



# Power-On Start-Up

- **Port Powers-up in Suspend State**
  - ▲ Delay One TpBias debounce interval PLUS  $.5 \text{ BIAS}_{\text{hold}}$  time (~ 350 milliseconds)
    - ◆ Sample for incoming TpBias on TPB Pair
    - ◆ If no incoming TpBias after  $\text{Bias}_{\text{hold}}$  time, enter Beta Start-up, else...
      - *Assert TpBias on TPA Pair - enter DS mode*



# Beta “DS” to “DS” Start-up

- Responds as a “*Resume Target*”
  - ▲ Reference Suspend/Resume (IEEE-1394-1995a)



## Beta to Beta Start-Up

- No  $TpBias$  after  $BIAS_{hold}$  time (8,192 SCLKs ~170 uSec)
  - ▲ Port transitions from suspend state to “B” Low-on state
    - ◆ Apply **BS Tone** on Tx Signal Line for  $Tone_{hold}$  time
    - ◆ “Listen” for tone on Rx Signal Line for a  $Tone_{monitor}$  time
    - ◆ If incoming tone on Rx Signal Line, continue, else...
      - Transition from “B” Low-on to Suspend state and repeat (starting with sample for  $TpBias$  on TPB pair)
    - ◆ Characterize incoming tone as “Suspend” or “Connect”
      - Suspend tone will terminate after a time period of  $Tone_{hold}$
      - Connect tone will be constant until “ACKed” with a constant generation of **BS Tone** on Tx signal line of a time duration greater than or equal to  $Tone_{monitor}$ .