8.2.5 PAYLOAD SIGNAL PROCESSOR INTERFACE

The Payload Signal Processor (PSP) shall provide command data to the Payload Interface. (Reference Figure 8.2.5-1).

8.2.5.1 PSP Command Data Output

The PSP command data output shall have the characteristics shown in Table 8.2.5.1-1. Commanding shall be limited to a single payload at a time, attached or detached.

8.2.5.1.1 PSP Command Data Formats
The format of the commands to be transmitted to payloads shall be defined in the Paragraph 9.4.2.1.

8.2.5.1.2 Command Bit Idle Pattern

A software selectable idle bit pattern shall be available when actual command bits are not being processed. Utilization of the idle pattern shall be as defined in the software section, Paragraph 9.4.2.2.4 "PSP Idle Pattern".

8.2.5.2 (Reserved)

8.2.5.3 Grounding and Shielding
Grounding and shielding shall be as shown in Figure 8.2.5.3-1.

8.2.6 (Reserved)

8.2.7 (Reserved)

8.2.8 (Reserved)

8.2.9 (Reserved)

TABLE 8.2.5.1-1 PSP COMMAND DATA OUTPUT, ELECTRICAL INTERFACE CHARACTERISTICS

Parameter	Dimension	Value	Notes
Subcarrier Frequency	kHz	16 ± 0.001 percent (Long Term)	Sine Wave
Subcarrier Harmonic Distortion	Percent	Less than 2 percent of the total power in the subcarrier fundamental	Total harmonic distortion
Subcarrier Frequency Stability		≤ 10^{-7} of the sub-carrier frequency over a ten second period (Short Term)	(1)
Subcarrier Modulation		PSK	
Data Rates	bps	2000,1000,500,250,125, 125/2,125/4,125/8,or 125/16 ± 0.001 percent (Long Term)	(1)
Data Rate Stability		10^{-7} over a ten second period. (Short Term)	(1)
Data Types		NRZ-L, -M or -S	
Frequency-to-Bit Rate Ratio		Exact multiple of the allowed data rates	Data waveform shall conform to sub-carrier zero cross-ings within ± 10 degrees
Data Transition		Data shall alter sub-carrier phase by ±90 degrees ±10 percent	
Amplitude	Volts pk-pk	3.1 to 4.4, line-to-line	(2) (3)
Phase Jitter	Percent of bit period	3 max	
Data Asymmetry	Percent of bit period	2 max	

TABLE 8.2.5.1-1 PSP COMMAND DATA OUTPUT,
ELECTRICAL INTERFACE CHARACTERISTICS (Concluded)

Parameter	Dimension	Value	Notes
Channel-to-Channel Isolation	dB	40 min	(2) Between-channel isolation when each channel is terminated with 75 ohms
Source Impedance	Ohms	<15	(2)
Load Impedance	Ohms	75±10 percent	(2)
Output Type		Differential	(2)
Load Termination		Differential, direct coupled	(2) Controlled by special payload integration provisions
Offset	Volts	0 ± .5, either line-to-signal ground	(2)
Capacitance	Pico-Farads	3841	(2) (3)
Cable Type		Twisted shielded pair RI Spec. MP572-0328-0002	(2) EMI class 'RF' refer to Table 10.7.1-1

(1) Based upon MTU accuracy and stability.
(2) Applicable to attached cargo element interfaces only.
(3) Based on 167-ft cable length, from LRU to P/L interface at end of 30 ft SPAT extender cable.

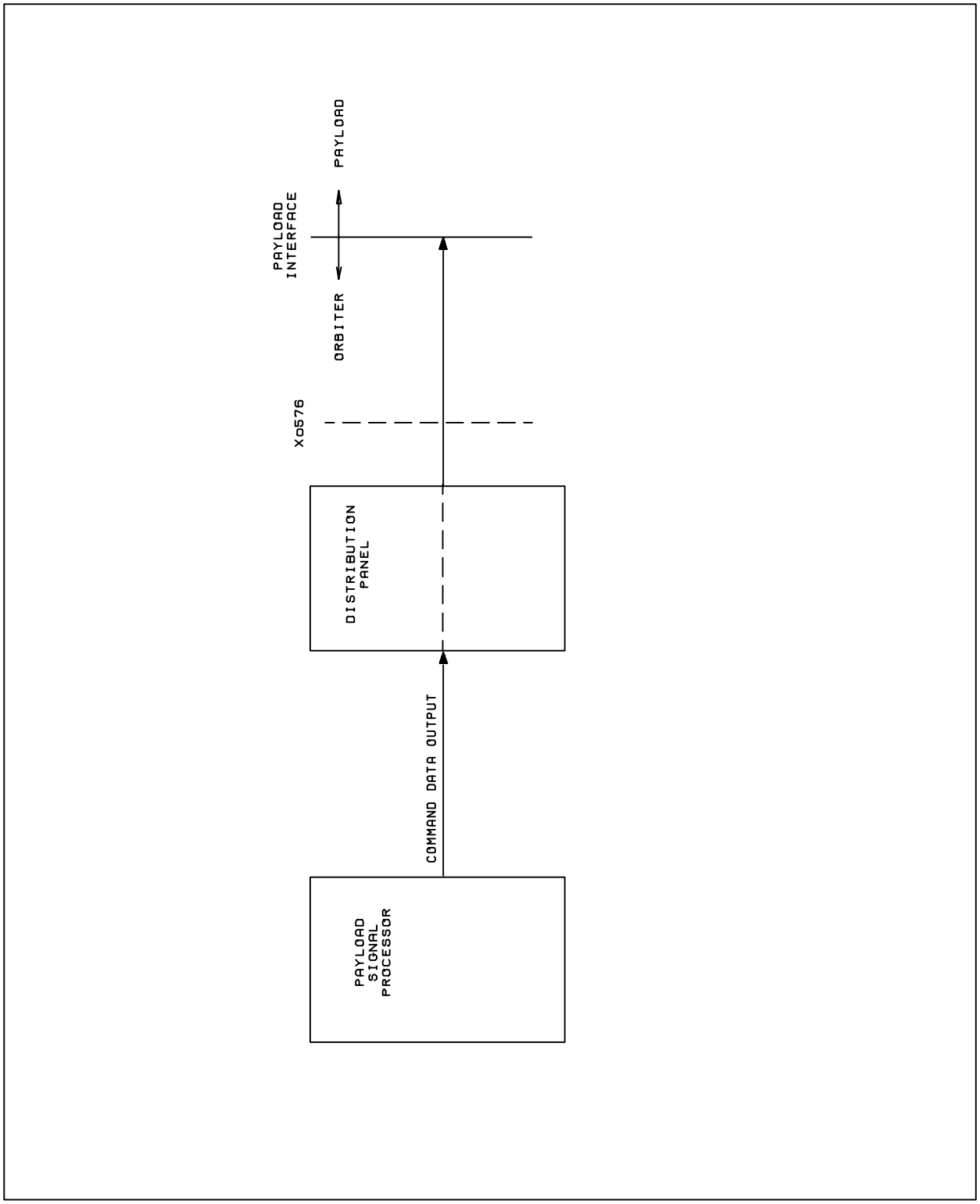

FIGURE 8.2.5-1 PAYLOAD SIGNAL PROCESSOR INTERFACE

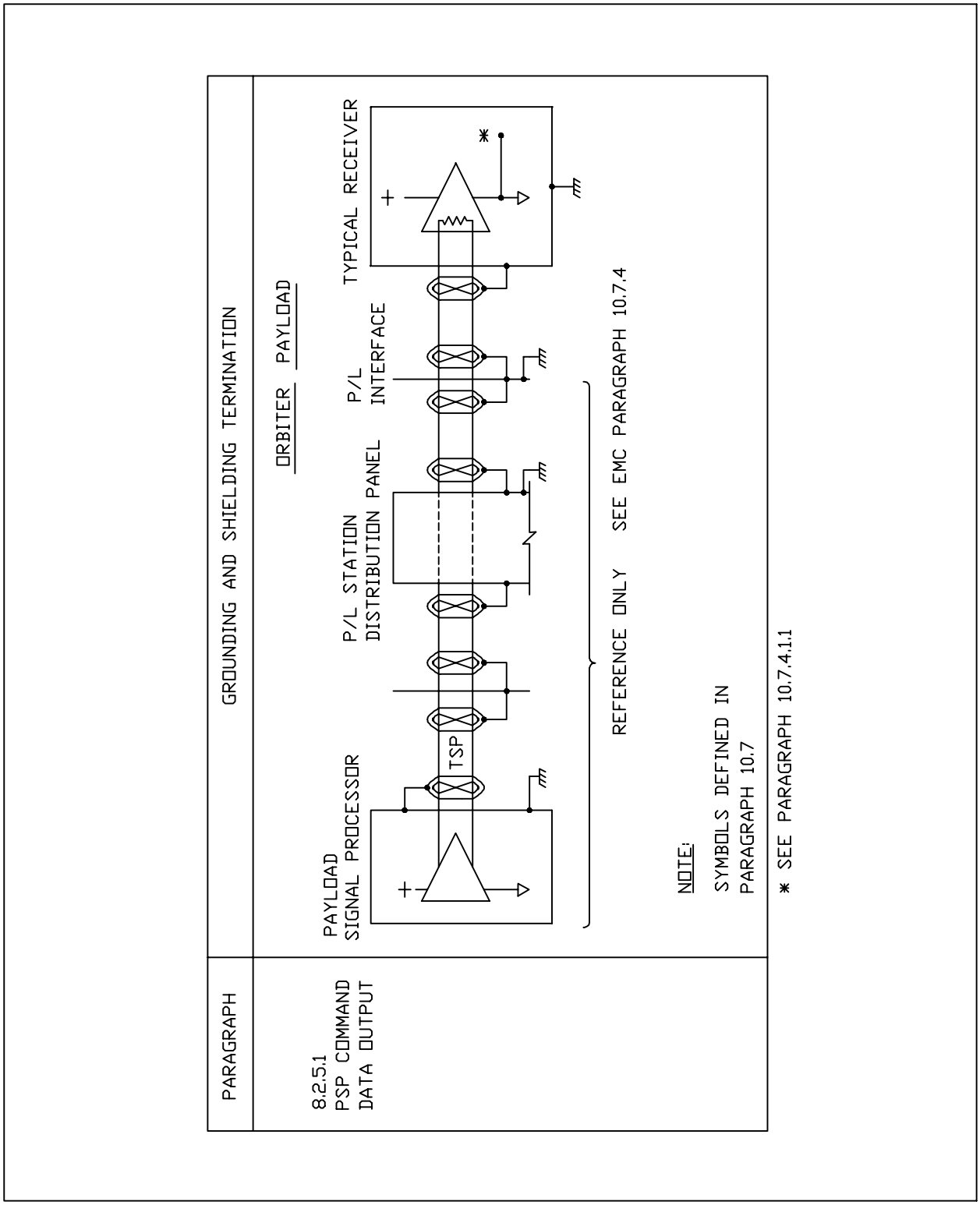

FIGURE 8.2.5.3-1 PAYLOAD SIGNAL PROCESSOR GROUNDING AND SHIELDING

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