

13.0 ELECTRICAL WIRING INTERFACES

13.0.1 PAYLOAD DEFINITION

13.0.1.1 STS-To-Payload Cable Interface Diagram

The STS-To-Cargo Element cable interface diagram shall be as shown in Figure 13.0.1.1-1.

13.0.1.2 (Reserved)

13.0.1.3 (Reserved)

13.0.1.4 Voltage Characteristics for SSP NOT APPLICABLE

13.0.1.5 Pin Assignment Tables Terminology

ENTRY TERMINOLOGY FOR PIN ASSIGNMENTS TABLES

CONDITION

<u>I/F WIRING CLASSIFICATION</u>	<u>WIRE PATH EXPLANATION</u>			
	<u>STS</u>		<u>PAYLOAD</u>	
	<u>ORB</u>	<u>ORB PROD.</u>	<u>P/L PROD.</u>	<u>P/L</u>
	<u>SIGNAL</u>	<u>BREAK</u>	<u>INTERFACE</u>	<u>UNIT SIGNAL</u>
1. WIRED ON BOTH SIDES OF I/F	←—FUNCTION—		FUNCTION—→	
	←—FUNCTION—		SPARE—→	
		←—SPARE—	SPARE—→	
		←—SPARE—	SPARE—→	
	←—FUNCTION—		SPARE—→	
		←—SPARE—	FUNCTION (GSE SUPPORT)—→	
2. WIRED ON ORBITER SIDE OF I/F	←—FUNCTION—→		NOT WIRED	
		←—SPARE—→	NOT WIRED	
3. WIRED ON P/L SIDE OF I/F		NOT WIRED	←FUNCTION (GSE SUPPORT)—→	
		NOT WIRED	←SPARE—→	
		NOT WIRED	←SPARE—→	
4. NOT WIRED ON EITHER SIDE OF I/F		NOT WIRED	NOT WIRED	

DEFINITION:

- FUNCTION - WIRE TERMINATES AT A UNIT CAPABLE OF GENERATING OR RECEIVING A SIGNAL.
- SPARE - WIRE TERMINATES AT A PRODUCTION BREAK OR A UNIT BUT IS PHYSICALLY INCAPABLE OF GENERATING OR RECEIVING A SIGNAL.
- NOT WIRED - NO CONDUCTING PATH.

NOTE:

- o PAYLOAD FUNCTIONS WHICH ARE NOT REQUIRED TO SUPPORT A SPECIFIC MISSION SHALL BE IDENTIFIED WITH THE NOTE "NO MATED OPERATIONAL REQUIREMENT".
- o PAYLOAD FUNCTIONS WHICH SUPPORT OFFLINE CHECKOUT SHALL BE IDENTIFIED AS "GSE SUPPORT" AND SHALL INTERFACE WITH ORBITER SPARE OR NOT WIRED.
- o PAYLOAD SHALL BE RESPONSIBLE TO ASSURE THAT THE INADVERTENT ACTIVATION OF A NON-OPERATIONAL FUNCTION SHALL HAVE NO ADVERSE IMPACT ON THE ORBITER OR CREW.

13.0.1.6 Cargo Element Safety Critical Circuit to Hazard Event Correlation
The NSTS-to-payload electrical interfaces which are associated with payload hazard events shall be identified as safety critical and listed in Table 13.0.1.6-1.

13.0.2 UNIQUE MISSION SPECIFIC REQUIREMENTS

13.0.2.1 PAYLOAD UNIQUE DEFINITION

13.0.2.1.1 STS to Payload SSP Interfaces

The standard Payload Display and Control service and cable interface allocations for Cargo Element shall be as shown in Table 13.0.2.1.1-1.

13.0.2.1.2 STS-To- Payload Connector Pin Assignments

13.0.2.1.2.1 STS-To-Payload RF Interface

Connector interface definition shall be as shown in Table 13.0.2.1.2.1-1. This connector interface provides PDI,Orbiter Payload Recorder, PSP and Payload Timing Buffer services.

13.0.2.1.2.2 STS-T0-Payload SSP Indicators

Connector interface definition shall be shown in Table 13.0.2.1.2.2-1.

13.0.2.1.2.3 STS-To-Payload SSP Switches and MDM (DOH) Interfaces

Connector interface definition shall be as shown in Table 13.0.2.1.2.3-1.

13.0.2.1.2.4 Voltage Characteristics for SSP

For voltages originating in the Aft Flight Deck (AFD), voltage characteristics are specified at the SIP as follows:

Voltage Range

23.8 - 32.0 VDC

Voltage/power values stated are for a single switch/contact pair. Total continuous power drawn from the SSP power source shall not exceed 15 watts.

13.0.2.1.4 SSP Interface Schematic

SSP switching shall be as shown in Figure 3.0.2.1.4-1.

13.0.3 SMALL PAYLOAD UNIQUE INTERFACES

13.0.3.1 STS-To-Payload Electrical Wiring Interfaces NOT APPLICABLE

13.0.3.2 STS-To-Payload RF and SPASP (HO) Interface NOT APPLICABLE

13.0.3.3 STS-To-Payload Main DC Power Interface

Connector interface definition shall be as shown in Tables 13.0.3.3-1 and 13.0.3.3-2.

13.0.3.4 Small Payload Accommodations Switch Panel (SPASP) NOT APPLICABLE

13.0.3.5 Small Payload Accommodations Terminal (SPAT)

The interfaces and the internal circuitry of the Small Payload Accommodations Terminal are as shown in Figure 13.0.3.5-1.

13.0.3.6 Cable Schematics NOT APPLICABLE

13.0.4 (Reserved)

TABLE 13.0.1.6-1 PAYLOAD HAZARD EVENT TABLE

HAZARDOUS EVENT	SYSTEM	PAYLOAD INTERFACE CONNECTOR	PIN NUMBER	PAYLOAD FUNCTION NOMENCLATURE	(C)COMMAND/ (M)MONITOR/ (P)POWER	NOTES
1	A	J103	28	HESE PRE-ARM A	C	
1	A	J103	29	HESE PRE-ARM B	C	
1	A	J108	52	HESE PRE-ARM STATUS	M	
1	A	J108	53	HESE PRE-ARM STATUS RTN	M	
1	B	J103	31	HESE ARM A	C	
1	B	J103	32	HESE ARM B	C	
1	B	J108	43	HESE ARM STATUS	M	
1	B	J108	44	HESE ARM STATUS RTN	M	
1	C	J103	34	HESE FIRE A	C	
1	C	J103	35	HESE FIRE B	C	
1	C	J108	41	HESE PUSH PLT MON RTN	M	
1	C	J108	40	HESE PUSH PLT MON	M	
2	A	J103	58	SAC-A DOOR OP/CLS	C	
2	A	J108	58	SAC-A HMDA LISA MON	M	
2	A	J108	59	SAC-A HMDA LISA MON RTN	M	
2	B	J103	44	SAC-A PRE-ARM A	C	
2	B	J103	70	SAC-A PRE-ARM B	C	
2	B	J108	55	SAC-A PRE-ARM STATUS	M	
2	B	J108	56	SAC-A PRE-ARM STATUS RTN	M	
2	C	J103	47	SAC-A ARM A	C	
2	C	J108	68	SAC-A ARM STATUS RTN	M	
2	C	J103	61	SAC-A ARM B	C	
2	C	J108	67	SAC-A ARM STATUS	M	
2	D	J103	40	SAC-A FIRE A	C	
2	D	J103	68	SAC-A FIRE B	C	
2	D	J108	49	SAC-A FIRE STATUS	M	
2	D	J108	50	SAC-A FIRE STATUS RTN	M	

TABLE 13.0.1.6-1 PAYLOAD HAZARD EVENT TABLE
(CONCLUDED)

Notes:

HAZARD EVENT

1. INADVERTANT OPERATION/DEPLOYMENT OF MIGHTYSAT 1
(REF. HAZARD REPORT NO. HH-F-08)
2. INADVERTANT OPERATION/DEPLOYMENT OF SAC-A
(REF. HAZARD REPORT NO. HH-F-08)

TABLE 13.0.2.1.1-1 STS/PAYLOAD STANDARD INTERFACE ALLOCATION

ORBITER SERVICE	REF PARA	ORBITER CAPABILITY	IDD ALLOCATION	PAYLOAD USE
STANDARD SWITCH PANEL(AFD SECTION)	13.4.2	4 SECTIONS	0	1
PORT SIP RF(PDI/PSP/OPR/PTB)	13.0.2.1.2.1	4 CONCTRS	0	1
PORT SIP ML(SSP INDICATORS/PF01)	13.0.2.1.2.2	4 CONCTRS	0	1
PORT SIP HO(SSP SWITCHES/PF01)	13.0.2.1.2.3	4 CONCTRS	0	1
STBD SIP MAIN DC POWER	13.0.3.3	4 CONCTRS	0	1 *

* Main DC power provided via small payload accommodations (2-8 GA feeds from SPAT box to Hitchhiker interface)

TABLE 13.0.2.1.2.1-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT RF (PDI/PSP/OPR/PTB)

STS CONN ID/SMCH ID: J107
 STS CONN PART NO: ME414-0630-4002
 P/L CONN IDENT: P107
 P/L CONN PART NO: NLS6GT20-35S
 P/L CABLE NO: SIP-W2
 P/L CABLE DIA (IN): 0.65

E C P F	C D	PIN				
M L I U	A E	NO				
C A N N	B S					
S C	L C		ORBITER	PAYLOAD	NOTES	ORBITER
S T	E		FUNCTION	FUNCTION		REQUIREMENT
						REFERENCE
		1	NOT WIRED	NOT WIRED		
		2	NOT WIRED	NOT WIRED		
		3	NOT WIRED	NOT WIRED		
		4	NOT WIRED	NOT WIRED		
		5	NOT WIRED	NOT WIRED		
		6	NOT WIRED	NOT WIRED		
		7	NOT WIRED	NOT WIRED		
		8	NOT WIRED	NOT WIRED		
		9	NOT WIRED	NOT WIRED		
RF	SIG	2S22	10 SPARE	NOT WIRED	3	
RF	RTN	2S22	11 SPARE	NOT WIRED	3	
		12	NOT WIRED	NOT WIRED		
RF	SIG	2S23	13 SPARE	NOT WIRED	2	
RF	RTN	2S23	14 SPARE	NOT WIRED	2	
		15	NOT WIRED	NOT WIRED		
RF	SIG	2S1	16 SPARE	NOT WIRED	1	
RF	RTN	2S1	17 SPARE	NOT WIRED	1	
		18	NOT WIRED	NOT WIRED		
RF	SIG	2S2	19 SPARE	NOT WIRED		
RF	RTN	2S2	20 SPARE	NOT WIRED		
		21	NOT WIRED	NOT WIRED		
RF	SIG	2S3	22 SPARE	NOT WIRED		
RF	RTN	2S3	23 SPARE	NOT WIRED		
		24	NOT WIRED	NOT WIRED		
RF	SIG	2S4	25 SPARE	NOT WIRED		
RF	RTN	2S4	26 SPARE	NOT WIRED		
		27	NOT WIRED	NOT WIRED		
RF	SIG	2S5	28 SPARE	NOT WIRED		
RF	RTN	2S5	29 SPARE	NOT WIRED		
		30	NOT WIRED	NOT WIRED		
RF	SIG	2S6	31 SPARE	NOT WIRED		
RF	RTN	2S6	32 SPARE	NOT WIRED		
		33	NOT WIRED	NOT WIRED		
RF	SIG	2S7	34 SPARE	NOT WIRED		
RF	RTN	2S7	35 SPARE	NOT WIRED		
		36	NOT WIRED	NOT WIRED		
RF	SIG	2S8	37 SPARE	NOT WIRED		
RF	RTN	2S8	38 SPARE	NOT WIRED		
		39	NOT WIRED	NOT WIRED		
RF	SIG	2S9	40 SPARE	NOT WIRED		
RF	RTN	2S9	41 SPARE	NOT WIRED		
		42	NOT WIRED	NOT WIRED		
RF	SIG	2S10	43 SPARE	NOT WIRED		
RF	RTN	2S10	44 SPARE	NOT WIRED		
		45	NOT WIRED	NOT WIRED		
RF	SIG	2S11	46 SPARE	NOT WIRED		
RF	RTN	2S11	47 SPARE	NOT WIRED		
		48	NOT WIRED	NOT WIRED		
RF	SIG	2S12	49 P/L RCDR ANAL	NOT WIRED	4	8.2.3
RF	RTN	2S12	50 P/L RCDR ANAL RTN	NOT WIRED	4	8.2.3
		51	NOT WIRED	NOT WIRED		
RF	SIG	2S13	52 P/L RCDR DIG	NOT WIRED	4	8.2.3

TABLE 13.0.2.1.2.1-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT RF (PDI/PSP/OPR/PTB)
(CONTINUED)

ECPL CANNS SIS	PF UN C T	CD AES L E	PIN NO	ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
RF	RTN	2S13	53	P/L RCDR DIG RTN	NOT WIRED	4	8.2.3
			54	NOT WIRED	NOT WIRED		
RF	SIG	2S14	55	P/L RCDR DIG	NOT WIRED	4	8.2.3
RF	RTN	2S14	56	P/L RCDR DIG RTN	NOT WIRED	4	8.2.3
			57	NOT WIRED	NOT WIRED		
RF	SIG	2S15	58	PDI INPUT TLM	LOW RATE DATA +		8.2.1
RF	RTN	2S15	59	PDI INPUT TLM RTN	LOW RATE DATA -		8.2.1
			60	NOT WIRED	NOT WIRED		
RF	SIG	2S16	61	PDI INPUT CLK	NOT WIRED		8.2.1
RF	RTN	2S16	62	PDI INPUT CLK RTN	NOT WIRED		8.2.1
			63	NOT WIRED	NOT WIRED		
RF	SIG	2S17	64	PSP NO. 1 OUTPUT	COMMAND DATA +		8.2.5
RF	RTN	2S17	65	PSP NO. 1 OUTPUT RTN	COMMAND DATA -		8.2.5
			66	NOT WIRED	NOT WIRED		
RF	SIG	2S18	67	PSP NO. 2 OUTPUT	NOT WIRED		8.2.5
RF	RTN	2S18	68	PSP NO. 2 OUTPUT RTN	NOT WIRED		8.2.5
			69	NOT WIRED	NOT WIRED		
RF	SIG	2S19	70	PAYLOAD TIMING BUFFER GMT	NOT WIRED		8.2.10
RF	RTN	2S19	71	PAYLOAD TIMING BUFFER GMT RTN	NOT WIRED		8.2.10
			72	NOT WIRED	NOT WIRED		
RF	SIG	2S20	73	PAYLOAD TIMING BUFFER GMT	NOT WIRED		8.2.10
RF	RTN	2S20	74	PAYLOAD TIMING BUFFER GMT RTN	NOT WIRED		8.2.18
			75	NOT WIRED	NOT WIRED		
RF	SIG	2S21	76	PAYLOAD TIMING BUFFER MET	MET +		8.2.10
RF	RTN	2S21	77	PAYLOAD TIMING BUFFER MET RTN	MET -		8.2.10
			78	NOT WIRED	NOT WIRED		
			79	NOT WIRED	NOT WIRED		

TABLE 13.0.2.1.2.1-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT RF (PDI/PSP/OPR/PTB)
(CONCLUDED)

- Notes:
- (1) Wired to PSDP for SMCH connectors P1401, P1403 and P1405.
Wired to Xo603 for SMCH connector P1407.
 - (2) Wired to Xo603.
 - (3) Wired to Xo603 for SMCH connectors P1401 and P1403.
Not wired for SMCH connectors P1405 and P1407.
 - (4) If P/L recorder is not installed, Orbiter function nomenclature shall be spare.

TABLE 13.0.2.1.2.2-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT ML (SSP IND/PF01)

STS CONN ID/SMCH ID: J108
 STS CONN PART NO: ME414-0630-4004
 P/L CONN IDENT: P108
 P/L CONN PART NO: NLS6GT20-35SB
 P/L CABLE NO: SIP-W3
 P/L CABLE DIA (IN): 0.50

E C P F	C D	PIN					
M L I U	A E	N O					
C A N N	B S						
S C L C			ORBITER	PAYLOAD			ORBITER
S T E			FUNCTION	FUNCTION	NOTES		REQUIREMENT
							REFERENCE
ML	SIG	5S3	1	SPARE	NOT WIRED	1	
ML	SIG	5S3	2	SPARE	NOT WIRED	1	
ML	SIG	5S3	3	SPARE	NOT WIRED	1	
ML	SIG	5S3	4	SPARE	NOT WIRED	1	
ML	RTN	5S3	5	SPARE	NOT WIRED	1	
ML	SHD	5S3	6	TERMINATE	NOT WIRED	1	
ML	SIG	2S16	7	SPARE	NOT WIRED	1	
ML	RTN	2S16	8	SPARE	NOT WIRED	1	
ML	SHD	2S16	9	TERMINATE	NOT WIRED	1	
ML	SIG	5S1	10	P/L COMMAND (DOL 01)	NOT WIRED		8.2.2.1
ML	SIG	5S1	11	P/L COMMAND (DOL 02)	NOT WIRED		8.2.2.1
ML	SIG	5S1	12	P/L COMMAND (DOL 03)	NOT WIRED		8.2.2.1
ML	SIG	5S1	13	P/L COMMAND (DOL 04)	NOT WIRED		8.2.2.1
ML	RTN	5S1	14	DOL 01-04 RETURN	NOT WIRED		8.2.2.1
ML	SHD	5S1	15	TERMINATE	NOT WIRED		
ML	SIG	5S2	16	P/L COMMAND (DOL 05)	NOT WIRED		8.2.2.1
ML	SIG	5S2	17	P/L COMMAND (DOL 06)	NOT WIRED		8.2.2.1
ML	SIG	5S2	18	P/L COMMAND (DOL 07)	NOT WIRED		8.2.2.1
ML	SIG	5S2	19	P/L COMMAND (DOL 08)	NOT WIRED		8.2.2.1
ML	RTN	5S2	20	DOL 05-08 RETURN	NOT WIRED		8.2.2.1
ML	SHD	5S2	21	TERMINATE	NOT WIRED		
ML	SIG	5S4	22	P/L MONITOR (DIL 01)	NOT WIRED		8.2.2.3
ML	SIG	5S4	23	P/L MONITOR (DIL 02)	NOT WIRED		8.2.2.3
ML	SIG	5S4	24	P/L MONITOR (DIL 03)	NOT WIRED		8.2.2.3
ML	SIG	5S4	25	P/L MONITOR (DIL 04)	NOT WIRED		8.2.2.3
ML	RTN	5S4	26	DIL 01-04 RETURN	NOT WIRED		8.2.2.3
ML	SHD	5S4	27	TERMINATE	NOT WIRED		
ML	SIG	5S5	28	P/L MONITOR (DIL 05)	NOT WIRED		8.2.2.3
ML	SIG	5S5	29	P/L MONITOR (DIL 06)	NOT WIRED		8.2.2.3
ML	SIG	5S5	30	P/L MONITOR (DIL 07)	NOT WIRED		8.2.2.3
ML	SIG	5S5	31	P/L MONITOR (DIL 08)	NOT WIRED		8.2.2.3
ML	RTN	5S5	32	DIL 05-08 RETURN	NOT WIRED		8.2.2.3
ML	SHD	5S5	33	TERMINATE	NOT WIRED		
ML	SIG	2S1	34	P/L MONITOR (AID 01)	NOT WIRED		8.2.2.4
ML	RTN	2S1	35	AID 01 RETURN	NOT WIRED		8.2.2.4
ML	SHD	2S1	36	TERMINATE	NOT WIRED		
ML	SIG	2S2	37	P/L MONITOR (AID 02)	NOT WIRED		8.2.2.4
ML	RTN	2S2	38	AID 02 RETURN	NOT WIRED		8.2.2.4
ML	SHD	2S2	39	TERMINATE	NOT WIRED		
ML	SIG	2S15	40	DS24/12	HESE PUSH PLT MON		13.4.2
ML	RTN	2S15	41	DS24/12 RETURN	HESE PUSH PLT MON RTN		13.4.2
ML	SHD	2S15	42	TERMINATE	SHIELD		
ML	SIG	2S14	43	DS23/11	HESE ARM STATUS		13.4.2
ML	RTN	2S14	44	DS23/11 RETURN	HESE ARM STATUS RTN		13.4.2
ML	SHD	2S14	45	TERMINATE	SHIELD		
ML	SIG	2S13	46	DS22/10	NOT WIRED		13.4.2
ML	RTN	2S13	47	DS22/10 RETURN	NOT WIRED		13.4.2
ML	SHD	2S13	48	TERMINATE	NOT WIRED		
ML	SIG	2S12	49	DS21/9	SAC-A FIRE STATUS		13.4.2
ML	RTN	2S12	50	DS21/9 RETURN	SAC-A FIRE STATUS RTN		13.4.2
ML	SHD	2S12	51	TERMINATE	SHIELD		
ML	SIG	2S11	52	DS20/8	HESE PRE-ARM STATUS		13.4.2

TABLE 13.0.2.1.2.2-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT ML (SSP IND/PF01)
(CONTINUED)

ECPL	CF	CD	PIN	ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
ML	RTN	2S11	53	DS20/8 RETURN	HESE PRE-ARM STATUS RTN		13.4.2
ML	SHD	2S11	54	TERMINATE	SHIELD		
ML	SIG	2S10	55	DS19/7	SAC-A PRE-ARM STATUS		13.4.2
ML	RTN	2S10	56	DS19/7 RETURN	SAC-A PRE-ARM STATUS RTN		13.4.2
ML	SHD	2S10	57	TERMINATE	SHIELD		
ML	SIG	2S9	58	DS18/6	SAC-A HMDA LISA MON		13.4.2
ML	RTN	2S9	59	DS18/6 RETURN	SAC-A HMDA LISA MON RTN		13.4.2
ML	SHD	2S9	60	TERMINATE	SHIELD		
ML	SIG	2S8	61	DS17/5	NOT WIRED		13.4.2
ML	RTN	2S8	62	DS17/5 RETURN	NOT WIRED		13.4.2
ML	SHD	2S8	63	TERMINATE	NOT WIRED		
ML	SIG	2S7	64	DS16/4	NOT WIRED		13.4.2
ML	RTN	2S7	65	DS16/4 RETURN	NOT WIRED		13.4.2
ML	SHD	2S7	66	TERMINATE	NOT WIRED		
ML	SIG	2S6	67	DS15/3	SAC-A ARM STATUS		13.4.2
ML	RTN	2S6	68	DS15/3 RETURN	SAC-A ARM STATUS RTN		13.4.2
ML	SHD	2S6	69	TERMINATE	SHIELD		
ML	RTN	2S5	70	DS14/2 RETURN	EXP POWER BUS STATUS RTN		13.4.2
ML	SIG	2S5	71	DS14/2	SPARE		13.4.2
ML	SHD	2S5	72	TERMINATE	SHIELD		
ML	SIG	2S4	73	DS13/1	SPARE		13.4.2
ML	SIG	2S4	74	DS14/2	EXP POWER BUS STATUS		13.4.2
ML	SHD	2S4	75	TERMINATE	SHIELD		
ML	SIG	2S3	76	DS13/1	AVIONICS POWER STATUS		13.4.2
ML	RTN	2S3	77	DS13/1 RETURN	AVIONICS POWER STATUS RTN		13.4.2
ML	SHD	2S3	78	TERMINATE	SHIELD		
			79	NOT WIRED	NOT WIRED		

TABLE 13.0.2.1.2.2-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT ML (SSP IND/PF01)
(CONCLUDED)

Note: (1) Wired to Xo603.

TABLE 13.0.2.1.2.3-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT HO (SSP SWITCHES/PF01)

STS CONN ID/SMCH ID: J103
 STS CONN PART NO: ME414-0630-4003
 P/L CONN IDENT: P103
 P/L CONN PART NO: NLS6GT20-35SA
 P/L CABLE NO: SIP-W4
 P/L CABLE DIA (IN): 0.50

E M C S	C A S	P I N N N S	F U N C T I O N	C D A B L E	P I N N O	ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
					1	NOT WIRED	NOT WIRED		
					2	NOT WIRED	NOT WIRED		
					3	NOT WIRED	NOT WIRED		
					4	NOT WIRED	NOT WIRED		
					5	NOT WIRED	NOT WIRED		
					6	NOT WIRED	NOT WIRED		
					7	NOT WIRED	NOT WIRED		
					8	NOT WIRED	NOT WIRED		
					9	NOT WIRED	NOT WIRED		
					10	NOT WIRED	NOT WIRED		
					11	NOT WIRED	NOT WIRED		
					12	NOT WIRED	NOT WIRED		
HO	SIG	2T1	13	S13/1			HH 28V RTN		13.4.2
HO	SIG	2T1	14	S13/1			HH 28V RTN		13.4.2
			15	NOT WIRED			NOT WIRED		
HO	SIG	2T2	16	S13/1			AVIONICS ON (K9)		13.4.2
HO	SIG	2T2	17	S13/1			AVIONICS ON (K9)		13.4.2
			18	NOT WIRED			NOT WIRED		
HO	SIG	2T3	19	S13/1			AVIONICS OFF (K9)		13.4.2
HO	SIG	2T3	20	S13/1			AVIONICS OFF (K9)		13.4.2
			21	NOT WIRED			NOT WIRED		
HO	SIG	2T4	22	S14/2			EXP POWER BUS ON (ZL)		13.4.2
HO	SIG	2T4	23	S14/2			EXP POWER BUS ON (ZL)		13.4.2
			24	NOT WIRED			NOT WIRED		
HO	SIG	2T5	25	S14/2			EXP POWER BUS OFF (ZL)		13.4.2
HO	SIG	2T5	26	S14/2			EXP POWER BUS OFF (ZL)		13.4.2
			27	NOT WIRED			NOT WIRED		
HO	SIG	2T6	28	S20/8			HESE PRE-ARM A		13.4.2
HO	SIG	2T6	29	S20/8			HESE PRE-ARM B		13.4.2
			30	NOT WIRED			NOT WIRED		
HO	SIG	2T7	31	S23/11			HESE ARM A		13.4.2
HO	SIG	2T7	32	S23/11			HESE ARM B		13.4.2
			33	NOT WIRED			NOT WIRED		
HO	SIG	2T8	34	S24/12			HESE FIRE A		13.4.2
HO	SIG	2T8	35	S24/12			HESE FIRE B		13.4.2
			36	NOT WIRED			NOT WIRED		
			37	NOT WIRED			SPARE		
			38	NOT WIRED			SPARE		
			39	NOT WIRED			NOT WIRED		
HO	SIG	2T9	40	S21/9			SAC-A FIRE A		13.4.2
			41	NOT WIRED			SPARE		
HO	SIG	2T14	42	MDM-PF1 (DIL)			NOT WIRED		
HO	RTN	2T14	43	MDM-PF1 (DIL RTN)			SPARE		
HO	SIG	2T10	44	S19/7			SAC-A PRE-ARM A		13.4.2
			45	NOT WIRED			NOT WIRED		
			46	NOT WIRED			NOT WIRED		
HO	SIG	2T11	47	S15/3			SAC-A ARM A		13.4.2
			48	NOT WIRED			NOT WIRED		
			49	NOT WIRED			NOT WIRED		
HO	SIG	2T17	50	S16/4			SPARE		
			51	NOT WIRED			NOT WIRED		
HO	SIG	2T13	52	MDM-PF1 (AID)			SPARE		

TABLE 13.0.2.1.2.3-1 PIN ASSIGNMENTS FOR CONNECTOR: PORT HO (SSP SWITCHES/PF01)
(CONTINUED)

ECPL	CF	CD	PIN	ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
HO	RTN	2T13	53	MDM-PF1 (AID RTN)	SPARE		
			54	NOT WIRED	NOT WIRED		
HO	SIG	2T12	55	28 VDC (CB2/CB4)	ZL CONTIN PWR/HES IND PWR		13.4.2
HO	RTN	2T12	56	28 VDC RETURN	SPARE		13.4.2
			57	NOT WIRED	NOT WIRED		
HO	SIG	2T17	58	S18/6	SAC-A DOOR OP/CLS		13.4.2
			59	NOT WIRED	NOT WIRED		
			60	NOT WIRED	NOT WIRED		
HO	SIG	2T11	61	S15/3	SAC-A ARM B		13.4.2
HO	SIG	2T16	62	MDM-PF1 (DIL)	SPARE		
HO	RTN	SC	63	MDM-PF1 (DIL RTN)	NOT WIRED		
HO	SIG	2T15	64	MDM-PF1 (DIL)	SPARE		
HO	SIG	2T15	65	MDM-PF1 (DIL)	SPARE		
HO	SIG	2T16	66	MDM-PF1 (DIL)	NOT WIRED		
			67	NOT WIRED	SPARE		
HO	SIG	2T9	68	S21/9	SAC-A FIRE B		13.4.2
			69	NOT WIRED	NOT WIRED		
HO	SIG	2T10	70	S19/7	SAC-A PRE-ARM B		13.4.2
			71	NOT WIRED	NOT WIRED		
			72	NOT WIRED	NOT WIRED		
			73	NOT WIRED	NOT WIRED		
			74	NOT WIRED	NOT WIRED		
			75	NOT WIRED	NOT WIRED		
			76	NOT WIRED	NOT WIRED		
			77	NOT WIRED	NOT WIRED		
			78	NOT WIRED	NOT WIRED		
			79	NOT WIRED	NOT WIRED		

TABLE 13.0.3.3-1 PIN ASSIGNMENTS FOR CONNECTOR: MAIN DC POWER

STS CONN ID/SMCH ID: P40/P60/P70
 STS CONN PART NO: ME414-0235-7247
 P/L CONN IDENT: J002
 P/L CONN PART NO: CVA0R22-22SN16
 P/L CABLE NO: N/A
 P/L CABLE DIA (IN): N/A

E C P F		C D		PIN		ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
M L I U	A E	N O	B S	S C L C	S T E				
HO	PWR	2T1	A	MAIN DC POWER		+28 VDC POWER NOT WIRED			7.0.3.1.3
			B	NOT WIRED					
HO	RTN	2T1	C	MAIN DC POWER RETURN		RETURN FAULT BOND			7.0.3.1.3
HO	GND	1SC	D	FAULT BOND					

TABLE 13.0.3.3-1 PIN ASSIGNMENTS FOR CONNECTOR: MAIN DC POWER
(CONCLUDED)

NOTES:

1. No safety critical circuits.

TABLE 13.0.3.3-2 PIN ASSIGNMENTS FOR CONNECTOR: MAIN DC POWER

STS CONN ID/SMCH ID: P40/P60/P70
 STS CONN PART NO: ME414-0235-7247
 P/L CONN IDENT: J003
 P/L CONN PART NO: CVA0R22-22SN16
 P/L CABLE NO: N/A
 P/L CABLE DIA (IN): N/A

E C P F		C D		PIN		ORBITER FUNCTION	PAYLOAD FUNCTION	NOTES	ORBITER REQUIREMENT REFERENCE
M L I U	A E	N O	B S	S L C	S T E				
HO	PWR	2T1	A	MAIN DC POWER		+28 VDC POWER NOT WIRED			7.0.3.1.3
			B	NOT WIRED					
HO	RTN	2T1	C	MAIN DC POWER RETURN		RETURN FAULT BOND			7.0.3.1.3
HO	GND	1SC	D	FAULT BOND					

TABLE 13.0.3.3-2 PIN ASSIGNMENTS FOR CONNECTOR: MAIN DC POWER
(CONCLUDED)

NOTES:

1. No safety critical circuits.

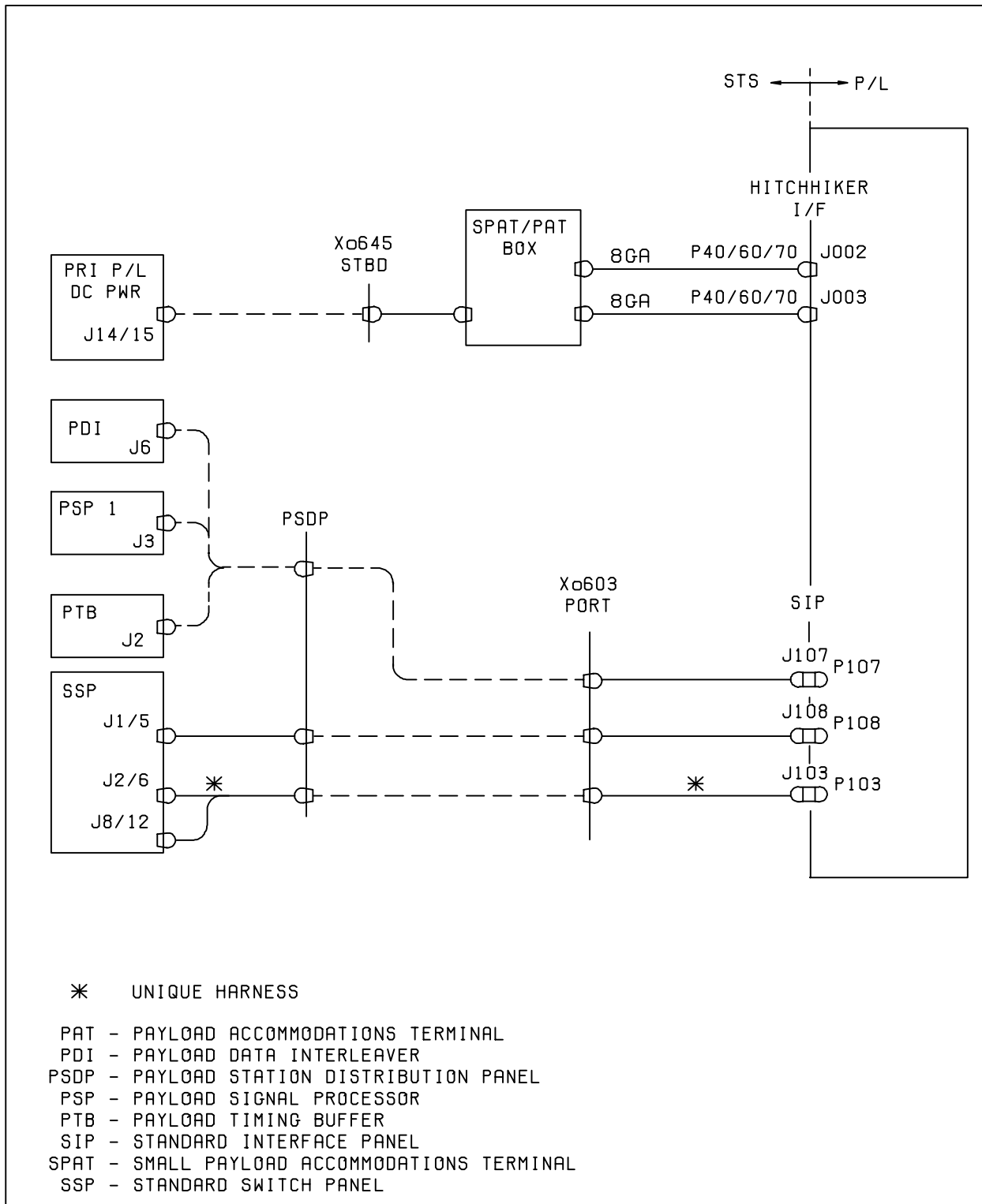


FIGURE 13.0.1.1-1 STS-TO-PAYLOAD CABLE INTERFACE DIAGRAM

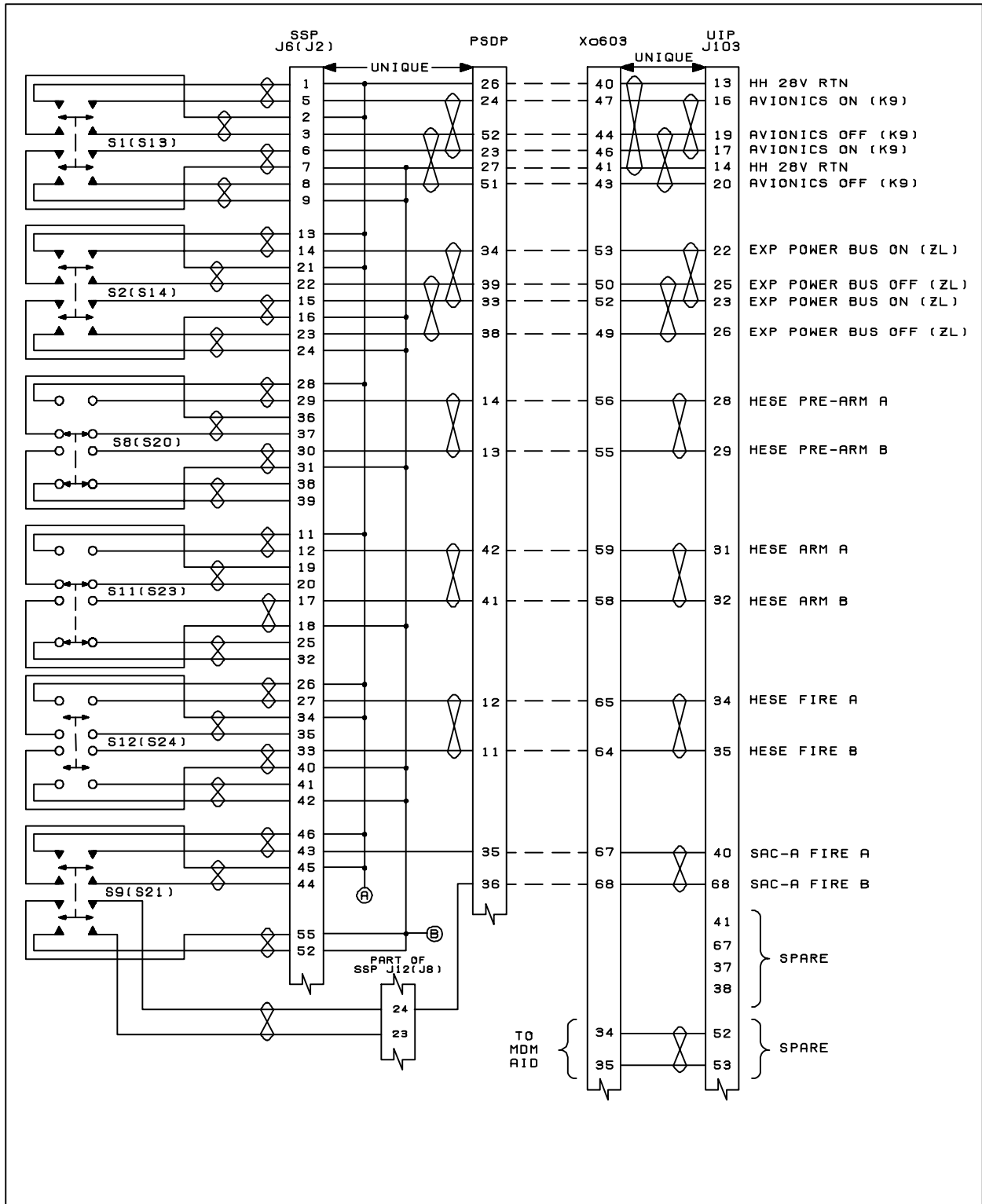


FIGURE 13.0.2.1.4-1 SSP INTERFACE SCHEMATIC
(SHEET 1 OF 2)

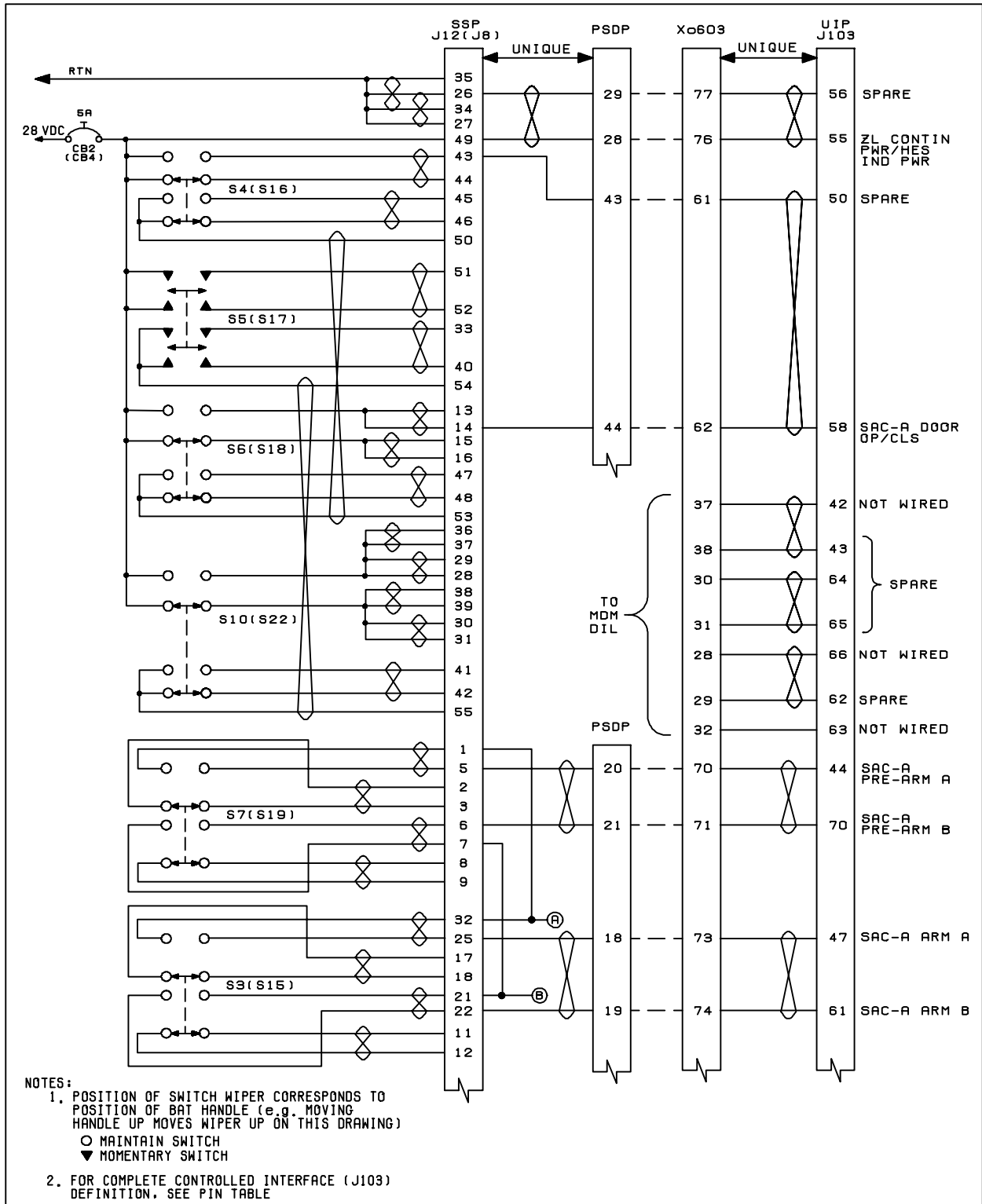


FIGURE 13.0.2.1.4-1 SSP INTERFACE SCHEMATIC
(SHEET 2 OF 2)

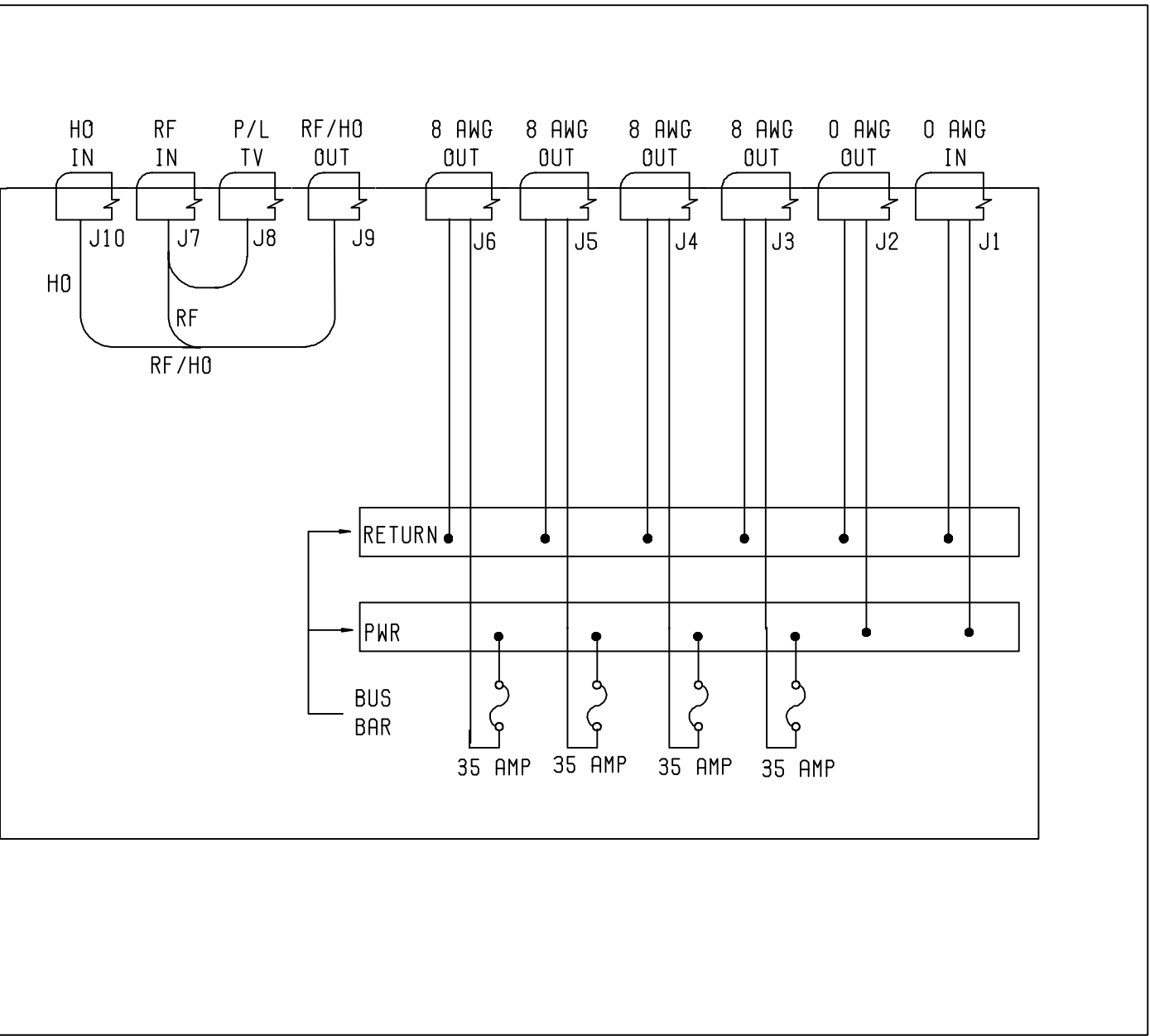


FIGURE 13.0.3.5-1 SMALL PAYLOAD ACCOMMODATION TERMINAL (SPAT) FUNCTIONAL DIAGRAM

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