SP-HIR-224A

HIRDLS

HIGH RESOLUTION DYNAMICS LIMB SOUNDER

Originator: Philip I. Arter

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Oxford University
Atmospheric, Oceanic & Planetary Physics
Parks Road
OXFORD OX1 3PU
United Kingdom

University of Colorado at Boulder
Center for Limb Atmospheric Sounding
3300 Mitchell Lane, Suite 250
Boulder, Colorado 80301-2296
United States of America

EOS

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SP-HIR-224A

SSH to TSS Interface Control Document (ICD)

Approved By: _____

John Whitney, HIRDLS Chief Systems Engineer Date

Approved By: _____

Ray von Savoye, LMMS Systems Engineer Date

Approved By: _____

Nigel Morris, UK Program Manager Date

Approved By: _____

Peter Dean, TSS Responsible Equipment Engineer Date

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Log of Changes

Rev.	Date	Section	Change Description
1st draft	97-08-25		Initial Draft
2nd draft	98-09-25		All new document
3rd draft	98-10-16	3.1.1	FIG2 – Replaced points 1-14 with coordinates received from MMS in Excel spreadsheet dated 6 October 1998. Deleted points A-N.
		3.1.3	Added 150 points defining TSS aperture as received from J.J.Barnett, 15 October 1998.
4th draft	98-11-16	3.1.3	Added 140 points with tolerances, defining SSH aperture as received from J.J.Barnett 27 October 1998 (with minor revision on 10 November 1998).
5th draft	98-11-24	3.1.3	Added tolerances to 150 points defining TSS aperture.
	98-12-02		Initial Release
1st A draft	99-09-02	3.1.1	Deleted OBA aperture
		3.1.3	Deleted Table 3.1.3-1 Renamed Table 3.1.3-2 to 3.1.3-1
A	TBD		Revision A Release

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1.0 Scope

This Interface Control Document (ICD) defines the specific design implementation of the Mechanical, Electrical, and Thermal Conductive interfaces between the Sunshield Subsystem (SSH) and the Telescope Subsystem (TSS). The interfaces between these two subsystems are limited to Optical, and Thermal between the SSH Aperture Plate and the OBA Cover.

2.0 Document References

2.1 Applicable Documents

The documents listed below are a part of this ICD to the extent specified herein. In the case of a conflict between the contents of this ICD and any Applicable Document, this ICD shall take precedence.

SP-HIR-013	Instrument Technical Specification (ITS)	Current Revision
SP-HIR-200	IICD System Section	Current Revision
SP-HIR-111	Thermal Requirements Document	Current Revision

2.2 Information Documents

The documents listed below are for information only and are explicitly not, by reference, part of this ICD.

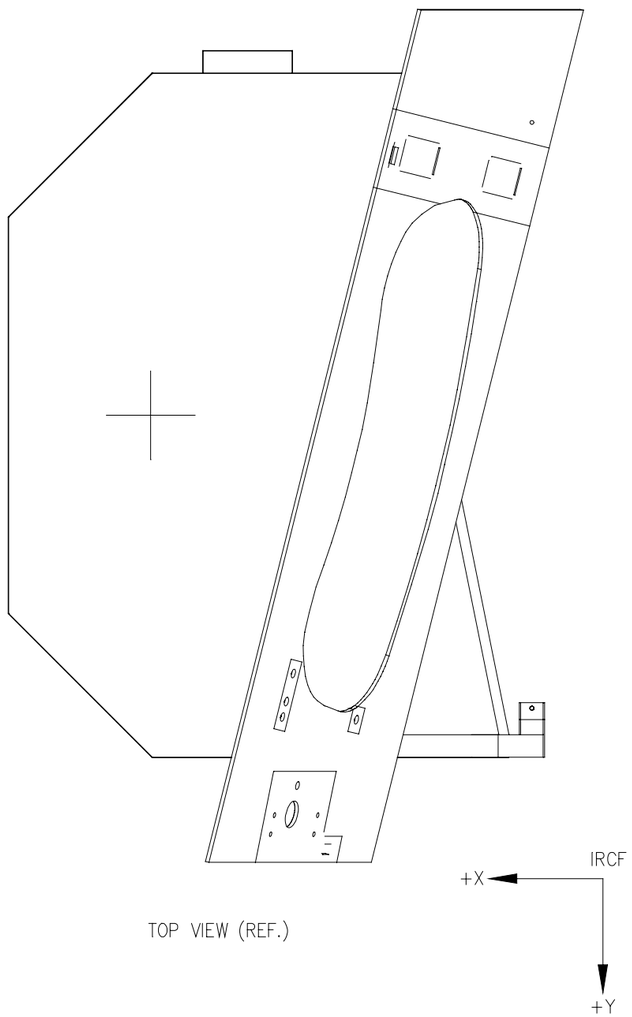
SP-HIR-050	Sunshield Subsystem Specification Document	Current Revision
SP-HIR-040	Telescope Subsystem Specification Document	Current Revision

3.0 Interface Requirements

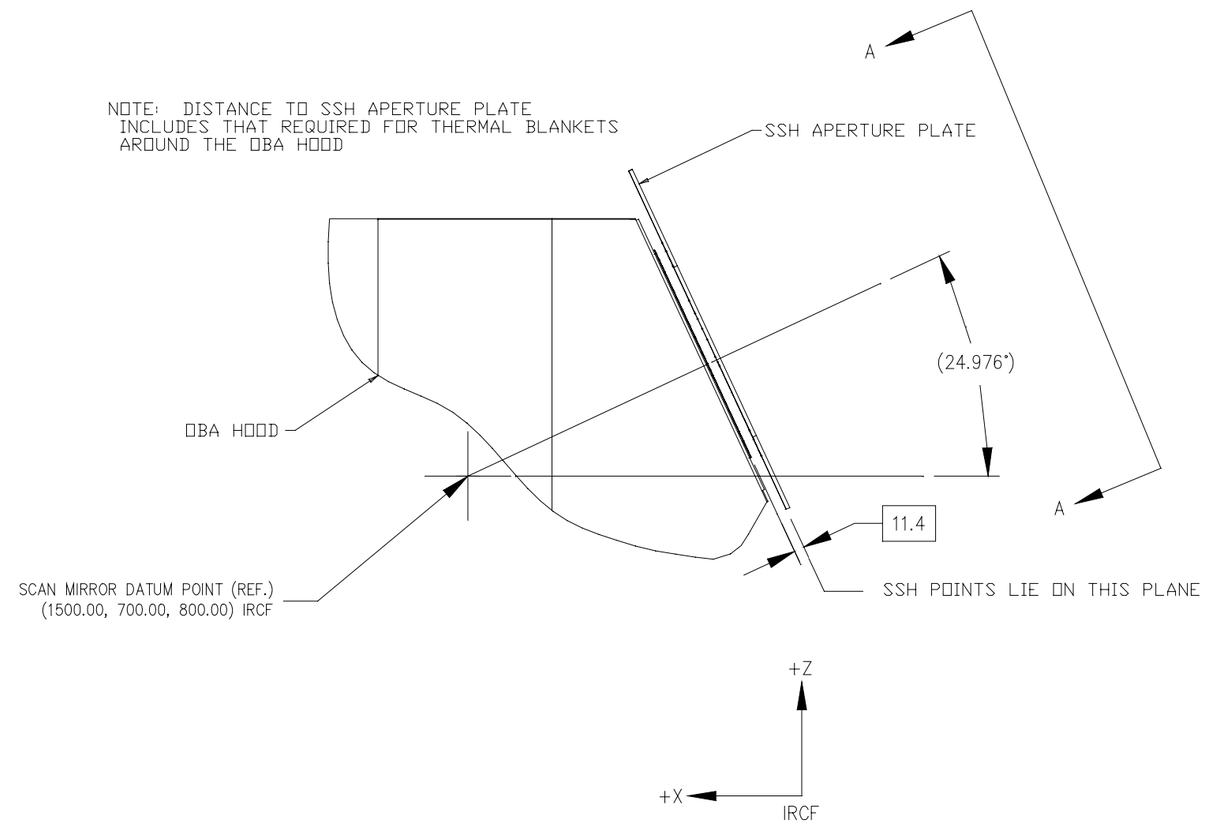
3.1 Mechanical

3.1.1 Drawings

SSH Aperture = SP-HIR-224-FIG1
Definition of Aperture = SP-HIR-224-FIG2



TOP VIEW (REF.)

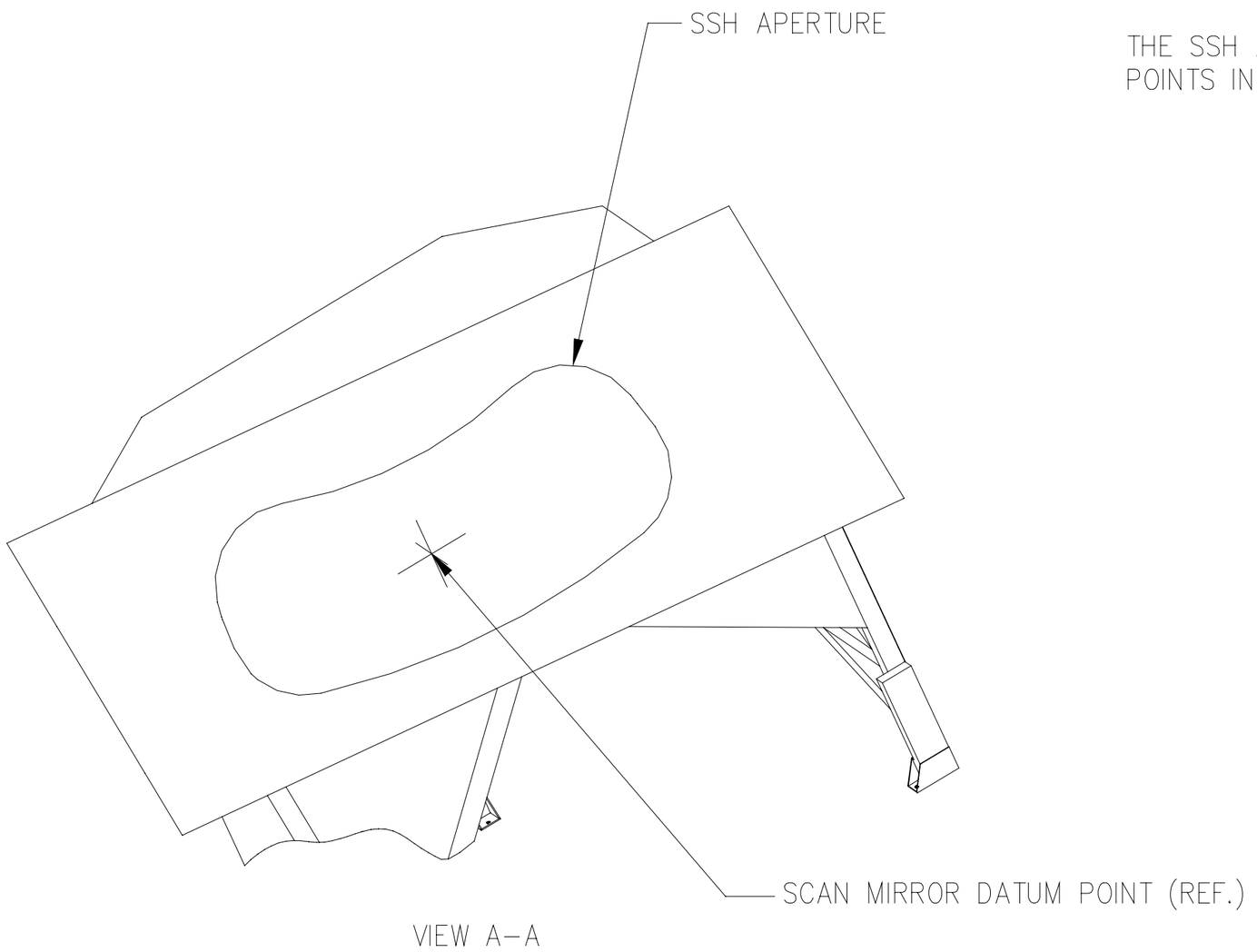


NOTES:

1. DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED
2. TOLERANCES ARE ±0.1 LINEAR, ±0.5° ANGULAR UNLESS STATED

INTERFACE CONTROL DOCUMENT

UNIVERSITY of COLORADO at BOULDER 3300 MITCHELL LANE BOULDER, COLORADO 80301 303-497-8060		
TITLE SSH/TSS INTERFACE SSH APERTURE/OBA APERTURE		
SIZE B	FIG NO. SP-HIR-224-FIG1	REV. A
SCALE NONE	DRAWN 99-09-02	PAGE 1 OF 2



THE SSH APERTURE IS DEFINED BY THE 140 POINTS IN TABLE 3.1.3–1.

NOTES:

1. DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED
2. TOLERANCES ARE ±0.1 LINEAR, ±0.5° ANGULAR UNLESS STATED

INTERFACE CONTROL DOCUMENT

UNIVERSITY of COLORADO at BOULDER 3300 MITCHELL LANE BOULDER, COLORADO 80301 303–497–8060		
TITLE SSH/TSS INTERFACE DEFINITION OF APERTURES		
SIZE B	FIG NO. SP–HIR–224–FIG2	REV. A
SCALE NONE	DRAWN 99–09–02	PAGE 2 OF 2

3.1.2 Mounting

N/A

3.1.3 Alignment

As shown in FIGs 1 & 2.

The coordinates of the 140 points that define the aperture on the inner surface of SSH aperture plate are shown in Table 3.1.3-1. The tolerance on this curve is -1.2mm to +4.5 mm (i.e. 1.2 mm inside to 4.5 outside) measured in the plane of the aperture, normal to the local tangent line (i.e. along the local radius).

IRCF		
X	**Y**	**Z**
1251.02	636.01	1048.77
1146.22	631.78	832.68
1157.19	456.08	946.78
1131.66	486.26	877.91
1130.52	530.63	852.51
1129.55	511.58	860.37
1129.76	502.62	865.47
1129.84	520.97	856.10
1130.57	494.27	871.50
1131.60	540.48	849.64
1134.69	562.03	844.88
1133.00	550.45	847.37
1138.27	585.23	840.30
1136.45	573.62	842.53
1144.14	620.13	834.39
1142.12	608.48	836.23
1140.16	596.85	838.20
1141.03	462.45	909.81
1135.26	472.32	892.66
1133.24	478.94	885.00
1138.00	467.06	901.09
1148.47	456.97	928.15
1144.49	458.89	918.85
1152.69	455.86	937.51
1166.49	458.05	965.12
1161.84	457.07	955.95
1189.99	464.82	1010.55
1171.14	459.04	974.28
1180.49	461.40	992.54
1175.80	460.16	983.43
1185.21	462.85	1001.61

1232.99	536.41	1062.95
1209.39	484.54	1040.73
1199.77	472.88	1026.75
1194.87	468.22	1018.95
1204.64	478.21	1034.11
1222.40	508.40	1055.43
1226.22	517.39	1058.72
1213.89	492.05	1046.20
1218.27	499.92	1051.23
1229.72	526.80	1061.12
1244.50	586.33	1061.00
1238.62	556.19	1064.40
1235.97	546.23	1064.06
1242.88	576.31	1062.84
1240.92	566.24	1063.97
1247.14	606.23	1056.16
1245.85	596.29	1058.63
1249.56	626.04	1050.92
1248.20	616.08	1053.24
1170.52	748.38	822.74
1167.81	736.74	823.14
1150.58	655.10	829.65
1148.37	643.43	831.10
1152.85	666.76	828.32
1155.19	678.43	827.13
1157.59	690.10	826.07
1160.06	701.77	825.15
1165.17	725.09	823.68
1162.58	713.43	824.35
1284.73	1034.10	912.24
1288.99	1033.58	921.38
1275.49	1030.92	894.64
1270.71	1027.84	886.29
1280.19	1033.12	903.29
1293.08	1032.39	930.53
1297.08	1030.83	939.67
1191.15	829.48	823.59
1179.01	783.23	822.31
1173.29	760.01	822.47
1176.12	771.63	822.33
1184.96	806.39	822.69
1181.96	794.82	822.44
1188.03	817.95	823.07
1265.92	1023.81	878.40
1221.78	932.07	834.11
1197.57	852.48	825.01
1194.33	840.99	824.23

1200.86	863.94	825.92
1204.21	875.37	826.96
1211.07	898.15	829.43
1214.59	909.49	830.86
1218.16	920.80	832.42
1207.61	886.78	828.13
1239.43	982.11	844.87
1243.36	990.61	848.65
1225.45	943.30	835.93
1229.18	954.50	837.88
1232.40	963.94	839.67
1235.77	973.20	841.88
1256.48	1012.61	864.55
1251.93	1005.88	858.57
1247.51	998.65	853.12
1261.15	1018.67	871.15
1309.00	1025.88	967.06
1305.09	1027.73	957.95
1301.08	1029.28	948.81
1297.59	835.54	1042.16
1280.29	776.43	1036.82
1282.99	786.37	1037.27
1270.28	736.43	1036.75
1259.59	686.16	1040.59
1261.57	696.22	1039.47
1263.62	706.28	1038.53
1255.91	666.07	1043.34
1257.71	676.11	1041.88
1267.98	726.39	1037.17
1265.76	716.34	1037.76
1252.56	646.01	1046.79
1254.19	656.03	1044.98
1275.13	756.47	1036.43
1272.66	746.46	1036.50
1277.67	766.46	1036.54
1294.53	825.79	1040.84
1288.61	806.15	1038.71
1291.53	815.99	1039.69
1285.76	796.28	1037.90
1325.40	1007.60	1010.72
1312.67	1023.24	976.09
1319.82	1017.36	994.04
1316.31	1020.48	985.10
1322.93	1013.17	1002.68
1327.17	931.32	1054.04
1300.73	845.24	1043.66
1313.94	883.03	1051.55

1307.22	864.50	1047.18
1310.66	873.68	1049.58
1303.94	854.90	1045.34
1322.87	911.66	1055.28
1320.19	901.95	1054.73
1317.16	892.42	1053.38
1325.18	921.48	1055.00
1331.16	969.60	1042.47
1330.96	978.37	1037.48
1329.27	994.54	1025.56
1327.58	1001.48	1018.44
1330.30	986.68	1031.79
1328.75	941.13	1052.23
1329.90	950.80	1049.60
1330.82	960.38	1046.55

Table 3.1.3-1 SSH Coordinates

3.1.4 Mass Properties

N/A

3.1.5 Venting

N/A

3.2 Electrical

N/A

3.2.1 Grounding

N/A

3.3 Thermal

See SP-HIR-111 Thermal Requirements Document