



PROTEUS

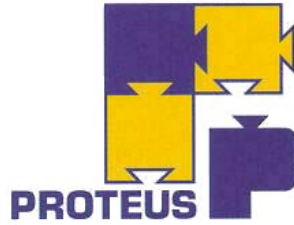
TITRE : **PROTEUS USER'S MANUAL**

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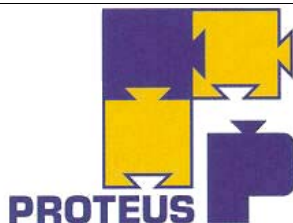
Date : 18/02/03
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	FUNCTION	NAME	SIGNATURE	DATE
WRITTEN BY SYSTEM TEAM ASPI + CNES	PROJECT TEAM COORDINATED BY	E. JAUFFRAUD	23/11/2004	
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Internal Diffusion Sheet

Chef de Projet 5PF	L. Frécon	X	P.A. Sureté/Fiabilité	F.Cosson	
Chef de Projet Calipso	M.Jourdan	X	P.A. Logiciel	D.Lagelle	
Secrétariat	M.Moreno	X	P.A. Sécurité	D.Storto	
Process Manager	P. Nicolas		P.A. Composant	Ph.Gasnier	
Contrôle Projet	C.Bourget-Réné		P.A. DHU	J.F.Hernandez	
PA Manager	G. Ferrier	X	P.A. Matériaux Procéd.	E.Bordeux	
PA Adjoint	V.Grossetete		P.A. STR	J.M.Cognet	
Configuration	J.C. Daguzan		P.A.Radiation	O.Mion	
Contrat	J. Pianca-Ripert	X	P.A. GPS / Roues	C.Foggia	
Achat	P.Borie		VCF	Ph.Cam	
Achat	B.Durand		BDS	C.Lecrivain	
Resp. Tech. Proteus	F.Douillet	X	AIT	Ph.Chipon	X
Resp. Tech. 5PF	T.Huiban	X	AIT système	G.Obadia	
Ingénierie Système PF	J.Camous	X	AIT avionique	P.Ricca	
Resp. Tech. Calipso	F.Paoli	X	AIT mécanique	Patrice Moulin	
I/F Payload Calipso	Y.Baillion	X			
Architecte Cde & Ctrl	S.Pouget	X	G.S	R.Laget	
Cde & Ctrl DHU	W.Medrecki		OBSW LV	L.Guibellini	
Gestion Bord	Ph.Fourtier				
Architecte Electrique	J.P. Canard	X	BANCS	S.Vinay	
Architecte Elect.support	E.Liebgott		BANCS	G.Nicolas	
Alimentation	V.Michoud		BANCS	C.Bourgeois	
Harnais	M.Preiti		BANCS	F.Maingam	
Alim. Batterie	H.De Tricaud				
Alim.BEU.	J.J.Digoin		I.R.P. Avionique	J.M.Bartolo	
PCE /Diode Box	L.Gerreboo				
SEPTA (sadm)	L.Canas				
EMC	A.Luc				
Simulat.Energie	J.F.Plantier				
Resp.Ch.Fonct. SCAO	M.Sghedoni		Direction Obs. et Sciences	J. Chenet	X
Architecte SCAO	F.Raissiguier	X	Directeur des prog de sat Sc et Obs de la Terre	P. Mauté	X
Ingénierie SCAO	J.L.Beaupellet		Affaires futures Sc	P. Kamoun	X
Ingénierie SCAO	D.Brethé		Ingénierie des Sat. Et PF – Aff. Futures	B.Lafouasse/ H. Saint (7 ex)	X
Ingénierie SCAO	O.Rouat		Ingénierie des Instruments – Aff. Futures	JB Ghibardo	X
GPS / STR	J.L.Ribet				
GYR / CSS	H.Dauphin				
MTB/MAG	C.Lawrence				
RW	T.Demas				
Propulsion	T.Weulersse				
IRP Module	D.Franqueville				
Structure	J.Mourey				
Architecte AMT	C.Duplay	X	Ingénieur Système	P. Terrenoire	X
Aménag. CAO	B.Cyvoct		Ingénieur Système	Y. Durand	X
AMT Analyses	R.Knockaert		Ingénieur Système	JM. Nakache	X
Thermique	M.Valentini	X			
Etudes Modules (Ids/lcd)	P.Laurenti				
DOCUMENTATION (original)		X			



PROTEUS USER'S MANUAL

This document contains the technical information which is necessary to:

1. assess the compatibility of a payload with a PROTEUS platform
2. assess the compatibility of a mission control centre with a PROTEUS satellite control centre
3. prepare all technical and operational documentation related to a mission based on a PROTEUS system

Missions out of PROTEUS standard flight envelope could be possible depending on launcher, orbit and payload parameters combination. In such a case, a more detailed analysis shall be done.

This document will be revised periodically, comments and suggestions on all aspects of this manual will be encouraged and appreciated.

Any questions concerning commercial aspects or interpretation of this manual should be directed to:

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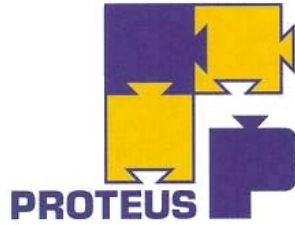
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FOREWORD

The PROTEUS development program is carried out under the partnership of the French Space Agency Centre National d'Etudes Spatiales (CNES) and ALCATEL SPACE.

The equipment for PROTEUS system are provided by the industrial companies from countries such as Belgium, Canada, France, Germany, Italy, Spain, Sweden, USA.

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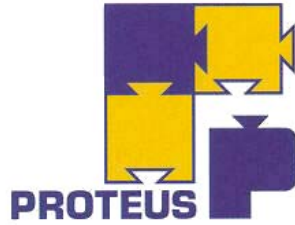
All information contained in the PROTEUS User's Manual are proprietary to ALCATEL SPACE and CNES and shall be treated as such by the recipient party. It is supplied in confidence and shall not be used for any purpose other than the evaluation of PROTEUS capacities, and shall not, in whole or in part be reproduced, communicated or copied in any form or by any means (electronically, mechanically, photocopying, recording, or otherwise) to any person without prior written permission from ALCATEL SPACE and CNES.

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Such right to use proprietary information shall not be deemed to imply any transfer or licence on intellectual property rights to such proprietary information, including patent, trademark, copyright, ideas, know how, methods or industrial design.

ALCATEL SPACE and CNES could not held be responsible for the possible PROTEUS evolutions and evolutions of the launch vehicles compatible with PROTEUS based satellites.

ALCATEL SPACE is ready to update the information concerning the launch vehicles capacities upon request based on Launch Service Agencies new data.



CNES AND ALCATEL SPACE OVERVIEW

1. CNES



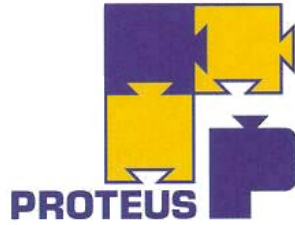
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The Centre National d'Etudes Spatiales (CNES) is the French space agency. This public institution of industrial and commercial nature was founded in December 1961 in order to develop French space activities.

The CNES role is to propose the directions that French space policy should take and, along with its partners (in industry research, and defence), to implement the programmes selected.

CNES leads French space policy in two complementary ways:

- by playing a major role in European Space Agency (ESA) programmes,
- and by a dynamic national programme guaranteeing industrial competitiveness on a world level.



CNES is strongly linked with many different partners: space users, French industry, scientific laboratories, defence corps. It also cooperates with foreign space agencies to fulfil ambitious programmes mainly within the realm of science.

The major CNES programmes are those which involve the major strategic and economic challenges:

access to space, with the Ariane programme and the creation of a launch base in French Guyana. Ariane is an ESA programme, whose launch services are marketed by Arianespace,

space applications such as Earth observation (Spot, Topex-Poseidon, Jason, Polder/Adeos, Scarab, Vegetation, and so on...) and telecommunications (Telecom 2, Stentor, GNSS ...),

science programmes in conjunction with research corps and led on the basis either European or international co-operation (Rosetta, intervention in Cassini-Huygens, Iso, Soho, Integral, Mars Sample Return,...),

activities related to microgravity research and mankind in space (Alice2, Fertile, Castor,...) and the preparation of experiments designed for the International Space Station (Pharao),

activities linked to Defence programmes (Helios, radar satellites ...).

In order to fulfil its function, the CNES has various centres: Head Office in Paris, the launch vehicle directorate in Evry (responsible for the Ariane programme), the technical and operational centre in Toulouse (responsible for preparing and developing space projects for satellites and planetary vehicles as well as for running operational facilities and test infrastructures), the Guyana Space Centre and a balloon launch centre located in Aire-sur-l'Adour. CNES employs a total of 2500 staff spread throughout these five sites.

The CNES budget stands at 12309 MF (almost 2052 M\$, or 1876 MEuros), broken down into a State subsidy of 9265 MF (almost 1544M\$, or 1412 MEuros) and the Establishment's own resources of 3044 MF (almost 507 M\$, or 464 MEuro). Over the past fifteen years or so, CNES has founded commercial subsidiaries to sell products and services arising from space technology. The 19 companies thus created directly employ a total staff of over 1000.

CNES - Centre spatial de Toulouse

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31401 Toulouse Cedex 4 - France

2. ALCATEL SPACE : THE CANNES FACILITY

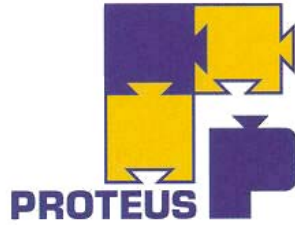


The French industrial company ALCATEL SPACE was created by the merger of Aerospatiale Satellites (Cannes), Alcatel Espace (Nanterre, Toulouse), Thomson-CSF-spatial ground systems section (Buc, Toulouse, Kourou, Evry), Sextant avionique, spatial section (Valence), Cegelec (Telemetries activities at Kourou and in metropolitan France). ALCATEL SPACE holds leadership positions in all areas of satellite applications : Telecommunications (Arabsat, Eutelsat, Turcksat, Nahuel, Thaicom, Sinosat, Astra), navigation, observation (Helios, Vegetation), meteorology (MSG), science (ISO, Huygens) with a range of platforms (Spacebus, PROTEUS, Meteosat), payloads, instruments, products (microwaves, electronics, optics, radar, mechanisms, structures, thermal control...), ground segments, ground products and logistic support. ALCATEL SPACE owns partners throughout the world: strategic partners with Space Systems/Loral in the USA and partnerships or agreements with leading industrialists world wide (Europe : Matra Marconi Space, Alenia, Dasa - Canada : Spar - Japan : Toshiba, Mitsubishi, Sharp - Russia : NPO-PM - USA : Lockheed Martin, Hughes). ALCATEL SPACE 1998 turnover (forecast) amounts to 10 billion FF. (1.5 billionEuros) ALCATEL SPACE counts a 6000 workforce.

Cannes Centre has a staff of 1,300, more than 60% of whom being highly skilled engineers and professionals, making it thus stand out as the French Riviera's leading industrial employer. Over three decades of space activity, they have contributed to making this Operations Centre the Number1 European manufacturer, taking an active part in delivering over a hundred satellites to date.

The Cannes Centre's research departments, laboratories and integration clean rooms are staffed by top notch specialists in numerous fields, from mechanics to electronics, from telecommunications to optics, from power supply to cryogenics.

This multidisciplinary approach enables ALCATEL SPACE to provide complex systems, from inception to completion, in full compliance with Customer specifications, jointly with many French and foreign partners. The Cannes Centre's integrated environmental test facilities offer complete testing of satellites. It houses, in particular, Europe's largest space-oriented integration clean room for the complete assembly of up to six



satellites at a time, including a Compact Radiofrequency Simulator for measuring the radioelectric performance of antennas and satellites. And finally, there are powerful techniques for the integration and testing of spatial optical systems to produce increasingly sophisticated instruments.

ALCATEL SPACE is rising to the challenges of the third millennium. In space and on the Earth we provide the tailor made solutions requested by our Customers.

ALCATEL SPACE

Cannes Center

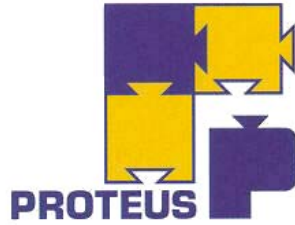
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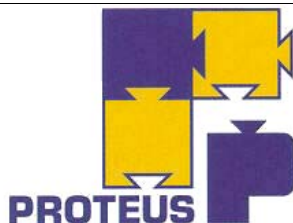


350 SATELLITES

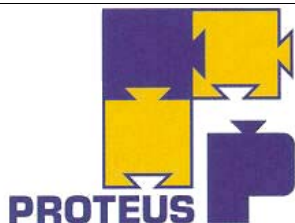


USER'S MANUAL CONFIGURATION CONTROL SHEET

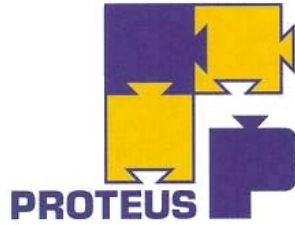
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1	0	30/10/95		First Edition	F. DOUILLET
2	0	24/06/98	all	Updating of the previous issue and insertion of new chapters from the draft CNES LDP.MU.L0.SC.300.CNES	J. BLOUVAC B. LAZARD
3	draft1	30/10/98	all	<ul style="list-style-type: none">- Updating of the previous issue for chapters 1 and 2.- Deletion of the chapters 3 which presents detailed platform design. Instead of this chapter, Payload characteristics and satellite interfaces are presented.- Insertion of chapters 4, 5, 6 which deal with the payload interfaces, environment, verification tests. These chapters become the baseline to specified the studied mission requirements.- Chapter 7 is the ex chapter 5- Updating of chapter 8 which corresponds to the previous chapter6	C. GRIVEL J. BLOUVAC
3	draft 2	30/11/98	all	<ul style="list-style-type: none">- Updating of the previous issue mainly chapters1,2 and 3.- Insertion of a new chapter between the ex chapter 7 and the previous chapter 8.	C. GRIVEL J. BLOUVAC
3		15/02/99	all	<ul style="list-style-type: none">- Updating of the previous issue- Insertion of a new chapter between the previous chapter 7 and the previous chapter 8	C. GRIVEL P. TERRENOIRE



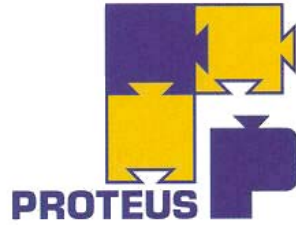
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
4		16/12/99	all	<p>TOTAL UPDATING</p> <ul style="list-style-type: none">- Updating with respect to :<ul style="list-style-type: none">• ASPI-1999-ILF-142• ASPI-1999-ILF-150• ASPI-1999-ILF-160• ASPI-1999-ILF-162• ASPI-1999-ILF-170• ASPI-2000-ILF-006- Restructuration of the chapters 3 and 4 :<ul style="list-style-type: none">• Chapter 3 becomes the description of the interface requirements• Chapter 4 becomes the description of the payload design requirements- Numbering of the requirements- Modification of the document in order to transform it in an applicable document for the payload- Addition of the IDS format and help in appendix- Addition of figures :<ul style="list-style-type: none">• electrical interface brackets• STA interface- Chapter 1 Updating with respect to the modifications of the other chapters. Introduction of section 1.7 (applicable & reference documents) and of section 1.8 (acronyms) Addition of the Star Tracker reference frames- Chapter 2 Updating of the lower inclination for the allowable orbits Clarification for the visibility duration (addition of figures with 10° of elevation instead of 5°) Updating of the section 2.3.3 <p>...</p>	Y. BAILLION



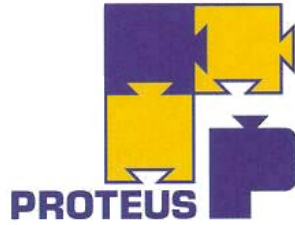
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
4		16/12/99	all	<p>Chapter 3</p> <p>It becomes the Payload interface requirements. Addition of some figures (electrical interface brackets, STA interfaces) Modification of the mass properties requirements Modification of the stiffness requirements Modification of the in flight allowable volume Clarification of the mechanical interfaces Modification of the maximum generated disturbances requirements Description of the active thermal control algorithm Addition of the « Power Supply requirements » section Total updating of the command / control sections Description of the active thermal control algorithm Addition of the « Power Supply requirements » section Total updating of the command / control sections Description of the pins allocation Addition of some information about the STA Addition of a « Ground Support Equipment requirements » section</p> <p>- Chapter 4</p> <p>It become the Payload design requirements. Updating of mechanical design requirements Addition of the « mathematical models interfaces requirements » section</p> <p>- Chapter 5</p> <p>Updating of the mechanical environment Updating of the sine environment Addition of a random environment Clarification of the shock requirement Modification of the thermal environment Modification of the magnetic field requirement Addition of the ground, storage and transportation environment</p> <p>- Chapter 6</p> <p>New organisation of the chapter. Introduction of new requirements about the payload instrumentation for satellite tests</p> <p>- Chapter 7</p> <p>No modifications</p> <p>- Chapter 8</p> <p>No modifications</p> <p>- Chapter 9</p> <p>No modifications</p> <p>- Chapter 10</p> <p>Identification of the delivering items responsibility Addition of an appendix containing the IDS files and an help for filling these IDS</p>	Y. BAILLION



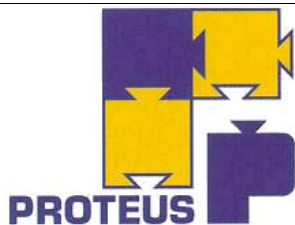
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4	1	24/03/00		<p>P ii, foreword modification, Rid PUM.4.0.BL.003 P ix, change notice evolution P xii, TBC list evolution P xiii, TBD list evolution</p> <p>- Chapter 1 P 1.13, figure 1.3-6, Rid PUM.4.0.YB.021 P 1.13, S-band data rate, Rid PUM.4.0.BL.005 P 1.14, figure 1.3-7, Rid PUM.4.0.YB.019 P 1.14, Table 1.3-1, Rid PUM.4.0.BL.005 P 1.16, Table 1.3-2, Rid PUM.4.0.BL.005, Rid PUM.4.0.YB.027 P 1.16, section 1.3.5, Rid PUM.4.0.CG.003 P 1.18, section 1.3.5.4, Rid PUM.4.0.CG.003 P 1.19, section 1.3.5.4, Rid PUM.4.0.CG.003 P 1.25, SY-1.4-8, Rid PUM.4.0.YB.002 P 1.26, addition of figure, Rid PUM.4.0.YB.002 P 1.28, SY-1.5-1, Rid PUM.4.0.YB.001 P 1.29, Figure 1.5-1, Rid PUM.4.0.YB.001 P 1.33, RD10 deleted, Rid PUM.4.0.CG.001 P 1.34, addition of acronyms, Rid PUM.4.0.CG.003, Rid PUM.4.0.YB.012</p> <p>- Chapter 2 P 2.18, last paragraph, Rid PUM.4.0.FD.002 P 2.19, Table 2.4-2, Rid PUM.4.0.CG.005 P 2.28, first sentence, Rid PUM.4.0.YB.026 P 2.32, fig 2.5-14, Rid PUM.4.0.YB.040 P 2.33, fig 2.5-16, Rid PUM.4.0.YB.003 P 2.39, typing error, Rid PUM.4.0.YB.015 ...</p>	



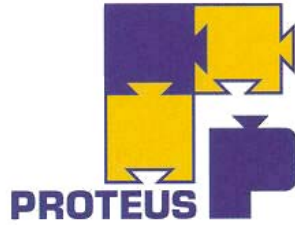
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				<p>Chapter 3</p> <p>P 3.2, , Rid PUM.4.0.FD.002</p> <p>P 3.3, PL-3.1.1-1, Rid PUM.4.0.YB.008</p> <p>P 3.4, PL-3.1.1-2 & 3, Rid PUM.4.0.YB.008</p> <p>P 3.4, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.4, Fig 3.1-1, Rid PUM.4.0.YB.045</p> <p>P 3.5, Fig 3.1-2 and 3.1-3, Rid PUM.4.0.FD.003</p> <p>P 3.6, PL-3.1.1-6 & 7 & 9, Rid PUM.4.0.YB.008</p> <p>P 3.6, PL-3.1.1-9, Rid PUM.4.0.YB.038</p> <p>P 3.7, figure 3.1-4, Rid PUM.4.0.YB.033</p> <p>P 3.2 to 3.9, equipped payload, Rid PUM.4.0.YB.008</p> <p>P 3.16, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.17, wording, Rid PUM.4.0.FD.004</p> <p>P 3.17, clarification, Rid PUM.4.0.YB.009</p> <p>P 3.20, clarification, Rid PUM.4.0.YB.004</p> <p>P 3.21, text below PL-3.1.4-11, Rid PUM.4.0.BL.011</p> <p>P 3.21, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.24, table 3.2-1, Rid PUM.4.0.YB.018</p> <p>P 3.25, figure 3.2-1, Rid PUM.4.0.YB.024</p> <p>P 3.26, above section 3.2.2.1, Rid PUM.4.0.FD.005</p> <p>P 3.28, wording, Rid PUM.4.0.FD.006</p> <p>P 3.30, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.30, information addition, Rid PUM.4.0.YB.005</p> <p>P 3.30, information addition, Rid PUM.4.0.FD.007</p> <p>P 3.34, section 3.3.3.2, Rid PUM.4.0.BL.012</p> <p>P 3.34, section 3.3.3.3, Rid PUM.4.0.YB.039</p> <p>P 3.36, information addition, Rid PUM.4.0.FD.009</p> <p>P 3.37, Figure 3.4-1, Rid PUM.4.0.FD.022</p> <p>P 3.38, level 3 definition, Rid PUM.4.0.YB.023</p> <p>P 3.38, 1553 time line addition, Rid PUM.4.0.YB.025</p> <p>P 3.39, PL-3.4.3-5 deleted, Rid PUM.4.0.YB.006</p> <p>P 3.39, PL-3.4.3-6, Rid PUM.4.0.YB.023</p> <p>P 3.40, PL-3.4.3-15 deleted, Rid PUM.4.0.YB.006</p> <p>P 3.40, typing error, Rid PUM.4.0.YB.004</p>	



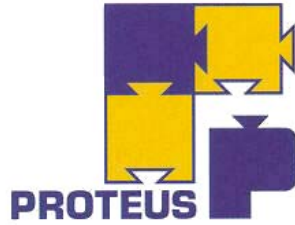
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				<p>...</p> <p>- Chapter 3 (Continued)</p> <p>P 3.43, clarification, Rid PUM.4.0.YB.013</p> <p>P 3.43, TBC deleted, Rid PUM.4.0.YB.014</p> <p>P 3.49, typing error, Rid PUM.4.0.YB.010</p> <p>P 3.52, section 3.4.5.3.1.2, Rid PUM.4.0.YB.026</p> <p>P 3.55, information addition, Rid PUM.4.0.FD.010</p> <p>P 3.56, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.57, addition of PL-3.4.7-4, Rid PUM.4.0.FD.011</p> <p>P 3.58, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.60, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.63, PL-3.5.3-1 and Fig 3.5-7, Rid PUM.4.0.FD.020</p> <p>P 3.63, monitoring frequency, Rid PUM.4.0.YB.044</p> <p>P 3.64, wording, Rid PUM.4.0.FD.012</p> <p>P 3.66, PL-3.5.3-10 deleted, Rid PUM.4.0.FD.011</p> <p>P 3.66, PL-3.5.3-11, Rid PUM.4.0.FD.011</p> <p>P 3.68, Figure 3.5-9, Rid PUM.4.0.FD.013</p> <p>P 3.70, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.73, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.87, wording, Rid PUM.4.0.YB.016</p> <p>P 3.93, figure 3.5-24, Rid PUM.4.0.YB.031</p> <p>P 3.95, typing error, Rid PUM.4.0.YB.004</p> <p>P 3.98, section 3.5.8.2, Rid PUM.4.0.YB.007</p> <p>P 3.102, figure 3.6-3, Rid PUM.4.0.BL.007</p> <p>P 3.103, section 3.6.2.2.5, Rid PUM.4.0.BL.002</p> <p>P 3.104, PL-3.6.2-7, Rid PUM.4.0.YB.028</p> <p>P 3.105, PL-3.6.2-8, Rid PUM.4.0.BL.008</p> <p>P 3.106, section 3.6.5, Rid PUM.4.0.YB.030</p> <p>- Chapter 4</p> <p>P 4.8, PL-4.2.1-2, Rid PUM.4.0.YB.001</p> <p>P 4.9, PL-4.2.2-5, Rid PUM.4.0.FD.014</p> <p>P 4.10, Fig 4.2-2, Rid PUM.4.0.YB.043</p> <p>P 4.15, PL-4.3.2-2, Rid PUM.4.0.Jde.002</p> <p>P 4.20, Typing error, Rid PUM.4.0.YB.004</p> <p>P 4.21, Typing error, Rid PUM.4.0.YB.004</p> <p>P 4.22, Typing error, Rid PUM.4.0.YB.004</p> <p>P 4.34, section 4.6.1.2.3, Rid PUM.4.0.YB.029</p> <p>P 4.37, first paragraph, Rid PUM.4.0.YB.029</p>	



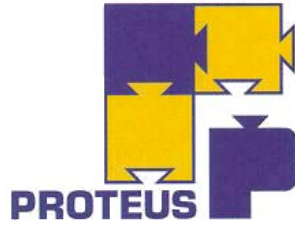
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				<ul style="list-style-type: none"> - Chapter 5 P 5.2, Table 5.1-1, Rid PUM.4.0.YB.034 P 5.3, Table 5.1-2, Rid PUM.4.0.YB.035 P 5.5, fig 5.1-1, Rid PUM.4.0.JDe.001 P 5.8, typing error, Rid PUM.4.0.YB.026 P 5.10, table 5.6-1, Rid PUM.4.0.YB.042 P 5.12, section 5.8, Rid PUM.4.0.YB.017 P 5.16, random vibrations, Rid PUM.4.0.YB.041 P 5.18, random vibrations, Rid PUM.4.0.YB.041 - Chapter 6 P 6.2, last paragraph, Rid PUM.4.0.BL.016 P 6.7, typing error, Rid PUM.4.0.YB.036 P 6.10, below PL-6.1.6-2, Rid PUM.4.0.JDe.003 P 6.17, addition of PL-6.1.8-28, Rid PUM.4.0.YB.011 P 6.18, typing error, Rid PUM.4.0.YB.004 P 6.20, typing error, Rid PUM.4.0.YB.004 P 6.24, typing error, Rid PUM.4.0.YB.004 P 6.29, typing error, Rid PUM.4.0.YB.037 - Chapter 7 No modification - Chapter 8 P 8.4, section 8.3.2, Rid PUM.4.0.BL.013 P 8.6, Rid PUM.4.0.BL.014 P 8.7, Rid PUM.4.0.BL.014 P 8.8, Rid PUM.4.0.BL.014 P 8.9, Rid PUM.4.0.BL.014 P 8.12 to P8.22, Rid PUM.4.0.BL.014 P 8.26, section 8.3.2, Rid PUM.4.0.BL.018 P 8.27 to P 8.33, Rid PUM.4.0.BL.014 P 8.36, Rid PUM.4.0.BL.014 - Chapter 9 P 9.3, S-band data rates, Rid PUM.4.0.BL.005 - Chapter 10 P 10.4, typing errors, Rid PUM.4.0.FD.016 P 10.5, typing errors, Rid PUM.4.0.FD.016 P 10.8, typing errors, Rid PUM.4.0.FD.016 - Appendix A P 4, Mass definition, Rid PUM.4.0.YB.001 P 13, Typing error, Rid PUM.4.0.FD.005 	



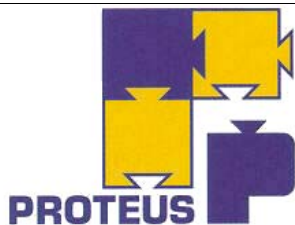
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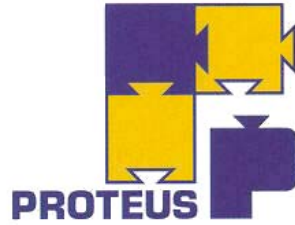
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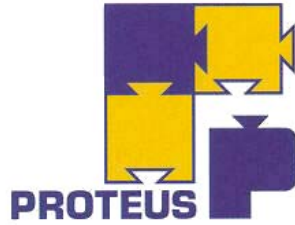
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5	0	23/11/01	All pages	Logo of Alcatel Space Industries updated	I.Bénilan
			i	Missions out of PROTEUS standard flight envelope: RID N°PUM.4.2.IB.015	
			xiii	Change notice evolution	
			xviii	TBC list evolution	
xix	TBD list evolution				
xxi	Table of Contents updated with "First page" and "Ch.0"				
				Chapter 1	I.Bénilan
1.12	Figure 1.3-5: RID N°PUM.4.2.IB.007				
1.16	Table 1.3-2: RID N°PUM42.IB.039. The range of possible payload masses is also modified as a consequence of the new STA mass (RID N°PUM42.YB.003 and impact on PL-3.1.1-1)				
1.26	Figure with the STA Reference Frame modified as in RID N°PUM.4.2.YB.003 (Figure 3.6-1), numbered and named				
1.27	SY-1.4-9: RID N°PUM.4.2.IB.048				
1.29	Figure 1.5-1: RID N°PUM.4.2.IB.047				
1.33	RD5: RID N°PUM.4.2.IB.057				
1.37	Addition of the acronym "w/o"				
				Chapter 2	I.Bénilan
2.19	Table 2.4-1: "Platform Inertias and Cog position in satellite co_ordinate system" replaced by "Platform Inertias in CoG Satellite Reference Frame and CoG position in Satellite Reference Frame"				
2.24	Figure 2.5-3: RID N°PUM42.IB.052				
2.39-40	§2.5.7.1 and Figure 2.5-19: RID N°PUM42.IB.039				



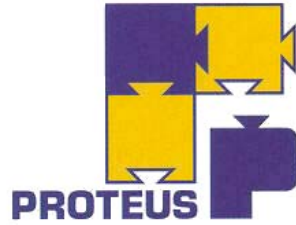
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
				Chapter 3	I.Bénilan
			3.2	§ between Ch.3 and 3.1: point added to close the sentence.	
			3.2	§ 3.1: RID N°PUM42.IB.001	
			3.3	PL-3.1.1-1: mass allocated to the Payload modified as a consequence of the new STA mass (RID N°PUM42.YB.003)	
			3.3	Table 3.1-1: RID N°PUM42.YB.003 and .IB.039	
			3.4	PL-3.1.1-2: RID N°PUM42.IB.058	
			3.4-6	§3.1.1.2 and in particular PL-3.1.1-3 + Figures 3.1-1, -2, -3: RID N°PUM42.IB.004	
			3.7	PL-3.1.1-6, -7, -8, -9, -10: RID N°PUM42.YB.008	
			3.12	Figure 3.1-7: RID N°PUM42.IB.008	
			3.13	Figure 3.1-8: RID N°PUM42.IB.008	
			3.14	Figure 3.1-19: RID N°PUM42.IB.008	
			3.15	Figure 3.1-9: RID N°PUM42.IB.008	
			3.16	Figure 3.1-10: RID N°PUM42.IB.008	
			3.16	Figure 3.1-11: RID N°PUM42.YB.009+ .IB.008	
			3.17	Figure 3.1-12: RID N°PUM42.YB.009	
			3.19	After PL-3.1.4-7: RID N°PUM42.YB.013	
			3.20	Figure 3.1-14: RID N°PUM42.IB.008	
			3.22	Figure 3.1-17: RID N°PUM42.IB.050	
			3.23	Creation of §3.1.4.3.2.2: RID N°PUM42.YB.003	
			3.24	PL-3.1.5-4 and Table 3.1-3: RID N°PUM42.IB.005	
			3.26	PL-3.2.1-1: RID N°PUM42.YB.009	
			3.26	§3.2.1: "on" is added after "shown" in the sentence "The Solar Array dimensions are shown Figure 3.1-7."	
			3.26	Before Figure 3.2-1: RID N°PUM42.IB.020 (MLI thickness)	
			3.27	Creation of Figure 3.2-3: RID N°PUM42.YB.007	
			3.28	Figure 3.2-1: RID N°PUM42.IB.008	
			3.29	§ between 3.2.2 and 3.2.2.1: RID N°PUM42.YB.005	
			3.29	PL-3.2.2-3: RID N°PUM42.YB.001	
			3.30	PL-3.2.2-5: RID N°PUM42.YB.011	
			3.31	§ 3.2.2.2: RID N°PUM42.IB.054	
			3.30	Before and in PL-3.2.3-1: RID N°PUM42.YB.011	
			3.34	Typing error: " suppressed.	
			3.35-36	Figure 3.3-1, -2 and -3: RID N°PUM42.IB.026	
			3.37	§3.3.3.3 and PL-3.3.3-2: RID N°PUM42.IB.040	
			3.38	After PL-3.4.1-1: RID N°PUM42.IB.029	
			3.39	Table before PL-3.4.1-2 numbered and named.	
			3.39	PL-3.4.1-2: RID N°PUM42.IB.037	
			3.41	Figure in §3.4.3 numbered, named and updated as a consequence of RID N°PUM42.IB.029. Typing errors also corrected.	
			3.43	Figure in §3.4.3.4 numbered and named.	
			3.44	Table of §3.4.3.4: RID N°PUM42.FD.01	



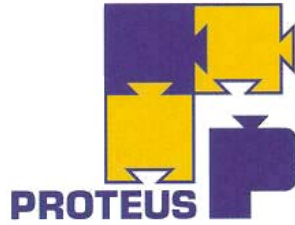
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			3.44	Table of §3.4.3.4: empty line before added. Table is numbered and named. Bullets of the subaddresses are modified.	
			3.45	2 nd table of §3.4.3.4 numbered and named.	
			3.48	PL-3.4.4-2: "be send" is replaced by "be sent" (typing error)	
			3.51	§3.4.4.3.2 and PL-3.4.4-11: RID N°PUM42.FD.01	
			3.52	PL-3.4.5-1: RID N°PUM42.IB.029	
			3.52	PL-3.4.5-2: RID N°PUM42.IB.029	
			3.53	Typing error after PL-3.4.5-4: "OBS" replaced by "OBSW".	
			3.53	§3.4.5.3: RID N°PUM42.IB.029	
			3.58	§3.4.5.4: RID N°PUM42.IB.029	
			3.64-66	Figures 3.5-4, -5 and -6 and Table 3.5-1, -2 and -3 issued from the updated Appendix B.	
			3.67	PL-3.5.3-1: RID N°PUM42.YB.001	
			3.68	Before PL-3.5.3-2: RID N°PUM42.IB.014	
			3.68	PL-3.5.3-4: RID N°PUM42.YB.001	
			3.69	§ 3.5.3.3.1 1 st line: RID N°PUM42.YB.001	
			3.71	PL-3.5.3-19: RID N°PUM42.IB.013	
			3.74	Table 3.5-4: RID N°PUM42.YB.012	
			3.76-77	Modification of Table 3.5-7 and creation of Figure 3.5-11a: RID N°PUM42.YB.012	
			3.77	Before Figure 3.5-12: RID N°PUM42.YB.012	
			3.78	Creation of Table 3.5-8a: RID N°PUM42.YB.012	
			3.81	After Table 3.5-11: RID N°PUM42.YB.012	
			3.82	Table 3.5-15: RID N°PUM42.YB.011	
			3.83	Typing error in Table 3.5-16: "reciever" replaced by "receiver"	
			3.83	Table 3.5-17 and under the table after "Protocol": RID N°PUM42.YB.012	
			3.83	Table after "Protocol" numbered and named.	
			3.85	Creation of Table 3.5-20a: RID N°PUM42.YB.012	
			3.88	§ 3.5.6.3.1 In orbit pulse duration: RID N°PUM42.YB.010	
			3.89	Creation of PL-3.5.6-17: RID N°PUM42.YB.014	
			3.89	§3.5.6.5: RID N°PUM42.IB.029	
			3.92	Fig 3.5-21: RID N°PUM42.YB.001	
			3.94	§ 3.5.7.1.2 c): RID N°PUM42.YB.001	
			3.96	PL-3.5.7-11: RID N°PUM42.IB.030	
			3.96	Figure after PL-3.5.7-11 numbered and named.	



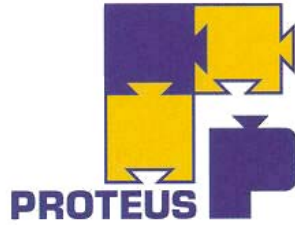
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			3.102	PL-3.5.9-1 inherits from PL-5.7.2-1: RID N°PUM42.IB.060	
			3.102	Creation of PL-3.5.9-3 from PL-5.7.2-2: RID N°PUM42.IB.060	
			3.102	PL-3.5.9-2 inherits from PL-5.7.1-1 : RID N°PUM42.IB.060 and .IB.012	
			3.102	Creation of PL-3.5.9-4 from PL-5.7.1-2: RID N°PUM42.IB.060	
			3.103	§3.6.1 and Figure 3.6-1: RID N°PUM.4.2.YB.003	
			3.104	Point added at the end of PL-3.6.2-1	
			3.104	Figure 3.6-2: RID N°PUM.4.2.YB.003	
			3.105	Figure 3.6-2b and §3.6.2.2.1: RID N°PUM.4.2.YB.003	
			3.106	Figure 3.6-3: RID N°PUM42.IB.008 and .YB.003	
			3.106	§3.6.2.2.3 and §3.6.2.2.4: RID N°PUM.4.2.YB.003	
			3.106-107	§3.6.2.2.5 and PL-3.6.2-6: RID N°PUM.4.2.YB.003	
			3.108	Point added at the end of PL-3.6.2-7	
			3.108	Figure 3.6-4: RID N°PUM42.IB.008	
			3.110	PL-3.6.2-10 + Table 3.6-3: RID N°PUM42.IB.005	
			3.110-112	§3.6.3: RID N° PUM42.YB.004	
			3.112	§3.6.4 and PL-3.6.4-1: RID N° PUM42.YB.003	



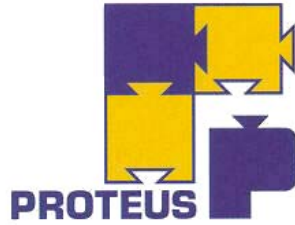
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				<p>Chapter 4</p> <p>4.9 PL-4.2.2-2 and creation of Figure 4.2-0: RID N° PUM42.YB.006</p> <p>4.12 PL-4.2.3-1 and -3: RID N° PUM42.IB.044</p> <p>4.14 Table after PL-4.2.5-2 numbered and named</p> <p>4.33 Table in §4.5.1.1 numbered and named</p> <p>4.40 Tables in §4.6.1.3.1.1 numbered and named</p> <p>4.42-43 Formulae re-written with "Equation Microsoft 3.0" but unchanged w.r.t. PUM42</p> <p>4.45 Table in §4.6.1.5.1 numbered and named</p> <p>4.45 Table in §4.6.1.5.2 numbered and named</p>	I.Bénilan
				<p>Chapter 5</p> <p>5.5 Figure 5.1-1: RID N°PUM42.IB.005</p> <p>5.9 Introduction to Table 5.6-1 and Figure 5.6-3 modified as a consequence of RID N°PUM42.IB.016</p> <p>5.10 Table 5.6-1: RID N°PUM42.IB.016</p> <p>5.11 Figure 5.6-3: RID N°PUM42.IB.016</p> <p>5.12 PL-5.7.1-1, -2, PL-5.7.2-1 and -2 are deleted and moved to §3.5.9: RID N°PUM42.IB.060</p> <p>5.16-18 Tables and figures numbered and named</p>	I.Bénilan
				<p>Chapter 6</p> <p>6.1 "requirement" replaced by "requirements"</p> <p>6.11 Table 6.1-2 renumbered in 6.1-3 (there is already a Table 6.1-2 at page 6.7). PL-6.1.6-5 modified in consequence.</p> <p>6.12 PL-6.1.6-7: RID N°PUM42.IB.006</p> <p>6.12 Creation of §6.1.4 and PL-6.1.6-8: RID N°PUM42.YB.015</p> <p>6.16 Table after PL-6.1.8-9 numbered and named</p> <p>6.20 PL-6.1.8-15: RID N°PUM42.YB.001</p> <p>6.21 Tables after PL-6.1.8-19 numbered and named</p> <p>6.36 Typing error in PL-6.2.3-2: "shallbe" replaced by "shall be"</p> <p>6.36 Table of §6.2.2 numbered and named</p>	I.Bénilan



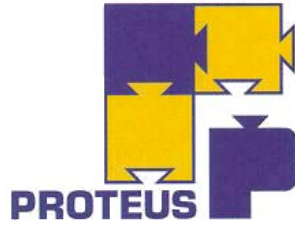
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
				<p>Chapter 7</p> <p>New issue of Ch.7: RID N° PUM.4.2.IB.051</p>	J-M.Touraille
			8.1 8.2	<p>Chapter 8</p> <p>"PROTEUS Generic Ground System" replaced by "PROTEUS Generic Ground Segment"</p> <p>In the title and in §8.1: "PROTEUS Generic Ground System" replaced by "PROTEUS Generic Ground Segment"</p> <p>New issue of Ch.8: RID N° PUM.4.2.IB.051</p>	J-M.Touraille
			9.2 9.3	<p>Chapter 9</p> <p>"PROTEUS User Manual" replaced by "PROTEUS User's Manual"</p> <p>Table numbered and named</p>	I.Bénilan
			10.3 10.4 10.8 10.13 10.16 10.17 10.18 10.18	<p>Chapter 10</p> <p>Figure 10.1-1: RID N°PUM42.IB.049</p> <p>Figure 10.1-2: RID N°PUM42.IB.049</p> <p>§10.1.4: RID N°PUM42.IB.049</p> <p>§10.2.4.2: RID N°PUM42.IB.049</p> <p>§10.3.4: RID N°PUM42.IB.049</p> <p>PL-10.3.7-1: RID N°PUM42.IB.010</p> <p>PL-10.3.7-3: RID N°PUM42.IB.056</p> <p>PL-10.3.8-3: RID N°PUM42.IB.055</p>	I.Bénilan
				<p>Appendix A</p> <p>RID N°PUM42.YB.002</p>	Y.Baillion
				<p>Appendix B</p> <p>The whole appendix: RID N°PUM42.YB.002</p> <p>Sheets "Title" and "Drawings": RID N°PUM42.IB.002</p> <p>Sheets "Connectors": RID N°PUM42.IB.009</p>	Y.Baillion
				<p>Appendix C</p> <p>The whole appendix: RID N°PUM42.YB.003</p>	Y.Baillion



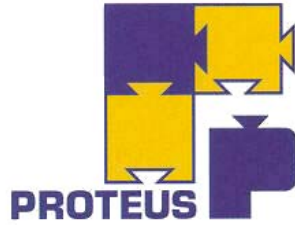
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6	0	03/03/03	All pages	Alcatel Space instead of Alcatel Space Industries	C.Grivel
				Front pages Responsibilities modified RID.PUM 5.0.FD.01 diffusion list modified RID.PUM 5.0.FD.01 Alcatel space technical contact modification RID.PUM 5.0.FD.01	C. Grivel
			i xviii xxv xxvi	Introduction CNES and Alcatel Space contacts changes RID.PUM 5.0.FD.01 Change notice evolution TBC list evolution TBD list evolution	C. Grivel
			1.10 1.12 1.14 1.16 1.25 1.26 1.29 1.32 1.34 1.34	Chapter 1 Figure 1.3-3 modified (Proteus evolution) RID.PUM 5.0.FD.04 Figure 1.3-5 modified (Battery Li Ion indicated), text below : battery Li Ion instead of battery Ni Cd : RID.PUM 5.0.FD.04 Table 1.3-1 : 99.864 kbits/s instead of 24.562 kbits/s for low TM rate : RID.PUM 5.0.CG.09 Table 1.3.-2 : updated performances : RID.PUM 5.0.FD.04 SY-1.4-6 & SY-1.4-7: typing error (Star instead of Start) : RID.PUM 5.0.FD.02 Figure 1.4-3 modification due to STR modification RID.PUM 5.0.FD.02 + RID.PUM.5.0.CG.02 SY-1.5.1 : launcher adapter definition added RID.PUM 5.0.FD.05 CAD and NASTRAN version update RID.PUM 5.0.FD.02 RD12 and RD13 introduction: debris analysis RID.PUM 5.0.FD.10 Section addition for reference of standards used in this document RID.PUM 5.0.FD.02	C. Grivel



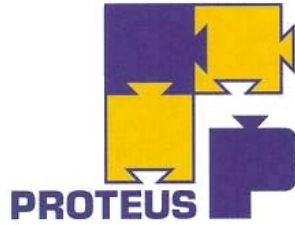
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				Chapter 2	C. Grivel
			2.2	Added sentence to precise the launch vehicles characteristics are given for information only RID.PUM.5.0.FD.09	
			2.3	Table 2.1-1 updated for 4 launchers + mention "for information only" added. RID.PUM.5.0.FD.09	
			2.4	Figure 2.2-1 modified (flight domain 600 km) RID.PUM.5.0.FD.06	
			2.5	2.2.2.1 : environment explanation about 600 km limit added RID.PUM.5.0.FD.06 2.2.2.2, 2.2.2.3, 2.2.2.4 : precisions about flight domain limitations added RID.PUM.5.0.FD.06	
			2.45	2.5.8 debris analysis introduction RID.PUM.5.0.FD.10	
				Chapter 3	C. Grivel
			3.4 to 3.6	Figures 3.1-1, 3.1-2 and 3.1-3 modified (MCI Proteus evolutions) RID.PUM.5.0.CG.04	
			3.11	PL-3.1.3-2 modified : PF height = 1070 mm instead of 1047 mm RID.PUM.5.0.FD.02	
			3.12	Figure 3.1-7 modified (Proteus evolutions: column height) RID.PUM.5.0.CG.04	
			3.13	Figure 3.1-8 update RID.PUM.5.0.CG.04	
			3.14	Figure 3.1-19 update RID.PUM.5.0.CG.04	
			3.15	Figure 3.1-9 update RID.PUM.5.0.CG.04	
			3.16	Figure 3.1-10 update RID.PUM.5.0.CG.04	
			3.16	Figure 3.1-11 update RID.PUM.5.0.CG.04	
			3.20	Figure 3.1-14 update RID.PUM.5.0.CG.04	
			3.21	Figure 3.1-15 update RID.PUM.5.0.CG.04	
			3.22	Figure 3.1-16 update RID.PUM.5.0.CG.04	
			3.23	PL-3.1.4-11 biases clarification RID.PUM.5.0.FD.02	
			3.26	PL-3.1.5-4 shock level generated by the PL at PL/PF I/F modified RID.PUM.5.0.CG.05	
			3.26	PL-3.2.1-1 +XS MLI blanket efficiency RID.PUM.5.0.FD.02	
			3.30	PL-3.2.2-5 : thermistors type clarification RID.PUM.5.0.FD.02	



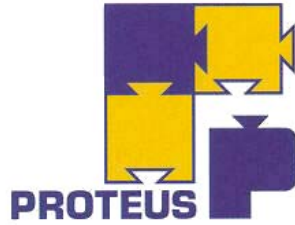
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			3.33	PL-3.2.3-1: thermistors type clarification + nb of Fenwal and Rosemount updated RID.PUM.5.0.FD.02	
			3.34	PL-3.3.1-1 clarification RID.PUM.5.0.FD.02	
			3.34	3.3.1: after PL-3.3.1-1 specification , power values are guaranteed at minimum RID.PUM.5.0.CG.05	
			3.36	PL-3.3.2-1 et PL3.3.2-2 : 900 W peak power + TBD mission dependent RID.PUM.5.0.CG.05	
			3.37	Figure 3.3-4 correction RID.PUM.5.0.FD.02	
			3.40	3.4.2 initializing phases precision 3.4.2 transitions performed "after operational coordination" added 3.4.2 automatic transition description transferred to 3.4.6.1 so paragraph corresponding deleted in this introduction RID.PUM.5.0.FD.02	
			3.41-3.42	3.4.3 1553 introduction completed +figure 3.4-4 modified RID.PUM.5.0.FD.02, RID.PUM.5.0.FD.07 & RID.PDIS.5.0.FP.05	
			3.43	PL-3.4.3-20 + figure 3.4-6 introduction RID.PUM.5.0.FD.02, RID.PUM.5.0.FD.07 & RID.PDIS.5.0.FP.030	
			3.43	Paragraph 3.4.3.2 PL-3.4.3.7, PL-3.4.3.8, PL-3.4.3.10, PL-3.4.3.11 deleted PL-3.4.3-9 modified RID.PUM.5.0.FD.07	
			3.44	PL-3.4.3-13, "message types" instead of "types" RID.PUM.5.0.FD.07	
			3.45	After PL-3.4.3-17, 2. status word : bit 15 is not used RID.PUM.5.0.FD.02	
			3.46	Table 3.4-2: 6 th column title modified RID.PUM.5.0.FD.07	
			3.46	Table 3.4-2: for transmitter shutdown & override transmitter shutdown modifications RID.PUM.5.0.FD.02	
			3.49	PL-3.4.4-1 + text deleted RID.PUM.5.0.FD.07	
			3.51	PL-3.4.4-5 is modified + text added RID.PUM.5.0.FD.02- RID.PDIS.5.0.FP.07-RID.PDIS.5.0.FP.08	
			3.51	PL-3.4.4-6 is completed RID.PUM.5.0.FD.07	
			3.52	PL-3.4.4-8 is modified RID.PUM.5.0.FD.02-RID.PDIS.5.0.FP.09	



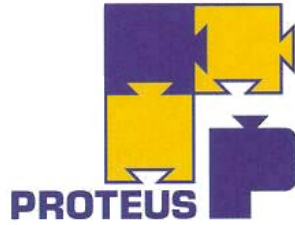
REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
		3.52	Text deleted after PL-3.4.4-9 RID.PUM.5.0.FD.07	
		3.52	For PL-3.4.4-9 text clarification RID.PUM.5.0.FD.07	
		3.53	PL-3.4.4-10 requirement clarification RID.PUM.5.0.FD.02	
		3.53	After PL-3.4.4-10 text clarification RID.PUM.5.0.FD.07	
		3.56	PL-3.4.5-5 completed and nota added RID.PUM.5.0.FD.07	
		3.57	PL-3.4.5-6 modified RID.PUM.5.0.FD.02	
		3.57	PL-3.4.5-7 modified RID.PUM.5.0.FD.07 and nota added RID.PUM.5.0.FD.07	
		3.57	PL-3.4.5-8 nota added RID.PUM.5.0.FD.07	
		3.58	PL-3.4.5-9 modified RID.PUM.5.0.FD.07	
		3.58	PL-3.4.5-14 added RID.PUM.5.0.FD.07	
		3.59	3.4.5.1.3.2: Introduction modified RID.PUM.5.0.FD.07	
		3.59	3.4.5.1.3.3: Introduction modified RID.PUM.5.0.FD.07	
		3.59	After PL-3.4.5-12: text modified RID.PUM.5.0.FD.07	
		3.59	After PL-3.4.5-12: text suppressed RID.PUM.5.0.FD.07	
		3.59	After PL-3.4.5-12: text added RID.PUM.5.0.FD.07	
		3.63	3.4.6.1 introduction: SHM precision added (text suppressed in 3.4.2 introduced here) RID.PUM.5.0.FD.02	
		3.63	3.4.6.1 introduction : 2 lines may be ON in SHM RID.PUM.5.0.FD.07	
		3.64	PL-3.4.6-4 deleted RID.PUM.5.0.FD.02	
		3.64	PL-3.4.6-5 introduction : Payload switch off in case of system monitoring by HW leading to SHM RID.PUM.5.0.FD.02	
		3.65	PL-3.4.6-6 introduction : Payload switch off in case of system monitoring by SW leading to SHM RID.PUM.5.0.FD.02	
		3.65	PL-3.4.6-7 introduction : Payload switch off in case of payload anomaly RID.PUM.5.0.FD.02	
		3.66	After PL-3.4.7-1, text added : Pps available when GPS ON RID.PUM.5.0.FD.07	
		3.66	PL-3.4.7-3: 825 ms instead of 875 ms RID.PDIS.5.0.FP.010	
		3.70-3.72	PL-3.5.2-1 description H01, H02, H03 modified : figures 3.5-4, 3.5-5 et 3.5-6+tables 3.5-1, 3.5-2, 3.5-3. RID.PUM.5.0.CG.06	
		3.75	PL-3.5.3-7: deleted. Information only RID.PUM.5.0.FD.02	
		3.76	PL-3.5.3-8: deleted. Information only RID.PUM.5.0.FD.02	
		3.80	PL-3.5.4-4: added. RID.PUM.5.0.FD.03	



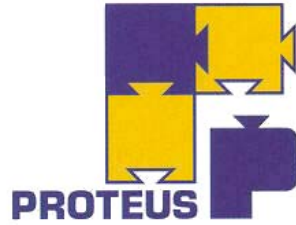
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
			3.80	PL-3.5.4-5: added. RID.PUM.5.0.FD.03	
			3.81	PL-3.5.6.1: duration between consecutive HLC for information only. RID.PUM.5.0.FD.02	
			3.81	PL-3.5.6.2: Table 3.5-4 modified: fault voltage 33 V RID.MUP.5.0.CG.03	
			3.82	PL-3.5.6.3: Table 3.5-5 modified: input voltage 21.5 V-fault voltage 33 V RID.MUP.5.0.CG.03	
			3.83	PL-3.5.6.4: Table 3.5-6 modified: diff.output impedance RID.MUP.5.0.CG.03	
			3.83	PL-3.5.6.4: Table 3.5-7 modified: single input to ground RID.MUP.5.0.CG.03	
			3.85	PL-3.5.6.6: Table 3.5-8 modified: diff.output impedance RID.MUP.5.0.CG.03	
			3.85	PL-3.5.6.6: Table 3.5-9 modified: single input to ground RID.MUP.5.0.CG.03	
			3.88	Table 3.5-11 modified: fault voltage (tolerance) RID.MUP.5.0.CG.03	
			3.88	Table 3.5-12 modified: fault voltage (emission) RID.MUP.5.0.CG.03	
			3.89	Table 3.5-15 correction : thermistors type and resistance RID.MUP.5.0.FD.02	
			3.91	Table 3.5-18 modified RID.MUP.5.0.CG.03	
			3.91	Table 3.5-20 modified: diff.output impedance RID.MUP.5.0.CG.03	
			3.92	Table 3.5-21 modified: single input to ground RID.MUP.5.0.CG.03	
			3.109	PL-3.5.9-1 modified payload ON and OFF separated RID.MUP.5.0.FD.02	
			3.109	PL-3.5.9-2 modified RID.MUP.5.0.CG.08	
			3.109	PL-3.5.9-4 modified RID.MUP.5.0.CG.08	
			3.109	Tables 3.5-25 et 3.5-26 : volume where B is maximum introduction RID.MUP.5.0.CG.08	
			3.111	Figure 3.6-1 modified RID.MUP.5.0.CG.02	
			3.112	Figure 3.6-2 modified RID.MUP.5.0.CG.02	
			3.113	Figure 3.6-2b modified RID.MUP.5.0.CG.02	
			3.113	Figure 3.6-3 modified RID.MUP.5.0.CG.02	
			3.113	STR mass modified RID.MUP.5.0.CG.02	
			3.114	3.6.2.2.3 centre of gravity information deleted, see appendix C RID.MUP.5.0.FD.02	
			3.114	3.6.2.2.4 moments of inertia information deleted, see appendix C RID.MUP.5.0.FD.02	
			3.114	3.6.2.2.5 moments of inertia information deleted, see appendix C RID.MUP.5.0.FD.02	
			3.114	3.6.2.2.5 stiffness RID.MUP.5.0.CG.02	



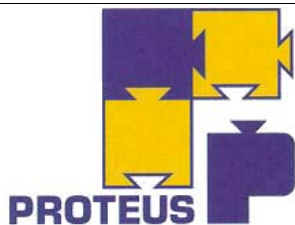
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			3.115	PL-3.6.2-2 correction RID.PDIS.5.0.FP.031	
			3.115	PL-3.6.2-3 correction RID.MUP.5.0.FD.02	
			3.115	PL-3.6.2-4 correction RID.MUP.5.0.FD.02	
			3.115	PL-3.6.2-6 correction RID.MUP.5.0.FD.02	
			3.115	PL-3.6.2-7 correction RID.MUP.5.0.FD.02	
			3.115	Text added :real azimuth angle clarification RID.MUP.5.0.FD.02	
			3.116	Figure 3.6-4 modified RID.MUP.5.0.CG.02	
			3.117	PL-3.6.2-11 corrected RID.MUP.5.0.FD.02	
			3.117	PL-3.6.2-8 corrected RID.MUP.5.0.FD.02	
			3.117	Text added after PL-3.6.2-9 RID.MUP.5.0.FD.02	
			3.117	Table 3.6.2 modified RID.MUP.5.0.CG.02	
			3.118	PL-3.6.3-1 modified and text suppressed RID.MUP.5.0.FD.02	
			3.120	PL-3.6.3-3 updated RID.MUP.5.0.FD.02	
			3.120	After PL-3.6.3-3, text suppression RID.MUP.5.0.FD.02	
			3.120	After PL-3.6.3-3 text addition on STR cable characteristics RID.MUP.5.0.FD.02	
			3.120	Introduction of paragraph 3.6.4 : Zsta MLI blanket efficiency provided RID.MUP.5.0.FD.02	
			3.121	Introduction of paragraph 3.7 : TBD added (additional requirements on GSE) RID.MUP.5.0.FD.02	
			3.121	PL3.7.1-1 completed RID.MUP.5.0.FD.02	
			3.121	PL3.7.1-1 modified + nota :PF handling points RID.MUP.5.0.CG.04	
			3.121	3.7.1.2 introduction clarification RID.MUP.5.0.CG.04	
			3.123	PL3.7.1-10 completed RID.MUP.5.0.FD.02	
			3.123	PL3.7.1-10 corrected RID.MUP.5.0.CG.04	
			3.123	Section 3.7.1.2.4 added RID.MUP.5.0.FD.02	
			3.124	PL-3.7.2-2 completed RID.MUP.5.0.FD.02	
			3.129	PL-3.7.2-18 completed RID.MUP.5.0.FD.02	



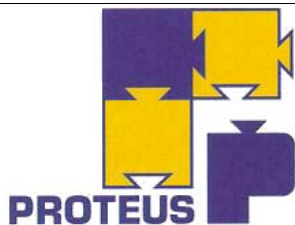
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				<p>Chapter 4</p> <p>4.10 PL-4.2.2-4 corrected RID.MUP.5.0.CG.04</p> <p>4.10 PL-4.2.2-5 modified-RID.MUP.5.0.CG.04</p> <p>4.10 PL-4.2.2-6 deleted-RID.MUP.5.0.CG.04</p> <p>4.11 Figure 4.2.1 corrected RID.MUP.5.0.CG.04</p> <p>4.12 Figure 4.2.2 corrected RID.MUP.5.0.CG.04</p> <p>4.13 PL-4.2.2-7 deleted RID.MUP.5.0.CG.04</p> <p>4.13 Text and PL-4.2.2-8 introduction RID.MUP.5.0.CG.04</p> <p>4.13 Introduction of paragraph 4.2.3 completed-RID.MUP.5.0.FD.02</p> <p>4.13 PL-4.2.3-1 to PL4.2.3-3 requirements update-RID.MUP.5.0.FD.02</p> <p>4.15 PL-4.2.5-2 clarification-RID.MUP.5.0.FD.02</p> <p>4.15 PL-4.2.5-7 pressurised item added-RID.MUP.5.0.FD.02</p> <p>4.15 After PL-4.2.5-3 qualification loads clarification RID.MUP.5.0.FD.02</p> <p>4.34 PL-4.4.5-3 deleted RID.MUP.5.0.FD.02</p> <p>4.37 Nastran version update RID.MUP.5.0.FD.02</p> <p>4.42 Table 4.6-1 typing error correction RID.MUP.5.0.FD.02</p> <p>4.48 Paragraph 4.7 "safety requirements "introduced – RID.MUP.5.0.FD.08</p>	C. Grivel
				<p>Chapter 5</p> <p>5.4 Table 5.1-4 updated RID.MUP.5.0.CG.04</p> <p>5.8 PL-5.4-1 maximum pressure value modified-RID.MUP.5.0.FD.09</p> <p>5.12 PL-5.7.2-1 typing error correction RID.MUP.5.0.IB.01</p> <p>5.18 Table 5.11-7 hoisting and handling clarification RID.MUP.5.0.FD.02</p>	C. Grivel
				<p>Chapter 9</p> <p>9.3 Low bit rate at 99.864 kbit/s RID.MUP.5.0.CG.09</p>	C. Grivel
				<p>Appendix C</p> <p>Standard STA ids update-RID.MUP.5.0.CG.02</p>	C. Grivel



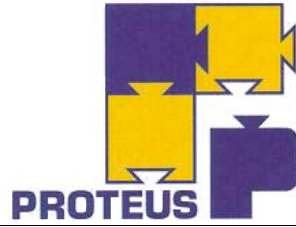
ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
6	1	03/03/03	xxvii	Chapter 0 Table of contents modified (impact of RID.PUM.5.0.CG.10)	C. Grivel
			2.37 2.38	Chapter 2 Figure 2.5-18 changed for solar activity profile +introduction text modified RID.PUM.5.0.CG.01 Table 2.5-1 corrected + text introduction modified RID.PUM.5.0.CG.01	C. Grivel
			3.3 3.4 3.75 3.95	Chapter 3 Table 3.1-1 updated RID.PUM.5.0.FD.04 Center of gravity height = 0.73 m instead of 0.75 m RID.PUM.5.0.CG.04 Introduction of 3.5.3.3 section modified RID.PUM.6.0.FP.29 Pps characteristics update (just before PL-3.5.6-15) RID.MUP.5.0.CG.07	C. Grivel
			4.10	Chapter 4 Handling attach fittings instead of handling attached fittings, RID.MUP.5.0.CG.04	C. Grivel
			5.12	Chapter 5 5.8 meteoroid typing error correction RID.MUP.5.0.IB.01	C. Grivel
				Appendix A Ids filling rules update RID.MUP.5.0.CG.10	C. Grivel
				Appendix B Payload ids update-RID.MUP.5.0.CG.10	C. Grivel
				Appendix D Platform Ids introduction RID.MUP.5.0.CG.10	C. Grivel



ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
6	2	09/07/04		Chapter 0 Table of contents modified	E. JAUFFRAUD
				Chapter 1 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 2 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 3 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 4 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 5 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 6 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 9 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Chapter 10 Configuration Control Sheets are displayed at the beginning of the chapter	E. JAUFFRAUD
				Appendix B Payload ids replaced by Payload Platform ids- RID.CIIS.4.1.JC.4_4	E. JAUFFRAUD
				Appendix D Platform Ids ireplaced by STR user's manual RID.CIIS.4.1.JC.1_13	E. JAUFFRAUD



ED.	REV.	DATES	MODIFIED PAGES	CHANGES	APPROVAL
6	3	22/11/04		Chapter 0 One Configuration Control sheet added	E. JAUFFRAUD
				Chapter 1 Configuration Control Sheets are displayed at the beginning of the chapter – List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 2 Configuration Control Sheets are displayed at the beginning of the chapter – List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 3 Configuration Control Sheets are displayed at the beginning of the chapter - List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 4 Configuration Control Sheets are displayed at the beginning of the chapter - List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 5 Configuration Control Sheets are displayed at the beginning of the chapter - List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 6 Configuration Control Sheets are displayed at the beginning of the chapter - List of TBCs/TBDs added	E. JAUFFRAUD
				Chapter 9 Configuration Control Sheets are displayed at the beginning of the chapter - List of TBCs/TBDs added	E. JAUFFRAUD
				Appendix A In relation with Payload Platform IDS update	O. LERONDE
				Appendix B Payload Platform IDS updated -RID.PUM.6.2.OL.02	O. LERONDE



TBC / TBD list

| Tables are displayed at the beginning of each chapter.

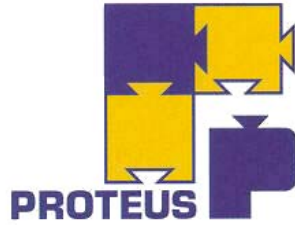
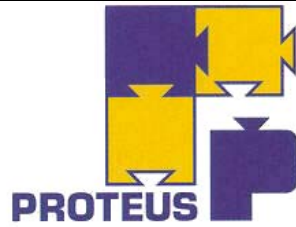


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