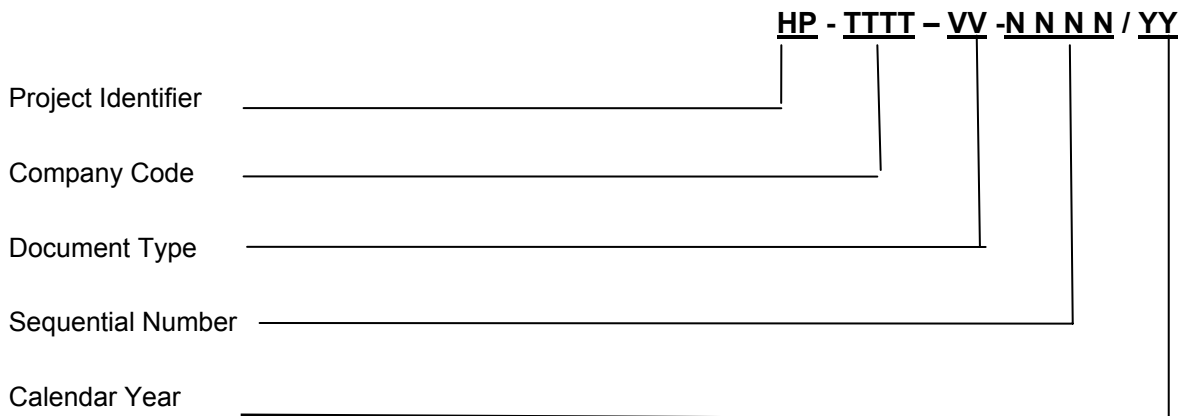
The E-mail Identifier shall be included as first part of the subject in the E-mail.

Example:

To: Mr. Example
From: Mr. Sender
Subject: HP-ASED-EM-NNNN/YY – Title of Example Subject

All E-mails identified according to the above shall also, in addition to the addressees, be copied to the Herschel Project E-mail account (e. g. Herschel. Project. ED@astrium-space.com)

2.3.4 Drawings & Associated Lists

Drawings and associated lists prepared by the Contractor shall be identified in accordance with the Contractor's internal procedures and shall be defined in the Contractor's CADM plan. In addition all deliverable ICDs and TOP-ASSY-drawings shall be identified by a unique identification number using the documentation numbering system as specified here below.

2.3.4.1 Numbering of Interface Control and Top Assembly Drawings

For **Interface** and **Top Assembly Drawings** the following documentation Identification scheme shall be applied:

<div align="right">

HP – Z – TTTT – VV – NNNN

</div>

Project Identifier

Product Code

Company Code

Document Type
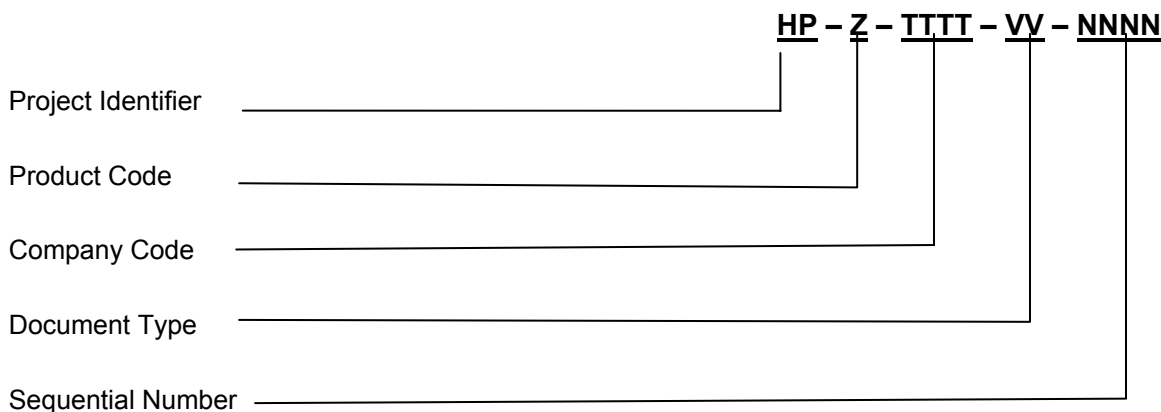
Sequential Number

The sequential number is governed by the Document Type per Company (e.g. per ID or DW). The company code and document types shall be as defined in the Appendix of this document.

For Interface Control and Top Assembly Drawings the "Standard Drawing Header" shall additionally include the following items:
1. Herschel Document Identification as specified above
2. Configuration Item Number "CI-No: "
3. Basic Requirements as defined in section 2.4.3

Changes between different versions shall be clearly documented in the change record.

Doc. No: HP-2-ASED-PR-0001   Page   **11**
Issue: 3
Date: 20.05.2002   File: hp-2-ased-pr-0001_3.doc

2.4   Format and Standards

2.4.1   Correspondence

2.4.1.1 Letters and Telefaxes

All letters, telexes and telefaxes shall clearly identify the following:

to:	addressee (company name, department and name(s) of persons(s) addressed)
from:	originator (company name and name of writer)
date:	date of typing
our ref:	originator's correspondence identification no.
subject:	subject of the correspondence
your ref:	identification of correspondence or document referred to

2.4.1.2 Electronic Correspondence (E-Mail)

All E-mails shall clearly identify the following

TO	addressee
FROM	originator
date	(automatic)
Subject:	(E-mail identifier) – Subject Title

The E-mail identifier needs only to be included if important data is transferred or if reference to this correspondence will be required (e. g. action item closure, requiring follow on action, etc.).

2.4.2   Change Documentation

The format and standards of change documentation is defined in the Configuration and Data Management Requirement document.

2.4.3   Drawings

All Engineering drawings and associated lists, etc. may be prepared in accordance with the internal procedures of the Contractor providing that they include the following basic requirements.

a) *Projection*
The projection used shall be identified on each drawing.

b) *Drawing Sizes*
Maximum drawing size shall not exceed 'Continental AO'. Continental 'A' series sizes are preferred.

c) *Symbols*
Graphical symbols and coding for electronic circuits and components shall be in accordance with the International Electro-technical Committee recommendations.

d) *Drawing Practice*
Engineering drawings and associated lists shall be prepared in accordance with the Contractor's National Standard.

e) *Dimensions*
Standard International units shall be used for all dimensions, unit values, etc.

f) *Checking and Approval*
All drawings shall be checked and signed to this effect. All drawings shall be approved at initial release and subsequent reissues by the engineers responsible and other specialists as appropriate.

g) *Change Embodiment*
Each raise in status of a drawing and/or associated list shall clearly identify the approved changes incorporated in the new status.

h) Drawings like Interface Control Drawings (ICD) and Assembly Drawings and their associated lists, which needs to be provided to Astrium GmbH-FN or other contractors for interface harmonization shall be numbered in addition with a project number according to para 2.3.1 and 2.3.4. .

2.4.4   Documents

All documents may be prepared in accordance with the Contractor's own internal procedures providing they comply with the following basic requirements. In case of conflict the hardcopy shall have precedence.

The authors of documents are the responsible for:

*   preparing the document in accordance with required standards and coherent with the appropriate technical baseline documentation

*   identifying, or have identified, the document in accordance with the documentation identification procedure

*   presenting the document to Configuration Management Office for subjecting it to the internal review and approval cycle, thereafter incorporating initial comments and create the first formal issue of the document.

Any document delivered to the Customer:

a) shall be written in the English Language

b) shall be DIN A4 size (or folded to) and shall be suitable for accommodation in loose leaf binders (e.g. ring binders).

c) shall have an identified space for the Customer's approval signature where appropriate.

d) shall be of adequate quality to withstand the expected wear and tear (but not be heavier than absolutely necessary) and shall permit further Photostat reproduction.

e) shall carry a heading with the name of the Herschel project.

f) shall, unless agreed otherwise, be individually identified by a document number, page number, issue and revision status, and date of issue. This information shall be typed systematically on every page of the document (upper right hand corner or bottom left corner). Page numbering shall be consecutive throughout the document- with the exception of the pages Distribution List, Change Record, Register of Changes and Table of contents and Table of Figures which shall be numbered as A-X-, starting with the front page as number 1 followed by the text proper as page 2 and following.

g) for Requirement Specification a clear requirement identification for formal Verification Control shall be established, including
- requirement identification number with consecutive number
- keyword
- verification method
- verification level

h) shall identify the DRL number and supporting PT number on the front cover page.

i) shall identify on the front page cover the applicable models using the model codes specified in appendix A.

j) shall provide in the contents:
- Front cover
- Distribution list (may be the last page)
- Change Record
- Table of Contents
- Table of Figures
- Text of document

k) shall contain a separate short summary (5 to 10 lines) describing the document contents which can be used for document retrieval by search on this summary.

l) Documents submitted through electronic means (for standard documents Word for Windows 6.0) shall be in PDF-format. All drawings, pictures, graphic tables or diagrams shall be placed in the document as part of the document file. Electronic documents must be formatted in such a way that, if printed, they provide a true copy of the hardcopy document.

In parallel to the electronic document a hardcopy shall be supplied to Customer.

2.4.5 Long Term Storage Media

Magnetic Media carriers shall have an identification conforming to the document identification system.

In addition information shall be provided w.r.t. host system, software utilisation, file names, printer and style details and any other required instruction for further processing of the data. Hard media can be DOS formatted diskettes or ISO-formatted CD-ROM. CD-ROM shall be „state of the art" default media. After storage of the data all storage media must be certified as „Virus free".

Data distributed on magnetic media shall conform to the hardcopy formats and identification when printed.

In case of conflict the hardcopy shall have precedence.

2.5 Revision and Maintenance of Documents

The originator/document author shall be responsible for maintaining the contents of the document up-to-date.

The initial issue of a document shall be identified as Issue 1 Revision "-" being a controlled issue. All subsequent controlled issues being in chronological numerical sequence whereas revisions are identified with a capital letter code.

Documents, once approved by the corresponding highest level of management, are considered as frozen and any changes shall only be made as a result of the raising and approval of a Document Change Request (DCR).

Documentation updates shall be distributed to the recipients of the original document as specified on the distribution list. There shall be no difference to this procedure between revisions and re-issues.

Document revision as opposed to reissue shall apply for changes which affected less than 30 percent of the pages of the document or in case of minor changes (editorial, typo etc.). In such a case the updated affected pages together with the cover page, change record, and the distribution list shall form the minimum package for distribution. The recipients are subsequently responsible to incorporate these exchange pages in their document. The revision status shall be denoted by A, B, etc. The electronic submission shall in any case be the complete updated document.

Documents shall be re-issued when major changes to the document have occured, with over 30 percent of the pages have been changed, or the number of revisions (latest after revision letter k) is so large as to be confusing. Each reissue shall incorporate all outstanding DCR's against the previous issue/ revision. In such a case the complete updated document shall form the package for distribution. The recipients are subsequently responsible to exchange their document with this new submission. The electronic submission shall in any case be the complete updated document.

Draft documents i.e. before formal approval shall be clearly marked 'DRAFT' on all pages.

After initial approval and release of a configuration controlled document only approved DCR's may be incorporated in updating to a higher issue/revision status.

An update by issue or revision may incorporate one or more DCR's/DCN`s which shall be documented in the document change record. All changes between two consecutive versions of a document shall be unambiguously identified on the pages. Previous marking shall be obliterated at this time. This regulation is not required for draft versions of a document. The individual pages of the document subject to updating shall have their status recorded on the Document Change Record.

Changes shall always be performed on the Original of a document and shall consequently be performed by the document custodian.

The approvals for an update of a document shall be identical or of the same managerial level as the original document.

2.6   Revision and Maintenance of Drawings

Drawings and associated lists prepared by the Contractor which have been updated by revision or reissue shall include a brief description of the nature of the change(s) made. Such descriptions may be provided on a separate change note accompanying the drawing/list.

2.7   Documentation Status

The Contractor shall maintain lists of all documentation generated or received indicating their current status. The Contractor shall supply the Customer with a complete and updated list of all formal and working documents as defined by the Documentation Requirements List (DRL). The Contractor shall on request supply the Customer with any document prepared in the course of the project.

2.8   Deliverable Documentation

The Statement of Work submitted to the Contractor shall include a Documentation Requirements List (DRL), which lists in separate categories, the documentation specifying the customers requirements and the documentation prepared and delivered by the contractor in response to these requirements. Approval and control of the contractor's documents shall be dependent upon the category.

The categories are as follows:

CAT A.:   Documentation for Approval

Documents in this category shall either be part of:

a)   the Contractor Baseline Documentation, i. e. the documentation detailing the response to the customer's requirements by the contractor

or

b)   the Non-Baseline Documentation, i. e. the documentation not forming part of the Baseline but must be submitted to the customer for approval.

Each document shall:

a)   be prepared and issued by the contractor

b)   be approved by the customer prior to issue

c)   be subject to the change control procedure either by DCN, if there is no cost impact or by CCN, if there is a cost or schedule impact

d)   have requests by the contractor to change any requirements expressed within the document, subjected to the provisions of the relevant contract. The contractor shall not proceed without approval being given by the customer within 15 working days.

CAT R.:   Documentation for Review

A document in this category is issued by the Contractor and requires review by the Customer prior to implementation. Thereafter the document shall be controlled by the Contractor. Any changes being subject to review by the Customer without use of the formal change control procedure.

Where the Contractor requests a change to the requirements expressed in a document of category R, the Customer shall be informed prior to implementation. However if the Customer does not reply within 15 working days or does not agree to the proposed change the Contractor may proceed at his own risk.

CAT I.:   Documentation for Information

A document in this category is issued and maintained current by the Contractor and is provided to the Customer for information. Formal approval or review procedures by the Customer do not apply.

2.9 Data Packages

To enable clear visibility on the contents and permit easy search and tracing of information, the Contractor shall ensure that any data package provided to the Customer:

a) Is identified in accordance with the project documentation numbering system.

b) Has a list of contents which clearly references all documents contained within the data package, (e.g. document number, issue/revision, date, project and/or originator etc) and their location within the data package (e.g. section, part, volume, etc.).

Delivery of the data package shall be in line with the DRL as defined in the Statement of Work. In principle deliveries shall be in hardcopy format and CD-ROM`s.

2.10 Minutes and Action Items

Project actions shall normally originate from meetings held between the Agency / Customer and the contractor, or from meetings held within the Contractor's / Sub-Contractors project team. Each meeting shall formally review the action status from a previous meeting and shall decide on closure or continuation of actions.

Action items shall be identified on the standard form sheet (see Fig. 2: Action Item Initiation Sheet) and the duly completed form shall be attached to the minutes of meeting. The action item number must be identified within the text of the minutes of meeting <u>and</u> on the Action Item Initiation sheet, as it shall serve, together with the meeting identifier, as the reference for pertinent correspondence and action item close-out (example: "<u>MOM-No</u>" / "<u>AI-No</u>").

2.10.1 Action Item Numbering

The numbering of action items shall be performed according the following system:

<u>**HP – Z - TTTT - MN - N N N N / XX**</u>

Project Identifier

Product Code

Company Code

Document Type

Sequential Number

Action Item Number
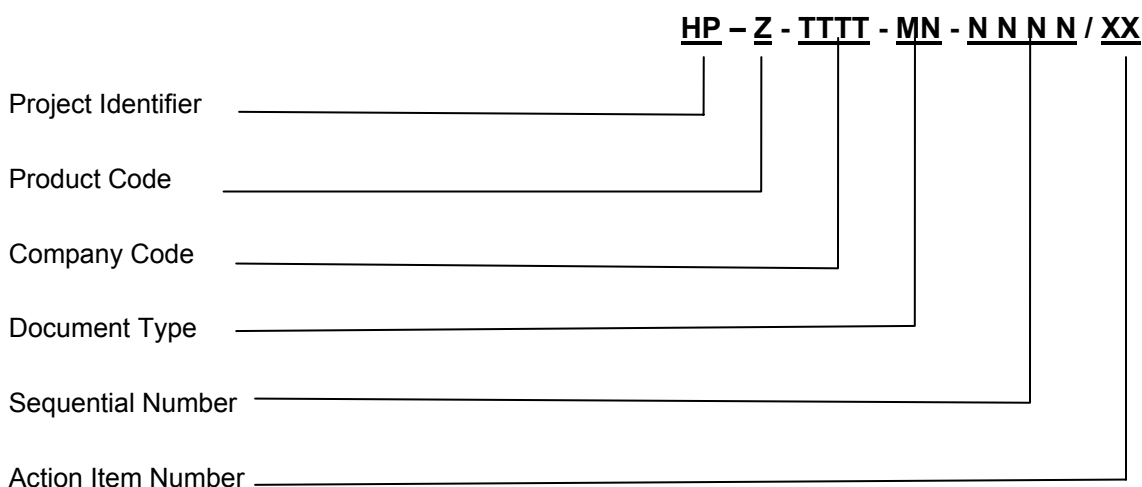
Meeting:
Title
Date:

Action Item List   Herschel

No.:	Description:	Due Date	Originator Comp./Pers.	Actionee Comp./Pers.	Source	Completion

Figure 2.10-1 Action Item Initiation Sheet

2.11   Documentation and Data Transfer

Electronic transfer of data and files shall be performed via FTP servers in line with HP-2-ASED-AM-0001.

The Astrium Herschel Project FTP Server address is:

   ftp-fdh.dss.dornier.dasa.de

   (Passwords can be obtained from ASED Documentation Office)

In principle all outgoing data will be placed on this FTP Server and the addressee informed via telefax that he can pick up the data. After successful download into his documentation system the recipient is requested to delete the data on the Astrium FTP server.

The Astrium FTP server is not a documentation system

but

only a platform for data exchange.

3   APPENDIX

3.1   Company Codes (TTTT)

Company Code	Company Name	Country
AAES	Austrian Aerospace GmbH (SCHRACK + ORS) A	A
ABT	Alcatel Bell, Belgium	B
AEO	Alcatel Espacio, Spain	E
AI	Alenia Spazio – Torino, Italy	I
AIR	Air Liquide	F
AKA	Alcatel Space Denmark (Alcatel Kirk Aerospace Syst.)	Dk
ALS	Alenia Spazio – Roma, Italy	I
APCO	APCO Technologies S.A.,	CH
ARE	Ariane Espace	F
ASED	Astrium GmbH – (FN and OTN Project Group)	D
ASEF	Astirum GmbH – SAS – Toulouse (Herschel-Telescope)	F
ASIP	Astrium GmbH – Space Infrastructure (OTN à LHe Valve)	D
ASN	Alcatel Space - Norway	N
ASPB	Aerospatiale Espace & Defence – Bordeaux, France	F
ASPI	Alcatel Space Industries – Cannes + Toulouse + Valence	F
ASPM	Aerospatiale, Les Mureaux, F	F
ASS	Alcatel Space Switzerland	CH
ASTP	Astrium GmbH – Telecom & Navigation - OTN	D
ASTR	Astrium	D
BAE	BAE System	GB
BER	BERTIN Technologies	
BOCE	BOC Edwards	D+Gb
BRA	BRADFORD - NL	NL
CAPT	Captec, Ireland	IRL
CASA	EADS CASE – DIV ESPACIO (Contruct. Aeronaut. SA)	E
CGS	CARLO- Gavazzi	I
CMD	COMDEV	
CNES	CNES	F
CNRS	TESRE-CNR (LFI Instrument)	
CRIS	Crisa - Madrid	E
CSAG	Contraves	CH
CSL	Centre Spatial de Liege	F
DLR	Deutsches Zentrum für Luft- und Raumfahrt	D
DNV	Det Norske Veritas	N

Company Code	Company Name	Country
DSRI	Danish Space Research Institute	Dk
EADS	EADS Deutschland GmbH	D
ECDE	Eurocopter	D
EHP	EHP / SABCA	B
ESA	European Space Agency / ESTEC	NL
ESOC	European Space Operations Centre	D
ETCA	Alcatel ETCA	B
FIAR	FIAR, Italy	I
FINN	Finnyard	SF
FSS	Fokker Space and Systems, Holland	NL
GAL	Alenia Difesa Avionic Systems & Equipment Division, Officine Galileo	I
GMV	GMV	E
IAS	IAS - Univerisite de Paris (HFI Instrument)	F
ISOH	ISO Heritage (old ISO Documentation)	D
KATE	Kayser Threde	D
KOG	Kongsberg SPACTEC – Norway	N
LAB	Laben S.P.A.	I
LIND	Linde	D
LIT	Litton	US
LOG	Logica Space and Communication	
MAN	MAN Technologies	D
MPE	Max Planck Institut für Extraterrestrische Physik	D
NASA	National Aerospace Agency	US
NRL	NRL	NL
OHB	OHB System	D
PAFI	Patria Finavitec of System, Finland	SF
PAT	Patria Finavicomp Oy, Finland	SF
QMWC	Depart.of Physics and Astronomy -Univerisity of Wales, Cardiff (SPIRE Instrument)	
RAL	Rutherford Appleton Laboratories (SPIRE Instrument)	GB
RYM	RYMSA	E
SAAB	SAAB Ericsson Space	S
SAFT	SAFT, France	F
SBI	Spacebel Informatique S.A.	B
SEA	SEA	
SENE	SENER Ingenieria, Spain	E
SIRA	SIRA	
SKYS	SKYSOFT - (Portugal + B31)	P
SNEC	SNECMA	
SRON	SRON (HIFI), Utrecht, NL	NL
SSYS	Space Systems - Finnland	SF
TICR	TICRA	

Company Code	Company Name	Coun-try
TNO	TNO-TPD	NL
TRAS	TRASYS SPACE	
TRR	TOP-REL, Roma, I	I
ZZZZ	Various Companies	
	AEA Technology, UK	GB
	AEROSTUDI	
	ALICE SWRI, Boulder, USA	US
	AMOS	B
	ANALYTICON	
	ARC - UK	GB
	ASE	
	Aubert & Duval (Forgings)	F
	BERENICE/MODULUS, OU, UK	GB
	BOCH SATCOM	D
	BODYCOTE	
	BOSCH Telecom, D	D
	CAP GEMINI ITALIA	I
	Chess Engineering B.V	
	CISE	I
	Clemessy	CH
	Codechamp S.A., Champagnat, F	F
	COMPUQUALI	P
	Conax, Florida USA	US
	CONSERT CEPHAG, Grenoble, F	F
	COSIMA MPK, Heidelberg, D	D
	Critical Software	
	CSEM	CH
	DASA, Bremen, Germany	D
	DASA, Germany	D
	DATASAT	GB
	DERA	
	DEVTEC -Irland	IRL
	EADS LV	F
	EADS Sodern	F
	EAGLE PICHER DIELH	D
	ETEL SA, CH	CH
	FIATAVIO	
	GIADA LAS, Napoli, I	I
	Grafton	
	Honeywell Space Systems, USA	US
	HTM	D

Company Code	Company Name	Coun-try
	HTS AG, Switzerland	CH
	IXSAE	F
	JENA Optronik	D
	LEYBOLD	D
	MAC-GINLEY System International	IRL
	MIDAS IWF, Graz, A	A
	MIRO JPL, Pasadena, USA	US
	NEXANS	B
	OIP	B
	OSIRIS MPAe, Katlenburg Lindau, D	D
	Polyflex Aerospace Ltd., UK	GB
	Prototech, Norvay	N
	Raufoss, Norway	N
	ROSINA Universität Bern, CH	CH
	Rovsing	Dk
	RPC IRF, Uppsala, S	S
	RSI Universität Köln, D	D
	Satellite Services BV, NL	NL
	Science Systems (Space)	
	SEP, France	F
	SERCO	
	Siemens AG, A	A
	Soditec	F
	Space Software Italia	I
	SPACE SYSTEMS	GB
	SSP-PTOLEMY	
	SSP-ROMAP	
	SSP-SESAME	
	Starsys Research, USA	US
	STORK	NL
	TECHNICATOME	F
	Tecnologica, Spain	E
	Teldix	D
	TERMA Electronic SA	F
	TESAT	D
	TGI A/S	DK
	Thomson Tubes Electroniques, F	F
	Timetech, D	D
	Urenco	NL
	VACCO, USA	US
	Vector Computing International Limited Ireland	IRL

Company Code	Company Name	Coun-try
	Verhaert	B
	VIRTIS IAS, Rome, I	I

Note:

The list of companies and their associated company codes will be updated after agreement with the Prime Contractor ASPI and the Agency

3.2 Document Types (VV)

AB	As-Built Configuration Status List (ABCL)
AM	Administration Note
AN	Analysis
AO	Special Conditions of Tender
BT	Budget
CA	Certificate of Acceptance
CB	Configuration Breakdown Structure
CD	Configuration Item Data List (CIDL)
CE	Cost Estimate / Devis
CH	Schedule, Chart
CN	Contract Change Notice
CO	Contract
CP	Engineering Change Proposal
CQ	Certificate of Qualification
CR	Change Request
CS	Configuration Status List
CT	Cost Report
DC	Document Change Request
DD	Design Definition Document
DJ	Design Justification Document
DN	Document Change Note
DP	Data Package
DR	Document Requirement List
DS	Design Specification (Conception only)
DT	Document Tree
DW	Drawing
EM	E-Mail
ES	Equipment Design Specification
EX	Experiment Document
FP	Financial Proposal
FX	Fax, Telefax
HM	Hardware Matrix
HO	Presentation / Handout
IC	Interface Control Document
ID	Interface Drawing (ICD)
IR	Interface Specification / Requirement

IS	Interface Requirement Specification (attention IR vs SP)
LI	List
LB	Logbook
LT	Letter
MA	Manual / Handbook
MN	Minutes of Meeting
MO	Memorandum
MX	Matrix of Compliance
NC	Non Conformance Report
NW	Network
PD	Parts Approval Document
PL	Plan
PO	Proposal
PP	Technical Proposal
PR	Procedure
PS	Procurement Specification
PT	Product Tree
RA	Risk Analysis
RI	Review Item Discrepancy Note
RP	Report (except cost and test reports)
RT	Request for Test
RW	Request for Waiver
SC	Schedule
SD	Specific Practice Directive
SO	Statement on Compliance
ST	Standard
SP	Requirement Specification
SS	Subsystem Design Specification
SW	Statement of Work
TD	Technical or Functional Description
TE	Tree (WBS, Organigrammes)
TN	Technical Note
TP	Test Procedure
TR	Test Report
TS	Test Specification
VC	Verification Control Document
WB	Work Breakdown Structure
WP	Work Package Description

3.3   Model Identifier

00	All Models
AVM	Avionics Model
BB	Bread Board
CQM	Cryogenic Qualification Model
EQM	Engineering Qualification Model
FM	Flight Model
FS	Flight Spares
PFM	Proto-Flight Model
QM	Qualification Model
STM	Structure Thermal Model

3.4 Project Abbreviations

Abbrevia - tion	Definition
A/D	Analog to Digital Converter
ABCL	As Built Configuration List
AC	Alternating Current
ACC	Attitude Control Computer
ACM	Attitude Control and Measurement
ACMS	Attitude Control and Measurement Subsystem
ACS	Auto Correlation Spectrometer
AD	Applicable Document
ADC	Analog Digital Converter
ADD	Architectural Design Document
ADP	Acceptance Data Package
ADR	Architectural Design Review
AGN	Active Galactic Nuclei
AIT	Assembly, Integration and Test
AIV	Assembly, Integration and Verification
AM	Alignment Model
AMA	Absolute Measurement Accuracy
AO	Announcement of Opportunity
AOCS	Attitude and Orbit Control System
AOS	Acousto - Optical Spectrometer
APD	Absolute Pointing Drift
APE	Absolute Pointing Error
AR	Acceptance Review
AR 5	Ariane 5
ARE	Absolute Rate Error
ASF	Additional Safety Factor
ASIC	Application Specific Integrated Circuit
ASW	Address and Synchronization Word
ATC	Active Thermal Control
AU	Astronomical Unit
AVM	Avionics model
AXT	Helium Auxiliary Tank
BAF	Batiment d'Assemlage Final (Final Assembly Building)
BAU	Buffer Amplifier Unit
BB	Bread Board
BCR	Battery Charge Regulator

BDR	Battery Discharge Regulator
BER	Bit Error Rate
BEU	Bach end Unit
BIB	Block Impurity Band
BIT	Built in Test
BMOS	Buckling Margin of Safety
BOL	Begin of Life
BOLA	Bolometer Amplifier (PACS)
Bps	Bits per Second
BRU	Battery Regulater Unit
BSF	Basic Safety Factor
BW	Bandwidth
C/L	Centre Line
CaC	Cost at Completion
CB	Cryostat Baffle
CC	Configuration Control
CC	Cryostat Cover
CCB	Configuration Control Board
CCD	Charged Coupled Device
CCH	Cryo Control Harness
CCI	Cryo Control Instrumentation
CCS	Central Check-Out System
CCSDS	Consultative Committee for Space Data Systems
CDD	Configuration Data Document
CDMS	Command and Data Management Subsystem
CDMU	Central Data Management Unit
CDR	Critical Design Review
CEI	Cryo External Instrumentation
CEU	Cryo - Electronis Unit
CFC	Carbon Fibre Compound
CFRP	Carbon Fibre Reinforced Plastics
CHS	Cover Heat Shield
CIH	Cryostat Instrumentation Harness
CII	Cryo Internal Instrumentation
CMD	Command
CoC	Certificate of Compliance
CoG	Center of Gravity
CoM	Center of Mass
COP-1	Command operation Procedure number 1
CQM	Cryogenic Qualification Model
CQM	Cryogenic Qualification Model
CREMA	Consolidated Report on Mission Analysis
CSG	Centre Spatial Guyanais

CSS	Cryo Subsystem (Cryostat)
CTA	Cryo Test Adapter
CTCP	Cryo Test Cavity for PFM
CTU	Central Terminal Unit
CVCM	Collected volatile Condensable Material
CVSE	Cryo Vacuum Support Equipment
CVV	Cryostat Vacuum Vessel
CVVIP	Vacuum Vessel I/F Plate
DACS	Digital Auto Correlator Spectrometer
DBU	Data Bus Unit
DC	Direct Current
DK	Denmark
DLCM	Direct Liquid Content Measurement
DM	Dynamic Model
DMA	Dynamic Memory Access
DML	Declared Material List
DNEL	Disconnect Non Essential Loads
DoD	Depth of Discharge
DoF	Degree of Freedom
DPC	Data Processing Center
DPOP	Daily Prime Operational Phase equivalent to Observation Phase
DRB	Delivery Review Board
DS	Digital Serial
DSN	Deep Space Network
DTCP	Daily Telecommunications Phase equivalent to Telecommunication Phase
DTMM	Detailed Thermal Mathematical Model
EAC	Estimate at Completion
ECP	Engineering Change Proposal
EDAC	Error Detection and Correction
EED	Electro Explosive Device
EEE	Electro, Electronic, Electromechanical
EEPROM	Electrically Erasable Programmable Read only Memory
EGSE	Electrical Ground Support Equipment
EI	End Items
EIRP	Equivalent Isotropic Radiated Power
EM	Engineering Model
EMC	Electromagnetic Compatibility
EMF	Electro-Motive Force
EMI	Electromagnetic Interference
EoL	End of Life
EoM	End of Mission
EOP	Early Orbit Phase
EPLM	Extended Payload Module

EQM	Electrical Qualification Model
EQM	Engineering Qualification Model
ESA	European Space Agency
ESD	Electro Static Discharge
ESOC	European Space Operations Centre
ESTEC	European Space Research and Technology Centre
ESV	An ARIANE 5 launcher version
FAR	Flight Acceptance Review
FD	Flight Dynamics
FEC	Front Error Correction
FEM	Finite Element Model
FINDAS	FIRST Integrated Network and Data Archive System
FIR	Far Infrared
FIRST	Far Infrared and Submillimeter Telescope
FM	Flight Model
FMECA	Failure Modes Effects and Criticality Analysis
FMS	Failure Management System
FOP	Flight Operations Plan
FOR	Field of Regard
FOS	Factor of Safety
FOV	Field of View
FP	Fabry Perot
FPA	Focal Plane Assembly
FPGA	Field Programmable Gate Array
FPU	Focal Plane Unit
FRR	Flight Readiness Review
FS	Flight Spare
FSC	First Science Centre
FSS	Fine Sun Sensor
FSVM	FIRST Service Module
G/S	Ground Station
G/T	Gain to Temperature Ratio
GFC	Glass Fibre Compound
GFRP	Glass Fibre Reinforced Plastics
GMM	Geometrical Mathematical Model
GSE	Ground Support Equipment
GTO	Geostationary Transfer Orbit
H/W	Hardware
He II	Helium II (Superfluid Helium)
HEO	Highly Eccentric Orbit
HFI	High Frequency Instrument (Planck)
HGA	High Gain Antennna
HIFI	Heterodyne Instrument (Herschel)

HK	House Keeping
HOT	Helium One Tank
HSS	Herschel Sunshield / Sunshade
HTT	Helium Two Tank
I/F	Interface
ICC	Instrument Control Centre
ICD	Interface Control Document
ID	Interface Document
IF	Intermediate Frequency
IFAR	Instrument Flight Acceptance Review
IFEM	Instrument Finite Element Model
IID	Instrument Interface Document
IOCR	In Orbit Commissioning Review
IOP	Initial Orbit Phase
IRU	Inertial Reference Unit
ISO	Infrared Space Observatory
ITT	Invitation to Tender
JFET	Junction Field Effect Transistors
JPB	Joint Procurement Board
J-T	Joule Thomson
KO	Kick-Off
LCDA	Launcher Coupled Dynamic Analysis
LCL	Latching Current Limiter
LEOP	Launch and Early Orbit Phase
LET	Linear Energy Transfer
LGA	Low Gain Antenna
LHV	Liquid Helium Valve
LO	Local Oscillator
LoS	Line of Sight
LOU	Local Oscillator Unit
LSB	Least Significant Bit
LV	Launch Vehicle
LVDE	Low Vibration Drive Electronics
LW	Launch Window
MAC	Modal Assurance Criterion
MCC	Mission Control Centre
MEOP	Maximum Expected Operating Pressure
MGSE	Mechanical Ground Support Equipment
MLI	Multi Layer Insulation
MOC	Mission Operations Centre
MoI	Moments of Inertia
MoS	Margin of Safety
MPPT	Maximum Power Point Tracking

MPT	Multi-Purpose Trolley
MSS	Mechanical Support Structure
MTL	Mission Timeline
N/A	Not Applicable
NASA	National Aeronautic and Space Administration
NASTRAN	NASA Structural Analysis Tool
NCR	Non Conformance Report
NED	Non Explosive Device
NRT	Near Real Time
OB	Optical Bench
OBA	Optical Bench Assembly
OBDH	On Board Data Handling
OBHCL	Optical Bench Helium Cooling Loop
OBP	Optical Bench Plate
OBS	Optical Bench Shield
OBT	On Board Time
OBTL	Optical Bench Thermal Interface Link to Scientific Instruments
ODS	Orbital Disconnect Support
OFD	Operations Facility Document
OGSE	Optical Ground Support Equipment
OIRD	Operations Interface Requirements Document
OSR	Optical Solar Reflector
OTF	On Target Flag
P/L	Payload
PA	Product Assurance
PACS	Photoconductor Array Camera Spectrometer (Herschel)
PCM	Pulse Code Modulation
PCS	Power Control Subsystem
PCU	Power Control Unit
PDD	Payload Definition Document
PDE	Pointing Drift Error
PDR	Preliminary Design Review
PDU	Power Distribution Unit
PFM	Proto Flight Model
PI	Principal Investigator
PLL	Phase Lock Loop
PLM	Payload Module
PMD	Propellant Management Device
PPLM	Planck Payload Module
ppm	part per million
PPS	Passive Phase Separator
PROM	Programmable Read Only Memory
PSF	Point Spread Function

PSK	Phase Shift Keying
PSVM	Planck Service Module
PT	Product Tree
PTI	Product Tree Identifier
PUS	Packet Utilization Standard
PWM	Pulse Width Modulation
QM	Qualification Model
QSO	Quasi Stellar Object
RAM	Random Access Memory
RCS	Reaction Control Subsystem
RD	Reference Document
RE	Radiated Emission
RF	Radio Frequency
RFI	Radio Frequency Interference
RfW	Request for Waiver
RH	Relative Humidity
RHCP	Right Hand Circular Polarization
RID	Review Item Discrepancy
RML	Recoverable Mass Loss
rms	Root Mean Square
ROM	Rough order of Magnitude
RPE	Relative Pointing Error
RS	Radiates Susceptibility
RSS	Root Square Sum
RTA	Real Time Assessment
RTMM	Reduced Thermal Mathematical Model
RTU	Remote Terminal unit
S/C	Spacecraft
S/N	Signal to Noise Ratio
S/S	Subsystem
S/W	Software
SA	Solar Array
SAA	Solar Aspect Angle
SAS	Sun Acquisition Sensor
SCC	Stress Corrosion Cracking
SCET	Spacecraft Elapsed Time
SCL	Spacecraft Control Language
SCOS	Space Control and Operations Centre
SDE	Software Development Environment
SDS	System Definition Study
SECDED	Single Error Correction and Double Error Detection
SEL	Spacecraft Event Logic
SEU	Single Event Upset

SF	Safety Factor
SFW	Spatial Framework
SIH	Scientific Instrument Harness
SIN	Straylight Induced Noise
SIS	Spacecraft Interface Simulator
SIS	Superconductor Insulator Superconductor
SIV	Software Independent Validation
SM	Structural Model
SOC	Science Operations Centre
SoW	Statement of Work
SPB	Senior Procurement Board
SPC	Science Programme Committee
SPIRE	Spectral Photometer Imaging Receiver (Herschel)
SPL	Split Phase Level
SRPE	Spatial Relative Pointing Error
SRR	System Requirements Review
SSAC	Space Science Advisory Committee
SSc	Supporting Strap chain
SSM	Second Surface Mirror
SSR	Solid State Recorder
SST	Stainless Steel
STM	Structural/Thermal Model
STMM	Simplified Thermal Mathematical model
STR	Startracker
SVF	Software Validation Facility
SVM	Service Module
TA	Telescope Assembly
TAI	Temps Atomique International
TB	Thermal Balance
TBC	To Be Confirmed
TBD	To Be Defined
TBE	To Be Established
TC	Telecommand
TCS	Thermal Control Subsystem
TF	Test Factor
TM	Telemetry
TML	Total Mass Loss
TMM	Thermal Mathematical Model
TOP	Transfer Orbit Phase
TRP	Technological Research Programme
TSMM	Transport Stimuli and Monitoring Unit
TT&C	Tracking Telemetry and Command
TTC	Transport and Test Cover

TTD	Transport and Tilting Dolly
TV	Thermal Vacuum
UF	Ultimate Factor of Safety
UMOS	Ultimate Margin of Safety
VFT	Vacuum Feed Through
VMC	Visual Monitoring System
VRD	Verification Reference Document
w/o	without
WBS	Work Breakdown Structure
WFE	Wave Front Error
WP	Work Package
WPD	Work Package Description
YF	Yield Factor of Safety
YMOS	Yield Margin Of Safety

E N D   O F   D O C U M E N T

Quantity	Name	Dep./Comp.	Quantity	Name	Dep./Comp.
X	Alberti von Mathias Dr.	ED 544	X	Reuß Friedhelm	ED 71
X	Barlage Bernhard	ED 62	X	Rühe Wolfgang	ED 3
X	Bayer Thomas	ED 532	X	Runge Axel	OTN/TN 94
X	Faas Horst	ED 516	X	Sachsse Bernt	EC 34
X	Grasl Andreas	OTN/TN 64	X	Sagner Udo	OTN/TN 64
X	Grasshoff Brigitte	ED 511	X	Schäffler Johannes	OTN/TN 64
X	Hartmann Hans Dr.	ED 172	X	Schink Dietmar	ED 522
X	Hauser Armin	ED 541	X	Schlosser Christian	OTN/TN 64
X	Hinger Jürgen	ED 541	X	Schwabbauer Paul Dr.	OTN/ED 171
X	Hohn Rüdiger	ED 531	X	Schweickert Gunn	ED 544
X	Hölzle Edgar	ED 171	X	Steininger Eric	ED 522
X	Huber Johann	ED 532	X	Stritter Rene	ED 61
X	Hund Walter	ED 556	X	Suttner Klaus	ED 542
X	Idler Siegmund	ED 521	X	Tenhaeff Dieter	ED 544
X	Ivády von András	EC 32	X	Thörmer Klaus-Horst Dr.	OTN/ED 37
X	Jahn Gerd Dr.	ED 541	X	Wagner Adalbert	OTN/IP 35
X	Kalde Clemens	ED 513	X	Wagner Klaus	ED 541
X	Kameter Rudolf	OTN/TN 64	X	Wietbrock, Walter	ED 511
X	Knoblauch August	ED 51	X	Wöhler Hans	ED 544
X	Koelle Markus	ED 533	X	Zipf Ludwig	EC 32
X	Kreeb Helmut	ED 541			
X	Kroeker Jürgen	ED 515			
X	Kunz Oliver	ED 541			
X	Lamprecht Ernst	OTN/TN 72			
X	Lang Jürgen	ED 556	X	Pastorino Michel	ASPI Resid.
X	Langfermann Michael	ED 531			
X	Mack Paul	OTN/TN 64	X	Alcatel (on FTP-Server)	
X	Maier Hans-Ulrich	ED 61	X	ESTEC (on FTP-Server)	
X	Mauch Alfred	ED 544			
X	Moritz Konrad Dr.	ED 37			
X	Müller Lutz	OTN/TN 64	X	APCO	
X	Muhl Eckhard	OTN/TN 64	X	MPE (on FTP-Server)	
X	Peitzker Helmut	ED 37	X	RAL (on FTP-Server)	
X	Peltz Heinz-Willi	ED 515	X	SRON (on FTP-Server)	
X	Peters, Gerhard	ED 533			
X	Pietroboni Karin	ED 37			
X	Puttlitz Joachim	OTN/ED 37			
X	Raupp Helmut	ED 543			
X	Rebholz Reinhold	ED 531			