



SPIRE-AST-COM-001986

EADS Astrium

Telefax

+34 91 747 4799
CASA Espacio, Madrid, E
Mr. JJ. Llorente
Mrs. M. Esteban

Copy to:
+33 4 92 92 30 10
Alcatel Space, Cannes, F
Mr. J.C. Boschel
Mr. A. Knight

+31 71 565 52 44
ESTEC, Noordwijk, NL
Mr. T. Passvogel
Mr. Ch. Jewell
Mr. M.v. Hoegen

+49 7545 8 3332
ASSE Inhouse ; Dept. SE 76
Mr. H. Lohr,
Mr. P. Steinmann

+44 123 544 6667
RAL Chilton, GB
Mr. J. Delderfield
Mr. D. Griffin

From:
+49/(0)7545/8-42 43
Name:
J. Lang
Department:
Herschel/ED 65
Telefon:
+49/(0)7545/8-3323
E-Mail:
Juergen.Lang@astrium.eads.net
Reference:
HP-ASED-FX-0216-04
Date:
29.03.04

Subject Deletion of EQM SPIRE SIH Branches between Cold- & Warm-Units

Ref.1: HP-ASED-EM-0311-04 date: 26.03.04:

Proposal for CQM SPIRE Instrument Harness Reduction

Ref.2: RAL response to Ref.1 form Mr. D. Griffin on 29.03.04

Ref.3: SPIRE-RAL-NOT-001940 date: 12.02.04

Page 1 of 8

EADS Astrium GmbH
An der Bundesstraße 31
88090 Immenstaad
Deutschland/Germany
Telefon: +49 (0)7545 8-01
Telefax: +49 (0)7545 8-4411



From: J. Lang
Ref.: HP-ASED-FX-0218-04
Date: 29.03.04
-2-

Dear Sirs,

According to ref. 1, ASED investigated with RAL, Mr. John Delderfield and Mr. Doug Griffin, Alcatel & ESA the possible harness branch reduction in sight of the SPIRE EQM / CQM & AVM electrical unit configurations and to reduce the Cryo-SIH manufacturing effort accordingly.

The EQM SPIRE Cryo-SIH configuration have been technically agreed during telecon's held between ASED and SPIRE and has been confirmed by SPIRE in ref.2, which define the following harness configuration:

The EQM SPIRE Cryo-SIH branches, CVV internal, CVV external and SVM, shall be manufactured as defined in Annex 1.

Cold-unit connectors, which are not mated with the CVV internal Cryo-SIH connectors and Cryo-SIH connectors which are not mated to Warm-unit connectors, shall have shorting-plugs, where all contacts are commonly grounded to connector back-shell or connector housing.

The shorting plugs shall be manufactured by CASA for the CVV internal cold units, and SIH Warm-unit I/F-connectors as defined in Annex 1 too.

The SPIRE defined AVM Warm-unit connector lay-out configuration as defined in ref.3 and included as Annex 2-1 to 2-4 herein, is proposed by ASED to be implemented in the ASED & CASA EQM SVM internal harness design.

Note:

- The CASA SVM Harness design definition is nearly finished for review,
- the Mock-up preparation for harness routing definition is also in progress,
- the SVM Harness manufacturing release is not yet given to CASA

CASA is kindly requested to provide a ROM assessment for the above described change prior to its implementation.

Note for ASP and ESA:

The proposed implementation of the EQM harness is in line with the SPIRE ECR-065 V2, dated 4/03/04, which requires different positions of DCU and FCU connectors on the AVMs (QMs). With this change the EQM and FM SPIRE harness (SIH) are different. ASP is requested to formalise the ECR-065 by providing the ASP CR.



From: J. Lang
Ref.: HP-ASED-FX-0218-04
Date: 29.03.04
-3-

Kind regards

EADS ASTRIUM

A handwritten signature in black ink, appearing to read "V. W. Ruhe". The signature is written in a cursive, somewhat stylized script.

i. V. W. Ruhe

A handwritten signature in black ink, appearing to read "J. Knoeblach". The signature is written in a cursive, somewhat stylized script.

i. A. A. Knoeblach

Deletion of SPIRE-SIH Branch_Manufacturing_290304.xls

EQM Cryo-SIH SPIRE CVV int	SIH Manufacturing	Shorting-plug to be manufactured for JFS, JFP, FPU	Cold-Unit	Deleted Connectors	Shorting-plug Type to be manufactured on JFS, JFP, FPU
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-01]	151432-01-120	to be manufactured	HSJFS		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-02]	151432-01-121	deleted	HSJFS	P01-P02-P03-P04-P07	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-03]	151432-01-122	to be manufactured	HSJFP		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-04]	151432-01-123	deleted	HSJFP	P21-P22-P23-P24	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-05]	151432-01-124	deleted	HSJFP	P17-P18-P19-P20	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-06]	151432-01-125	deleted	HSJFP		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-07]	151432-01-126	to be manufactured	HSJFP		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-08]	151432-01-127	deleted	HSJFP	P09-P10-P11-P12	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-09]	151432-01-128	deleted	HSJFP	P05-P06-P07-P08	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-10]	151432-01-129	deleted	HSJFP	P01-P02-P03-P04-P07	2547-1511430-030-01-0B
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-11]	151432-01-12A	manufacture	HSFPU		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-12]	151432-01-12B	manufacture	HSFPU		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-13]	151432-01-12C	TBC RAL on 06.04.04	HSFPU	P20-P22-P24	TBC RAL on 06.04.04
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-13]	151432-01-12D	TBC RAL on 06.04.05	HSFPU	P26-P28-P30	TBC RAL on 06.04.05

EQM Cryo-SIH SPIRE CVV int	SIH Manufacturing	Shorting-plug to be manufactured	CVV UF	Deleted Connectors CVV-Pxx and SVM-Jxx	Shorting-plug Type to be manufactured used for CVV & SVM CB
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-01]	151432-02-220	to be manufactured			
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-02]	151432-02-221	to be manufactured	upper Ring	P31 and 312200 J05	1x MS27484T22F35SN
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-03]	151432-02-222	deleted	upper Ring		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-04]	151432-02-223	to be manufactured	upper Ring	P22 and 312100 J03	1x MS27484T22F35SN
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-05]	151432-02-224	deleted	upper Ring	P23 and 312100 J02	1x MS27484T22F35SN
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-06]	151432-02-225	deleted	upper Ring		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-07]	151432-02-226	to be manufactured	upper Ring	P25 and 312200 J04	1x MS27484T22F35SN
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-08]	151432-02-227	deleted	upper Ring	P27 and 312200 J01	1x MS27484T22F35SN
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-09]	151432-02-228	deleted	upper Ring	P28 and 312200 J02	
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-10]	151432-02-229	deleted	upper Ring		
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-11]	151432-02-22A	to be manufactured			
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-12]	151432-02-22B	to be manufactured	upper Ring	P33 and 312300 J05 TBC RAL	TBC RAL on 06.04.04
EQM Cryo-SIH SPIRE CVV int [Branch SIH-CS-13]	151432-02-22C	TBC RAL on 06.04.05	upper Ring	P29 and 312300 J03 TBC RAL	TBC RAL on 06.04.05

EQM Cryo-SIH SPIRE SVM int	SIH Manufacturing	Shorting-plug to be manufactured	Warm-Unit	Deleted Connectors SVM-CB-Pxx & WU-Pxx	AVM Unit connector female-screw-locks
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-01]	151432-03-320	to be manufactured			
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-02]	151432-03-321	to be manufactured	HSDCU		HSDCU332
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-03]	151432-03-322	deleted	HSDCU	P05 & P23-P24-P25-P26-P1A-J1A	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-04]	151432-03-323	to be manufactured	HSDCU		HSDCU330
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-05]	151432-03-324	deleted	HSDCU	P03 & P20-P21-P22-P1B-J1B	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-06]	151432-03-325	deleted	HSDCU	P02 & P17-P18-P19	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-07]	151432-03-326	to be manufactured	HSDCU		
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-08]	151432-03-327	deleted	HSDCU	P04 & P11-P12-P13	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-09]	151432-03-328	deleted	HSDCU	P01 & P08-P09-P10	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-10]	151432-03-329	deleted	HSDCU	P02 & P05-P06-P07	
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-11]	151432-03-33A	to be manufactured	HSFCU		
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-12]	151432-03-33B	to be manufactured	HSFCU		
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-13]	151432-03-33C	TBC RAL on 06.04.04	HSFCU	P05 & P12-P24-P26	TBC RAL on 06.04.04
EQM Cryo-SIH SPIRE SVM int [Branch SIH-SS-13]	151432-03-33D	TBC RAL on 06.04.05	HSFCU	P03 & P14-P18-P20-P22-P30	TBC RAL on 06.04.05

HP-ASED-FX-0216-04

Annex 2-1

12th February 2004

SPIRE-RAL-NOT-001940

To: Spire Project

From: John Delderfield

QM DRCU INTEGRATION

At this Tuesday's ESA meeting, in addition to the long-identified need for all interface connectors to be present, we noted that Astrium had accepted the units could be accommodated mechanically (actually subject to some ongoing negotiation on power lead length as I now recall) but asked the question as to whether the units could mate with flight type SVM cryoharness and warm harness.

The three sheets that follow lead me to conclude that integration is possible and practicable.

John

?

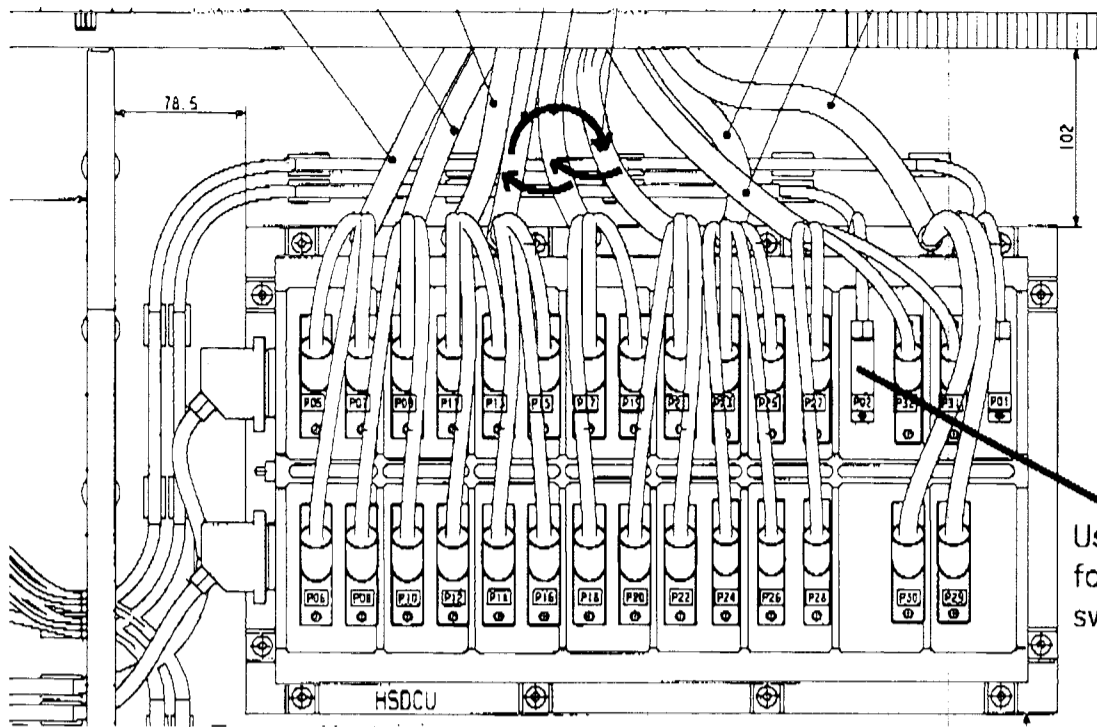
John Delderfield

2004.02.1

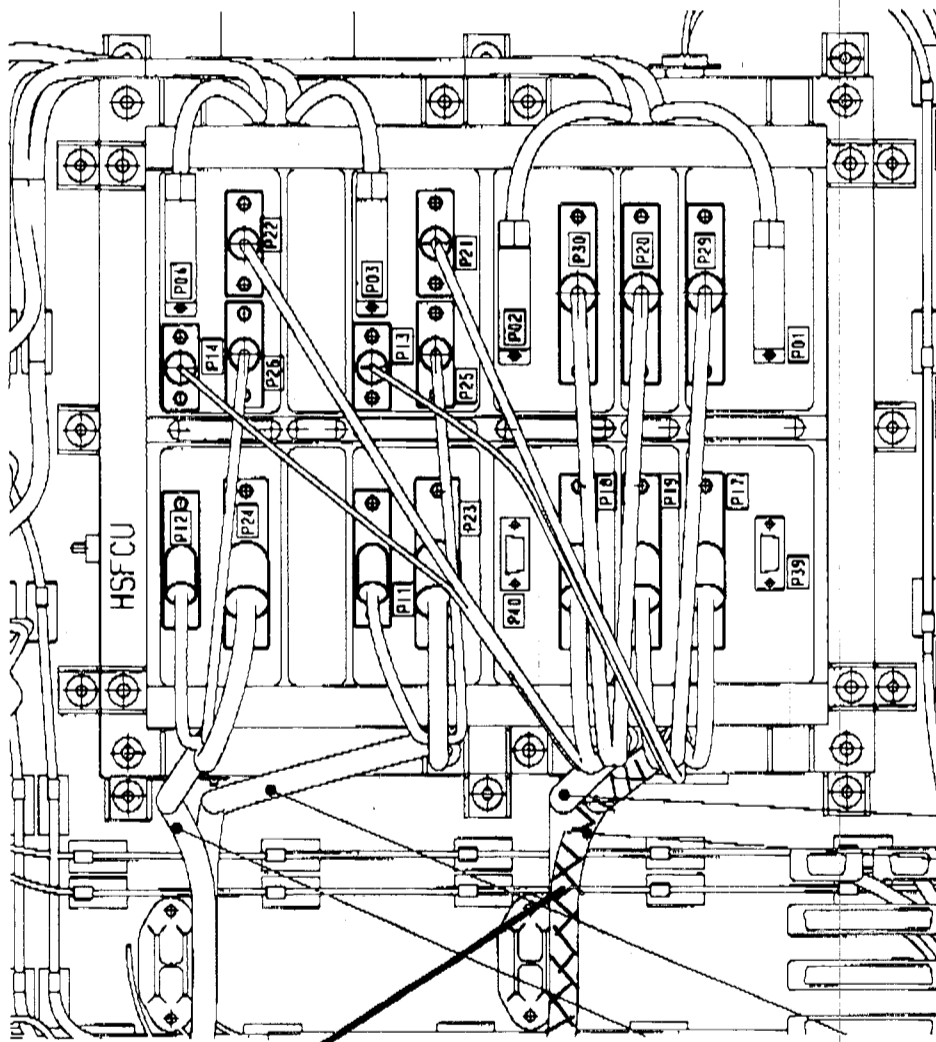
2

16:49:43 Z

Annex 2-2

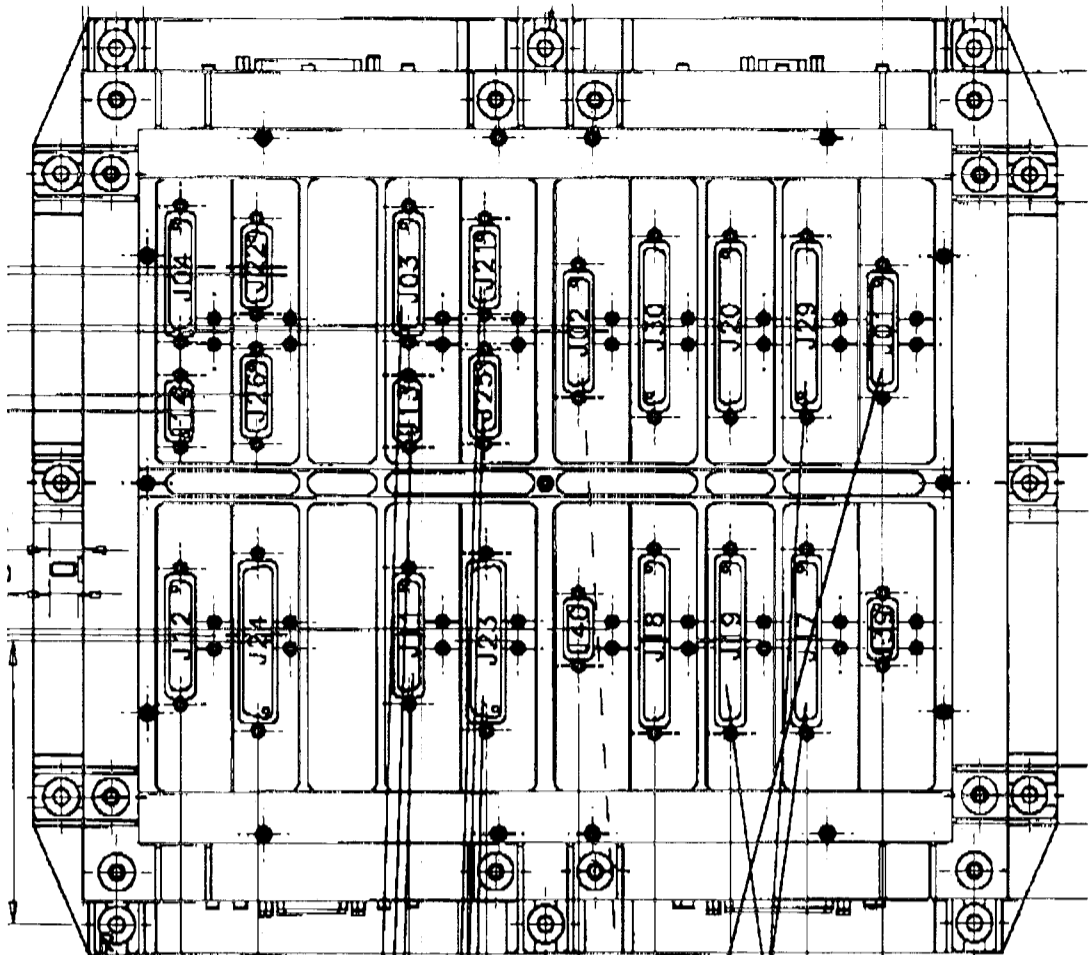
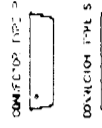


Use J2 wire
for J1 and
swop on DPU

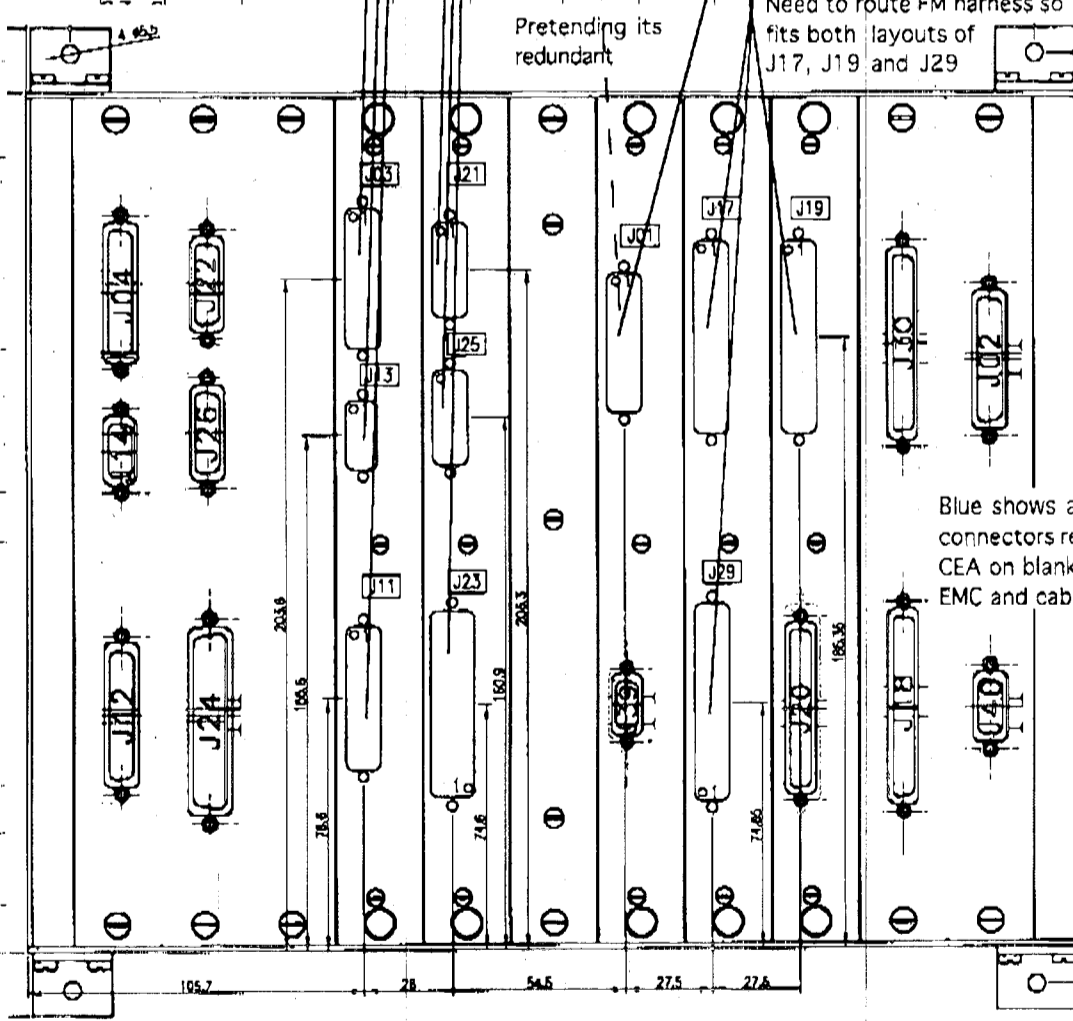


Let this bend cut corner and with lower height of unit
check that J17 and J19 will reach across to QM posn.

Annex 2-3

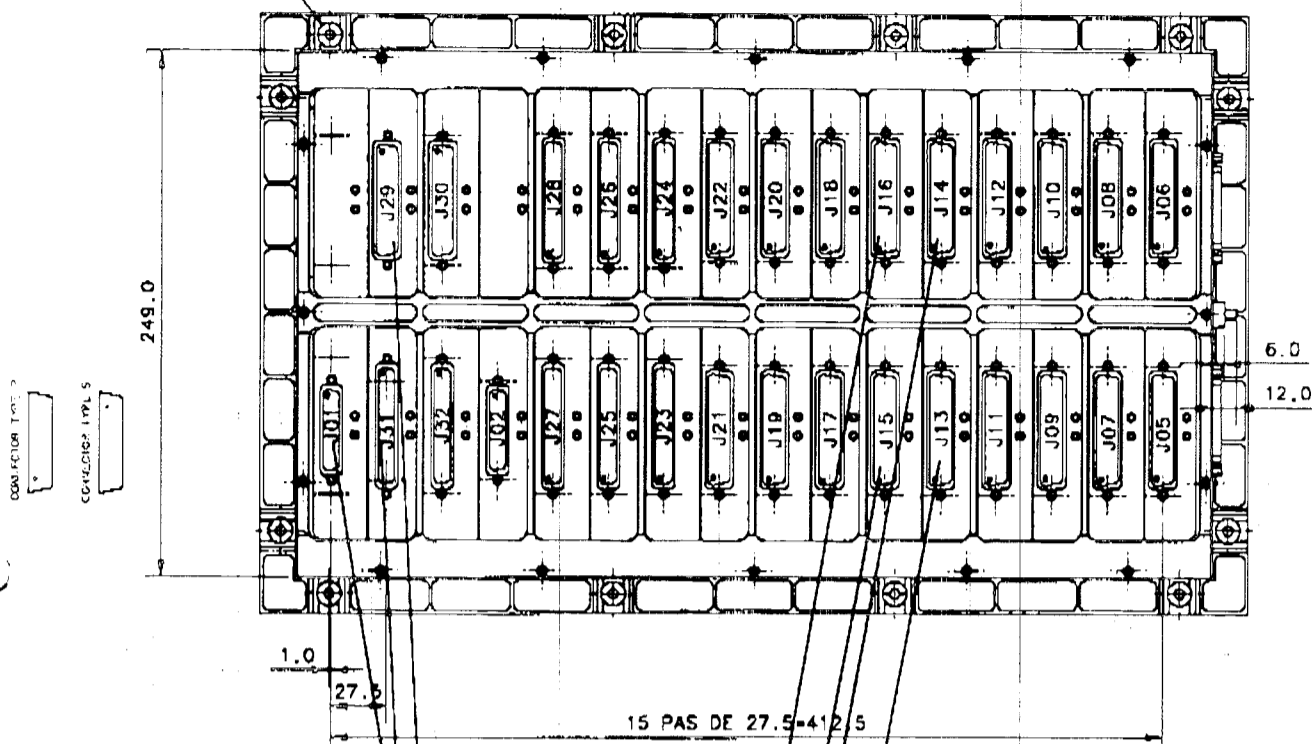


IDENT	TYPE
J01	DBMA 25S
J02	DBMA 25S
J03	DBMA 25S
J04	DBMA 25S
J05	DBMA 9P
J06	DBMA 9P
J07	DBMA 25S
J08	DBMA 25S
J09	DBMA 25S
J10	DBMA 25S
J11	DBMA 25S
J12	DBMA 25S
J13	DBMA 25S
J14	DBMA 9S
J15	NA
J16	NA
J17	DCMA 37S
J18	DCMA 37S
J19	DCMA 37S
J20	DCMA 37S
J21	DAMA 15S
J22	DAMA 15S
J23	DAMA 35S
J24	DAMA 50S
J25	DAMA 15S
J26	DAMA 15S
J27	NA
J28	NA
J29	DCMA 37P
J30	DCMA 37P
J31	DBMA 25P
J32	DBMA 25P
J33	DAMA 15S
J34	DAMA 15P
J35	DAMA 15P
J36	DAMA 15P
J37	NA
J38	NA
J39	DBMA 36
J40	DBMA 9S



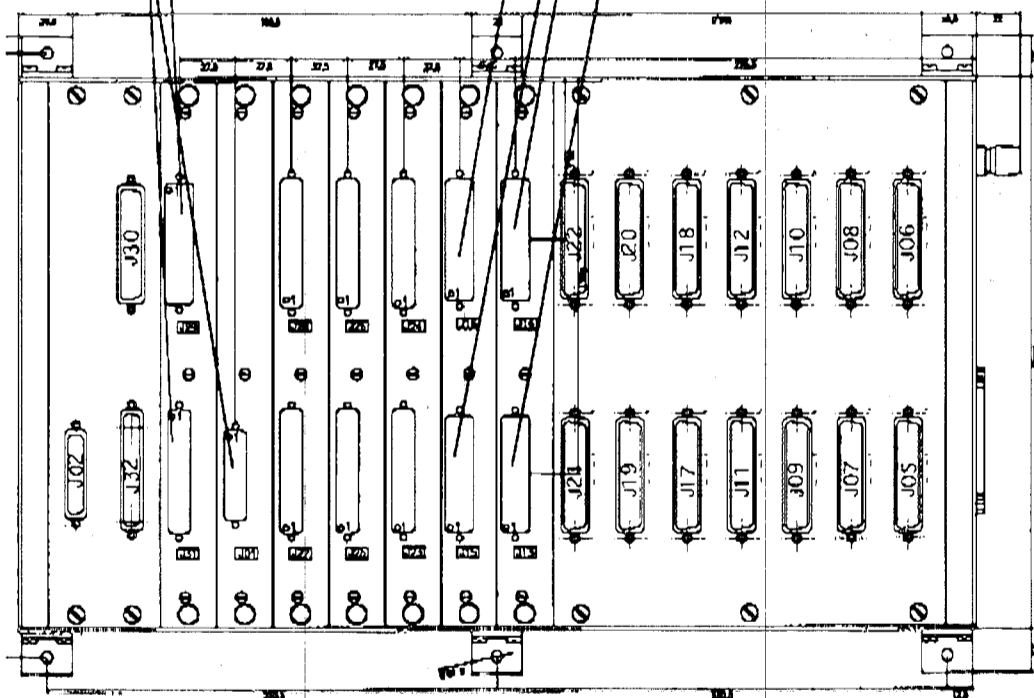
Annex 2-4

Images ø12 prof.0,5



IDEN	TYPE
J01	DBMA 25S
J02	DBMA 25S
J03	DBMA 25P
J04	DBMA 25P
J05	DDMA 50P
J06	DDMA 50P
J07	DDMA 50P
J08	DDMA 50P
J09	DDMA 50P
J10	DDMA 50P
J11	DDMA 50P
J12	DDMA 50P
J13	DDMA 50P
J14	DDMA 50P
J15	DDMA 50P
J16	DDMA 50P
J17	DDMA 50P
J18	DDMA 50P
J19	DDMA 50P
J20	DDMA 50P
J21	DDMA 50P
J22	DDMA 50P
J23	DDMA 37P
J24	DDMA 37P
J25	DDMA 37P
J26	DDMA 37P
J27	DDMA 37P
J28	DDMA 37P
J29	DDMA 78S
J30	DDMA 78S
J31	DDMA 37S
J32	DDMA 37S

FOR QM1, as FCU is non-redundant, we can MATE P30 to J29 and P32 to J31 if necessary.



Could also mate P02 into J01 and run as if redundant in DPU. (This swop could be done on DPU end alternatively.)

Blue shows additional connectors requested of CEA on blanking panels for EMC and cable storage.

CONCLUSION: AS FAR AS THE DCU IS CONCERNED, THE QM1 CAN USE THE SAME CABLES AS THE FM, PROVIDED SLIGHT SIDEWAYS SHIFT ON LINKS 13-16 is OK.

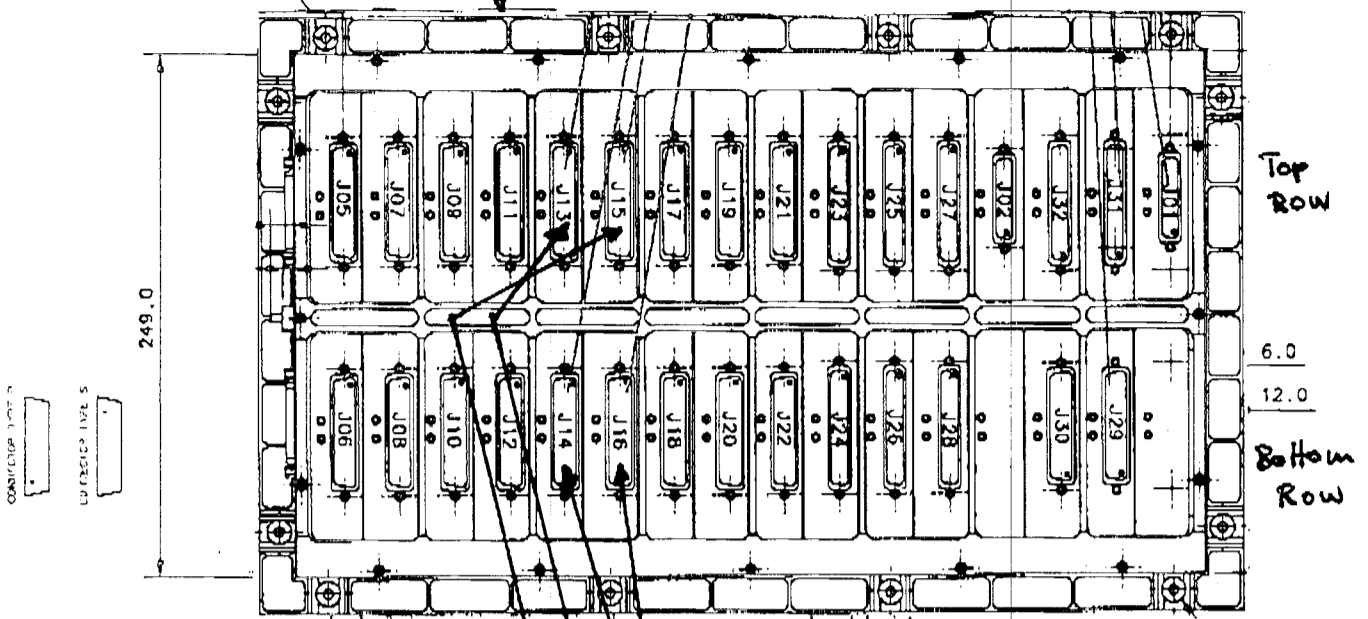
↑ +X

Annex 2-5

SPIRE SVM Lateral panel

SVM CATIA Model from ASPI-ALS-ASED

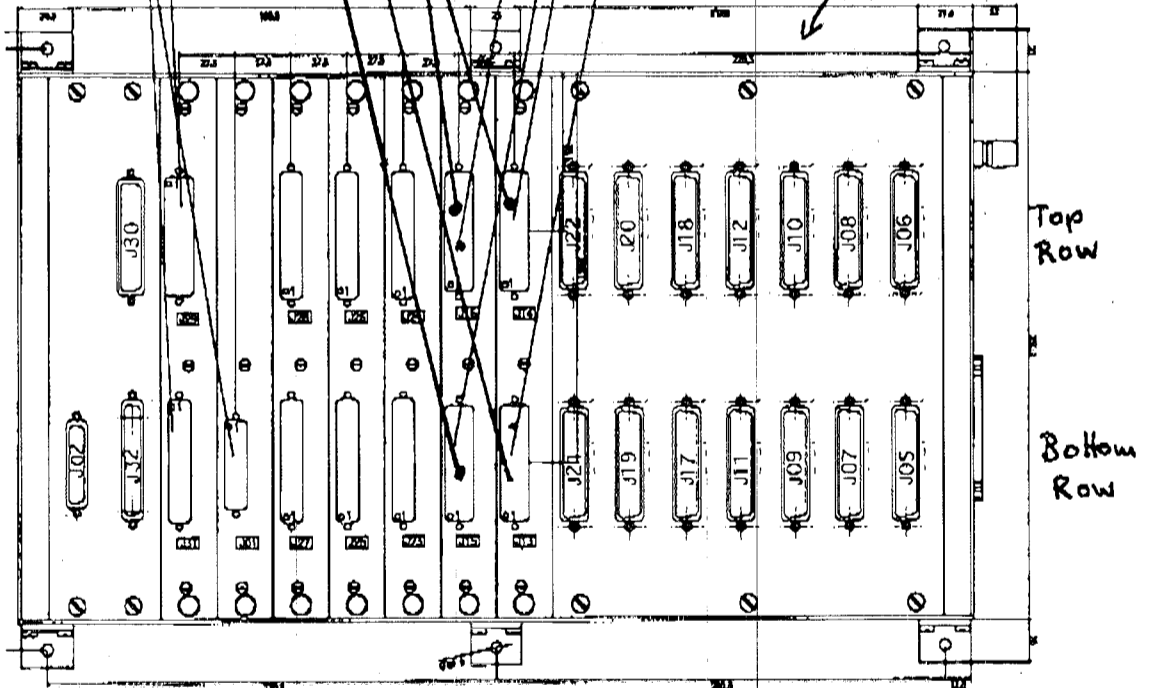
lamages Ø12 prof.0,5



IDEN	TYPE
J01	DBVA 255
J02	DBVA 255
J03	DBVA 25P
J04	DBVA 25P
J05	DDMA 50P
J06	DDMA 50P
J07	DDMA 50P
J08	DDMA 50P
J09	DDMA 50P
J10	DDMA 50P
J11	DDMA 50P
J12	DDMA 50P
J13	DDMA 50P
J14	DDMA 50P
J15	DDMA 50P
J16	DDMA 50P
J17	DDMA 50P
J18	DDMA 50P
J19	DDMA 50P
J20	DDMA 50P
J21	DDMA 50P
J22	DDMA 50P
J23	DDMA 50P
J24	DDMA 50P
J25	DDMA 50P
J26	DDMA 50P
J27	DDMA 50P
J28	DDMA 50P
J29	DDMA 50P
J30	DDMA 50P

FOR QM1, as FCU is non-redundant, we can MATE P30 to J29 and P32 to J31 if necessary.

DCU - CQM - SPIRE DEFINITION



Could also mate P02 into J01 and run as if redundant in DPU. (This swop could be done on DPU end alternatively.)

Blue shows additional connectors requested of CEA on blanking panels for EMC and cable storage.

CONCLUSION: AS FAR AS THE DCU IS CONCERNED, THE QM1 CAN USE THE SAME CABLES AS THE FM, PROVIDED SLIGHT SIDEWAYS SHIFT ON LINKS 13-16 is OK.

SPIRE-RAL-NOT-001940 17 2 011