Upstarts ad hoc meeting - 15th October 1997

Agenda

- Scope and terms of reference
- Document outline
- Discussion on the various phases of start-up
  - ✓ transition from A to B
  - ✓ resume
  - ✓ previous start-up presentation
  - ✓ CWS proposal for keepalive and speed negotiation
  - ✓ Alistair Coles' proposal for scrambler synch etc

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Scope of work

- Get a port to a state where either
  1. no connection
  2. we've decided to operate in P1394a mode
  3. or we've decided to operate in Beta mode
     - ✓ decided the line Baud rate
     - ✓ got synchronised and exchanging IDLEs
  - Result is state P7: Active in cases 2 and 3
- Scope of work is the port and S/R state machines (as in S/R) and accompanying C code, circuit descriptions, signal templates etc., plus descriptive text
  - most of the states and transitions stay the same
  - the conditions are adjusted to reflect beta mode operation
  - will probably have to add a state or two between P6: connection debounce and P5:resume where the speed negotiation and bit/byte/scrambler synchronisation is done
- Scope does not include arbitration state machines or C code
- Scope does not include electrical properties for normal operation

Task Group methodology

- mainly email
  - new reflector
- every opportunity for ad hoc face-to-face
  - TA meetings
  - P1394b meetings
- contributions
  - ad hoc proposals addressing specific issues
  - proposed text for the draft
  - contributions announced to the task group members only
- everything available on p1394b web site
  - publicise the results of the group's deliberations when appropriate
- minutes announced on p1394b reflector

Issues list - 1

- How to handle the extra error conditions (sync fail etc)?
- Do the other state machines need to know whether we're in Beta or not?
- Is there a need for a software override to force P1394a mode or to force Beta mode?
  - should it be possible to have software force the port back though P2: Disconnected in order to reconnect using the "other" mode, or to change the line rate, or something
- Is there a need for a hardware configuration (strap) option to force one or the other mode?
- What level of software observability is required?
  - line rate
  - Beta mode or P1394a mode
  - in P7 or not, or state of state machine?
  - more detail (e.g. loss of synch flag)?
- What higher level of control may be required, e.g.
  - try to resynch coz there's too many 8B10B error codes
- Is it allowed for some ports to be P1394a only, others bilingual, others Beta only?

Issues - 2

- What is the lowest signal frequency that can be sent via an optical transceiver simply to exercise a connect/disconnect mechanism?
- Connect_debounce state: don't understand exactly why connected can be true when con_status is false, and vice versa - there's an interaction with reset_detected(). We should not be looking for reset this early in determining whether we are P1394a or Beta.
- How can we send pings or something through a differential pair before TpBias is asserted. NB when we try to do this, we don't want the other end to see TpBias.
- Beta port can be either AC or DC coupled, and if they are DC coupled, we need to consider suitable biasing schemes to avoid looking like P1394a ports.
  - AC coupled path, trying to ping the bus, with a driver that has no bias on the 55 Ohm resistors (driving a 5K load)
- Is TPA or TPB used for output - it may make a very significant difference to the start-up?