

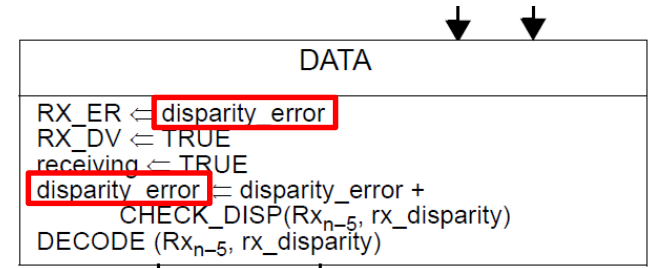


10 Mb/s Single Twisted Pair Ethernet 10BASE-T1L Receive State Diagram Disparity Error

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10BASE-T1L Receive State Diagram

- The PCS receive state diagram in Draft D2.1 has several states (DATA, CHECK ESD COMMA2, CHECK ESD DISPRESET3, and CHECK ESD ESD4), where the variable disparity_error is modified, but also used in the same state.

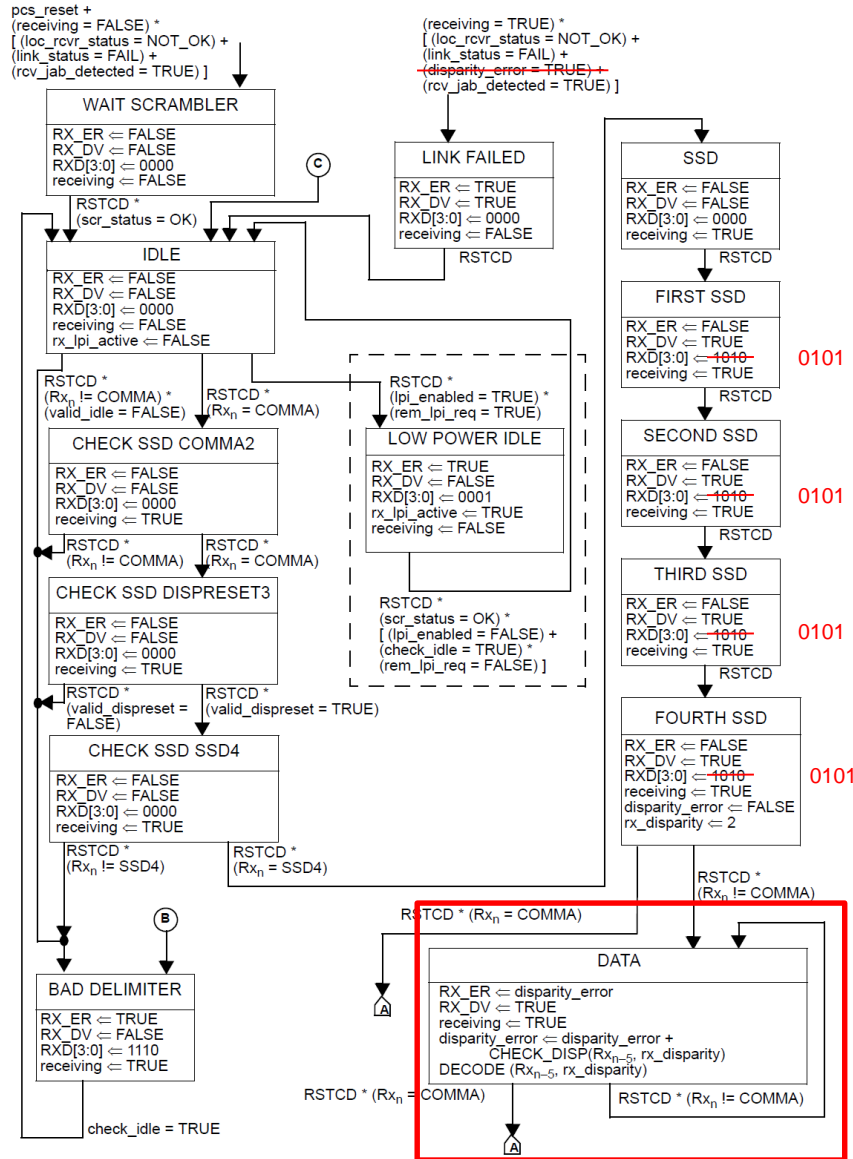


- As the equations provided in a state are only executed once the state is entered and as the order of the equations within the state is not relevant for the order of the command execution, it is not clear, if RX_ER is using the old value of the disparity_error variable or already the updated value.
- To prevent this unclear situation additional states for setting RX_ER are introduced.
- In state ESD there is no update of the disparity_error variable necessary, therefore a simple “or” condition can be used:

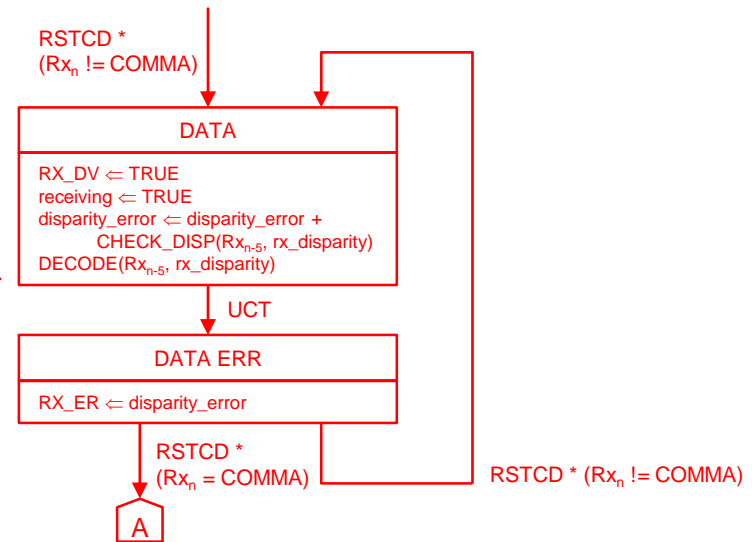
$$\text{RX_ER} \leftarrow \text{disparity_error} + \text{CHECK_DISP}(\text{Rx}_{n-5}, \text{rx_disparity})$$

- Additionally some minor corrections in two transitions of the state diagram and in the patterns recovering the preamble are done.
- All changes can be seen on the next two pages.

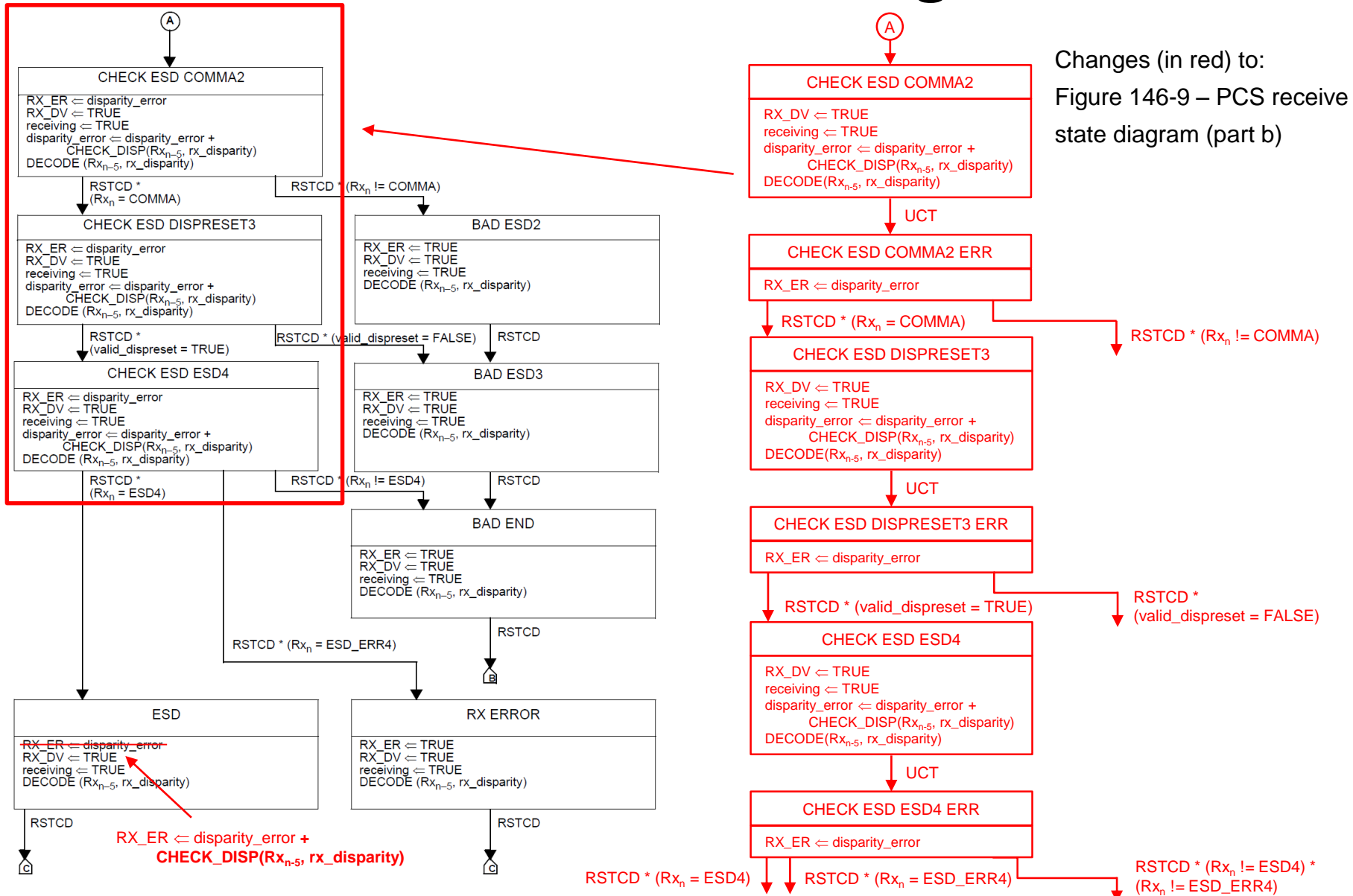
10BASE-T1L Receive State Diagram



Changes (in red) to:
Figure 146-8 – PCS receive state diagram (part a)



10BASE-T1L Receive State Diagram



Thank You