TSB41BA3B to TSB41BA3D Transition Document

1 Modifications to Table 1: Port Speed / Mode Selection

Changes shown in bold in the table below.

MODE NO.	INPUT SELECTION						RESULTING PORT, POWER CLASS, AND SELF-ID							
	S5_ LINKON	S4	S3	S2_PC0	S1_PC1	S0_PC2	PORT 2		PORT 1		PORT 0		POWER CLASS	SELF-ID
1	0	0	0	PC0	PC1	PC2	Bil	T	Bil	T	Bil	T	PC = (PC0, PC1, PC2)	1394B
2	0	0	1	PC0	PC1	PC2	DS	T	Bil	T	Bil	T	PC = (PC0, PC1, PC2)	1394B
3	0	1	0	PC0	PC1	PC2	DS	T	DS	T	Bil	T	PC = (PC0, PC1, PC2)	1394B
4	0	1	1	0	0	0	B1	S	B1	S	B1	S	PC = 000	**S100**
5	0	1	1	0	0	1	B2	S	B2	S	B2	S	PC = 000	**S200**
6	0	1	1	0	1	0	B4	S	B4	S	B4	S	PC = 000	**S400**
7	0	1	1	0	1	1	B2	S	Bil	T	B4	S	PC = 100	1394B
8	0	1	1	1	0	0	B1	S	DS	T	DS	T	PC = 100	S100
9	0	1	1	1	0	1	DS	T	DS	T	B2	S	PC = 100	**S200**
10	0	1	1	1	1	0	DS	T	DS	T	B4	S	PC = 100	**S400**
11	0	1	1	1	1	1	B2	S	DS	T	B4	S	PC = 100	1394B
12	1	0	0	PC0	0	0	B1	S	Bil	T	B1	S	PC = (PC0, 0. 0)	1394B
13	1	0	0	PC0	0	1	B2	S	Bil	T	B2	S	PC = (PC0, 0. 0)	1394B
14	1	0	0	PC0	1	0	B4	S	Bil	T	B4	S	PC = (PC0, 0. 0)	1394B
15	1	0	0	PC0	1	1	B1	S	Bil	T	B2	S	PC = (PC0, 0. 0)	1394B
16	1	0	1	PC0	0	0	Bil	T	Bil	T	B1	S	PC = (PC0, 0. 0)	1394B
17	1	0	1	PC0	0	1	Bil	T	Bil	T	B2	S	PC = (PC0, 0. 0)	1394B
18	1	0	1	PC0	1	0	Bil	T	Bil	T	B4	S	PC = (PC0, 0. 0)	1394B
19	1	0	1	PC0	1	1	B1	S	Bil	T	B4	S	PC = (PC0, 0. 0)	1394B
20	1	1	0	PC0	0	0	DS	T	Bil	T	B1	S	PC = (PC0, 0. 0)	1394B
21	1	1	0	PC0	0	1	DS	T	Bil	T	B2	S	PC = (PC0, 0. 0)	1394B
22	1	1	0	PC0	1	0	DS	T	Bil	T	B4	S	PC = (PC0, 0. 0)	1394B
23	1	1	0	PC0	1	1	B1	S	DS	T	B2	S	PC = (PC0, 0. 0)	1394B
24	1	1	1	PC0	0	0	B1	S	DS	T	B1	S	PC = (PC0, 0. 0)	**S100**
25	1	1	1	PC0	0	1	B2	S	DS	T	B2	S	PC = (PC0, 0. 0)	**S200**
26	1	1	1	PC0	1	0	B4	S	DS	T	B4	S	PC = (PC0, 0. 0)	**S400**
27	1	1	1	PC0	1	1	B1	S	DS	T	B4	S	PC = (PC0, 0. 0)	1394B

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2 "Shrinking Idle" Errata Fix

The TSB41BA3/A/B devices have an errata where disappearing IDLE in a Beta system results in max arbitration state timeout and bus reset. A fix in the TSB41BA3D both makes the device immune to the shrunk idle and ensures a minimum amount of idle is sent to the DS/junior ports.

3 Repeater Delay Improvement

The repeater delays at S100B and S200B are improved in the TSB41BA3D to allow more cable hops in a system. Currently S100B systems are limited to seven hops or less. With the TSB41BA3D improvement, S100B systems will be able to support 10 or 11 hops.

4 BOSS Arbitration Healing Improvement

The BOSS arbitration fix is already implemented in the TSB41BA3A/B devices, the new change improves performance in systems with unfixed PHYs. When a PHY is senior to an existing errant PHY, it implements the protocol described in the 1394b errata (i.e. withdrawing GRANT before the handshake) to avoid provoking the collision in the errant PHY.

5 Max_Port_Speed Register Change

In the TSB41BA3D, the max_port_speed register is changed so that setting 111 = Data Strobe.

6 PHY Port Error Register Change

The port select function is fixed in the TSB41BA3D so that it is set by a remote access PHY packet. This will enable the port error register to be read remotely.

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