

1 **1.0 Overview**

2 Beta capable PHY silicon maintains backward compatibility with suspend/resume
3 mechanisms incorporated into IEEE 1394-1995a PHY silicon for DS
4 interconnectivity.

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6 Beta capable PHY silicon extends IEEE 1394-1995a suspend/resume
7 mechanisms for the purpose of providing support for AC (non-DS) port
8 connections.

9 **2.0 Definitions**

BS Tone	Beta suspend tone of frequency <u>TBD</u> ; Care must be taken when specifying the frequency of the tone that it will be low enough in frequency to pass through the slowest PMD, but not so low as to be attenuated by the pass-band of a very high frequency PMD.
Tone_{hold}	a time period equivalent to <u>TBD</u> ; this is the nominal amount of time a port asserts BS Tone.
Tone_{monitor}	a time period equivalent to <u>TBD</u> ; this is the amount of time a port (x) waits for it's peer port (y) to return BS Tone as an acknowledgement of receiving BS Tone from port (x).
Tone_{ACKdelay}	a time period equivalent to <u>TBD</u> ; this is the maximum amount of time a port (y) is allowed before generating BS Tone in acknowledgment of receiving BS Tone from it's connected peer port (x).
Notify_{hold}	a time period equivalent to <u>TBD</u> ; this is the nominal amount of time a port asserts a Suspend control code.
TX_SUSPEND	an 8b/10b control code sequence consisting of an ESC code followed by a control code of <u>TBD</u> .

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11 **3.0 Suspend-Connected Beta/Beta Disconnect Detect**

12 Two beta mode ports in a suspend state connected to each other are able to
13 detect when the connection between them is removed.

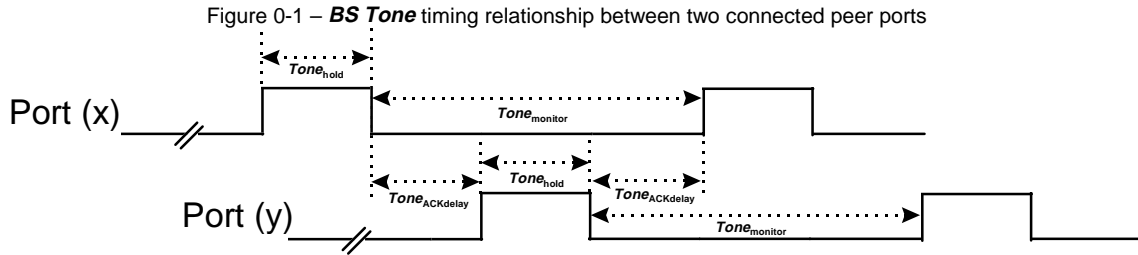
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15 Once in a beta suspend state, a port (x) generates a **BS Tone** on its Tx signal
16 line for a duration of **Tone_{hold}**. Upon termination of **BS Tone**, the port (x)
17 monitors its Rx signal line for the presence of a **BS Tone** from its connected port
18 (y). Port (x) monitors its Rx signal line for a time duration of **Tone_{monitor}**. Port (x),
19 once detecting the **BS Tone** from port (y) waits for port (y) to terminate it's **BS**
20 **Tone**. When port (x) detects the termination of the **BS Tone** from port (y), port
21 (x) generates (prior to expiration of a time period defined as **Tone_{ACKdelay}**) its **BS**
22 **Tone** again for a duration of **Tone_{hold}**.

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1 Figure 0-1 graphically shows the generation and termination timing relationship
2 of **BS Tone** between two connected peer ports (x) and (y).

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6 If port (x) does not detect and incoming **BS Tone** on its **Rx** signal line during the
7 time period **Tone_{monitor}**, port (x) enters into a disconnected power-up state.

8 **4.0 Beta/DS to DS Suspend-Connected**

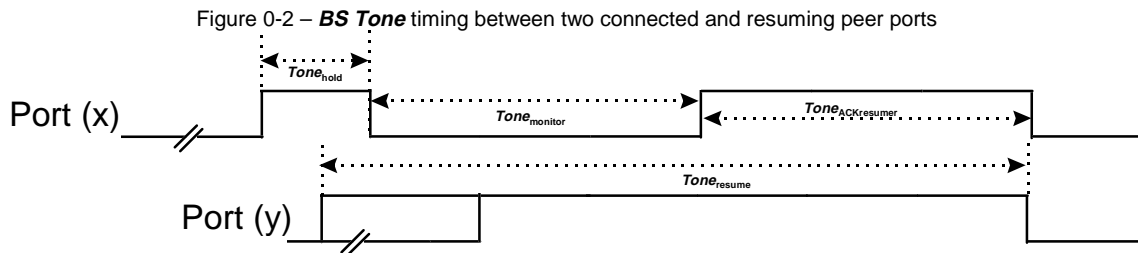
9 A peer connection between a suspended Beta capable port and a suspended
10 DS only port behaves as two connected peer IEEE 1394-1995a ports.

11 **5.0 Transition from Operating to Suspend State - (Beta/Beta)**

12 Upon receipt of a **TX_SUSPEND** control code, a suspend target will perform the
13 same tasks as outlined in IEEE-1394-1995a with one exception: instead of
14 driving **TpBias** on a TPA pair to the suspend initiator to below 0.4 volts, the
15 suspend target begins the beta suspend-connected process by generating a **BS**
16 **Tone** on its **Tx** signal line. The suspend initiator responds to the receipt of **BS**
17 **Tone** on its **Rx** signal line by generating **BS Tone** on its **Tx** signal line when the
18 suspend target terminates its first **BS Tone**. The suspend initiator sets its
19 **Suspend** bit in its **Control** register and enters the suspend state upon receipt of
20 the **BS Tone** from its suspend target. The suspend target sets its **Suspend** bit
21 in its **Control** register and enters the suspend state upon receipt of the **BS Tone**
22 from the suspend initiator.

23 **6.0 Transition Suspend State to Resume State- (Beta/Beta)**

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