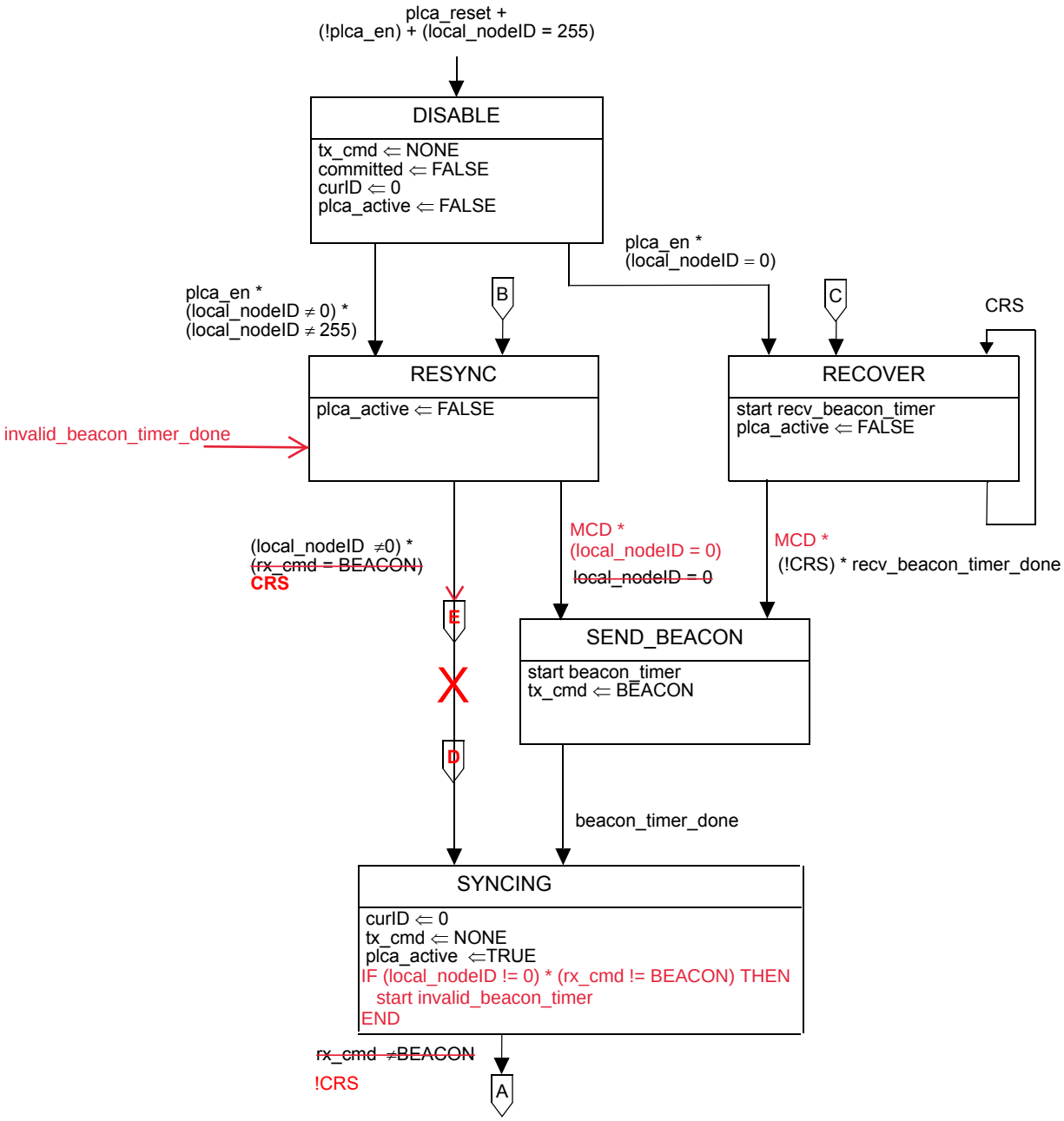

Figure 148–3—PLCA Control state diagram

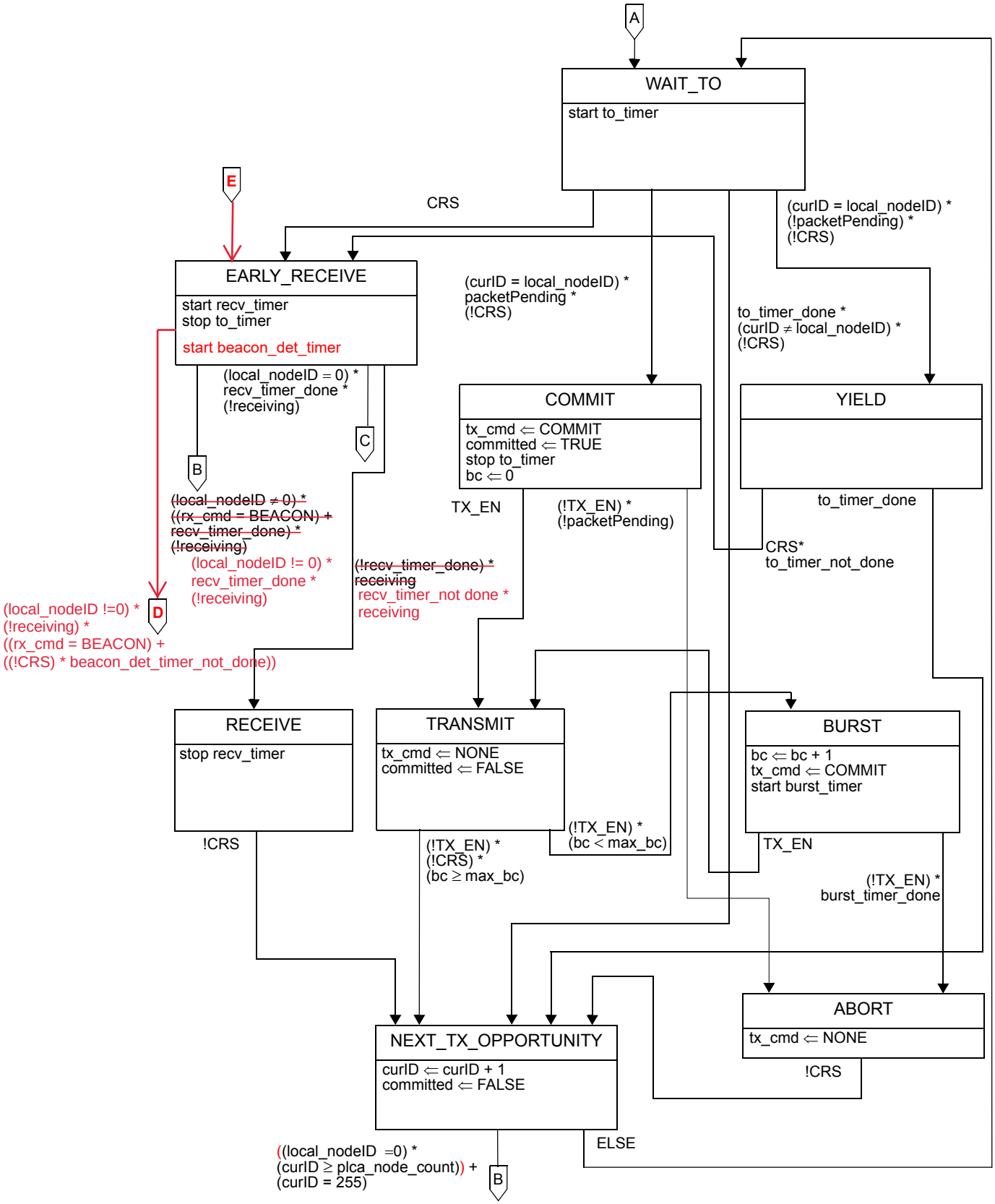

Figure 148–3—PLCA Control state diagram *(continued)*

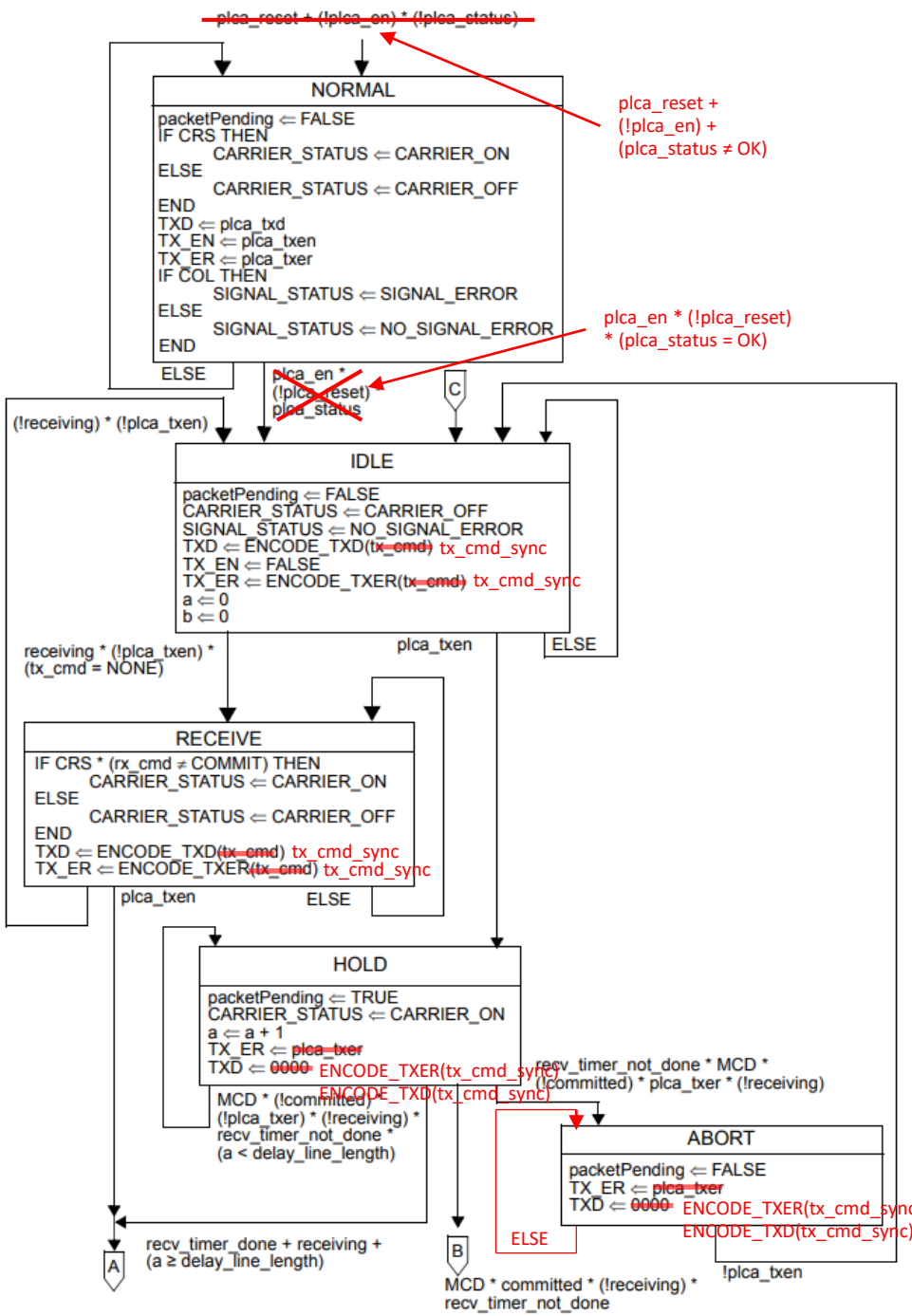

Figure 148–4—PLCA Data state diagram

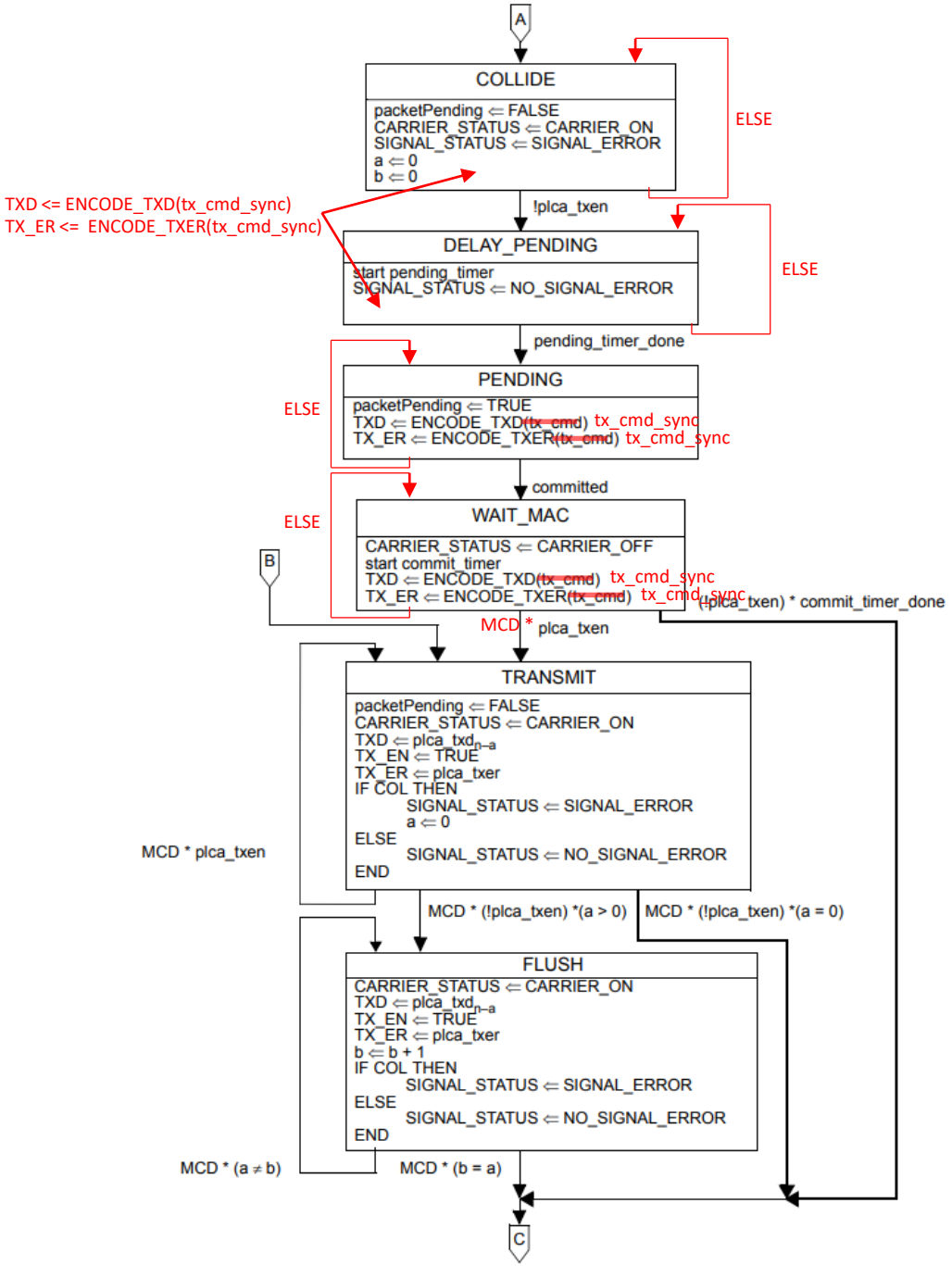

Figure 148–4—PLCA Data state diagram *(continued)*

R02-33
----- FULL TEXT OF THE PROPOSED RESOLUTION -----

PROPOSED ACCEPT IN PRINCIPLE.

[1] In Figure 148-4, in the HOLD state, replace "
  TX_ER <= plca_txer
  TXD <= 0000
"
with "
  TX_ER <= ENCODE_TXER(tx_cmd_sync)
  TXD <= ENCODE_TXD(tx_cmd_sync)
"

[2] In Figure 148-4, in the ABORT state, replace "
  TX_ER <= plca_txer
  TXD <= 0000
"
with "
  TX_ER <= ENCODE_TXER(tx_cmd_sync)
  TXD <= ENCODE_TXD(tx_cmd_sync)
"

[3] In Figure 148-4, in both the COLLIDE and DELAY_PENDING states add the following: "
  TX_ER <= ENCODE_TXER(tx_cmd_sync)
  TXD <= ENCODE_TXD(tx_cmd_sync)
"

[4] In Figure 148-4, add a recirculating arc with an "ELSE" condition to the following state boxes: WAIT_MAC, PENDING, DELAY_PENDING, COLLIDE and ABORT.

[5] In Figure 148-4, in the transition from WAIT_MAC to TRANSMIT state, change the condition from "plca_txen" to "MCD * plca_txen"

[6] At page 244 in Figure 148-3, in the transition from the RESYNC state to the SEND_BEACON state change the condition from: "
  local_nodeID = 0
"
to: "
  MCD * (local_nodeID = 0)
"

Add subclause "148.4.5.5 Abbreviations" with the following content: "
  MCD See 148.4.6.5
"

[7] At page 244 in Figure 148-3, in the transition from the RECOVER

state to the SEND_BEACON state change the condition from: "
      (!CRS) * recv_beacon_timer_done
    "
    to: "
      MCD * (!CRS) * recv_beacon_timer_done
    "
[8] At page 248, line 8 remove the duplicate MCD declaration (the correct definition is at line 50 in the Abbreviations section).

[9] At page 248, line 34 change "A continuous free-running timer that shall expire synchronously with the rising edge of TX_TCLK." with "A continuous free-running timer that shall expire synchronously with the rising edge of the MII TX_CLK"

[10] Add the following variable definition in 148.4.6.2: "
tx_cmd_sync
   The value of the tx_cmd variable sampled on the falling edge of the MII TX_CLK.
   Values: see tx_cmd in 148.4.5.2
"

[11] In Figure 148-4, replace all occurrences of "ENCODE_TXD(tx_cmd)" with "ENCODE_TXD(tx_cmd_sync)"

[12] In Figure 148-4, replace all occurrences of "ENCODE_TXER(tx_cmd)" with "ENCODE_TXER(tx_cmd_sync)"

[13] Change the condition on the open-ended transition to NORMAL of “Figure 148–4—PLCA Data state diagram” from “
  plca_reset + (!plca_en) * (!plca_status)
”
to “
  plca_reset + (!plca_en) + (plca_status != OK)
“

[14] Change the condition on the NORMAL->IDLE transition of “Figure 148–4—PLCA Data state diagram” from “
  plca_en * (!plca_reset) * plca_status
”
to “
  plca_en * (!plca_reset) * (plca_status = OK)
”

[15] Update the PLCA Control state diagram as follows:
  1. Within the EARLY_RECEIVE state, add the action “start beacon_det_timer”.
  2. Create a transition from the EARLY_RECEIVE state to a connector, D, with the following exit condition:
        (local_nodeID != 0) * (!receiving) *
        ((rx_cmd = BEACON) + ((!CRS) * beacon_det_timer_not_done))

3. Change the exit transition from EARLY_RECEIVE to connector B from:
(local_nodeID != 0) * ((rx_cmd = BEACON) + recv_timer_done) * (!receiving)
to:
(local_nodeID != 0) * recv_timer_done * (!receiving)
4. Delete the transition from RESYNC to SYNCING including its exit condition.
5. Add a connector, D, with arrow to SYNCING.
6. Within the SYNCING state, add the action:
IF (local_nodeID != 0) * (rx_cmd != BEACON) THEN
start invalid_beacon_timer
END
7. For the SYNCING exit condition to connector A, replace the condition from:
rx_cmd != BEACON
to:
!CRS
8. Add an open arrow global transition to RESYNC with the condition “invalid_beacon_timer_done”.
9. Add an exit transition from RESYNC to new connector, E, with the condition “(local_nodeID != 0) * (CRS)”
10. Add a connector, E, with arrow to EARLY_RECEIVE.
11. Change the exit condition from EARLY_RECEIVE to RECEIVE from:
(!recv_timer_done) * receiving
to:
recv_timer_not_done * receiving

[16] In section 148.4.5.4, page 242 Line 46 (before burst_timer) add the following timers:

beacon_det_timer
Timer for detecting received BEACONs.
Duration: 22 bit times.
Tolerance: +/- 1 bit time.

invalid_beacon_timer
Timer used for BEACON validation. This timer is stopped any time rx_cmd = BEACON.
Duration: 4000 ns
Tolerance: +/- 400 ns

[17] In clause 30.16.1.1.5 “aPLCATransmitOpportunityTimer”, Page 43, Line 15, Change “The default value is 24.” to “The default value is 32.”

[18] Change equation 148-2 on Page 243, Line 17, from “
to_timer > 2 x max(t<propdelay>) +
max(TX_EN sampled to MDI output) +
max(MDI input to CRS asserted) +

```
                max(MDI input to CRS deasserted) –
                min(MDI input to CRS deasserted)
    “
    to “
      to_timer > 2 x max(t<propdelay>) +
                max(TX_EN sampled to MDI output) +
                max(MDI input to CRS asserted) +
                max(MDI input to CRS deasserted) –
                min(MDI input to CRS deasserted) +
                max(MII propagation delay)
    “
```

[19] Delete lines 10 through 20 of page 240. This removes the text beginning with "After syncing is done ..." through "... appearing at the MDI to CRS asserted."

[20] Make changes in Table 147-6 on page 224 in the following order:

1. Remove row with Event "TX_EN sampled to CRS asserted"
2. Remove row with Event "TX_EN sampled to CRS deasserted"
3. Change all occurances of "TX_EN" to "TX_EN / TX_ER"
4. Change all occurances of "RX_DV" to "RX_DV / RX_ER"