

**Proposed
Draft**

**Serial ATA
International Organization**

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1 Introduction

1.1 Problem Statement

In Table 3 between the Signal Segment and the Power Segment section there is a row containing “Key and Spacing separate signal and power segments⁴”.

The reference to a “key” between the signal and power segments contradicts Figure 29 that references a key on both ends and not in the space between the connectors. This has caused confusion as some have interpreted the “L” feature as the “key”.

1.2 Solution Summary

In Table 3 replace “Key and Spacing separate signal and power segments⁴” with three rows.

Signal Segment “L”
Central Connector Gap
Power Segment “L”

Add additional clarification for the signal segment key and power segment key by inserting:

Signal Segment Key

Power Segment Key

Clean up wording in external cable section 6.4.1.1 that relates the “L” shape with the word key. Replace “key” with the word “feature”.

2 Technical Specification Changes

2.1.1.1 6.1.3.2 Pin Signal Definition and Contact Mating Sequence

[Editor's Note: The changes marked in red (and underlined/strikethrough) will be incorporated in section 6.1.3.2]

Table 1 – Signal and Power SATA Plug and Nominal Mate Sequence

	Name	Type	Description	Cable Usage ^{2, 3}	Backplane Usage ³
Signal Segment Key					
Signal Segment	S1	GND		1 st Mate	2 nd Mate
	S2	A+	Differential Signal Pair A	2 nd Mate	3 rd Mate
	S3	A-		2 nd Mate	3 rd Mate
	S4	GND		1 st Mate	2 nd Mate
	S5	B-	Differential Signal Pair B	2 nd Mate	3 rd Mate
	S6	B+		2 nd Mate	3 rd Mate
	S7	GND		1 st Mate	2 nd Mate
Key and Spacing separate signal and power segments⁴					
Signal Segment "L"					
Central Connector Gap⁴					
Power Segment "L"					
Power Segment	P1	V ₃₃	3.3V Power	2 nd Mate	3 rd Mate
	P2	V ₃₃	3.3V Power	2 nd Mate	3 rd Mate
	P3	V ₃₃	3.3V Power, Pre-charge	1 st Mate	2 nd Mate
	P4	GND		1 st Mate	1 st Mate
	P5	GND		1 st Mate	2 nd Mate
	P6	GND		1 st Mate	2 nd Mate
	P7	V ₅	5V Power, Pre-charge	1 st Mate	2 nd Mate
	P8	V ₅	5V Power	2 nd Mate	3 rd Mate
	P9	V ₅	5V Power	2 nd Mate	3 rd Mate
	P10	GND		1 st Mate	2 nd Mate
	P11	DAS/DSS	Device Activity Signal / Disable Staggered Spinup ¹	2 nd Mate	3 rd Mate
	P12	GND		1 st Mate	1 st Mate
	P13	V ₁₂	12V Power, Pre-charge	1 st Mate	2 nd Mate
	P14	V ₁₂	12V Power	2 nd Mate	3 rd Mate
	P15	V ₁₂	12V Power	2 nd Mate	3 rd Mate
Power Segment Key					
NOTE:					
1. The corresponding pin to be mated with P11 in the power cable receptacle connector shall always be grounded. For specific optional usage of pin P11 see section Error! Reference source not found.					
2. Although the mate order is shown, hot plugging is not supported when using the cable connector receptacle.					
3. All mate sequences assume zero angular offset between connectors.					
4. The signal segment and power segment may be separate.					

[Editor's Note: The changes marked in red (and underlined/strikethrough) will be incorporated in section 6.4.1.1]

2.1.1.2 6.4.1.1 External Serial ATA Component General Descriptions

The external cable connector is a shielded version of the internal single lane connector defined in section **Error! Reference source not found.**, with these basic differences:

- The External connector has no “L” shaped ~~feature-key~~, and the guide features are vertically offset and reduced in size. This prevents the use of unshielded internal cables in external applications.