

10.4.1 Port transmit state machine

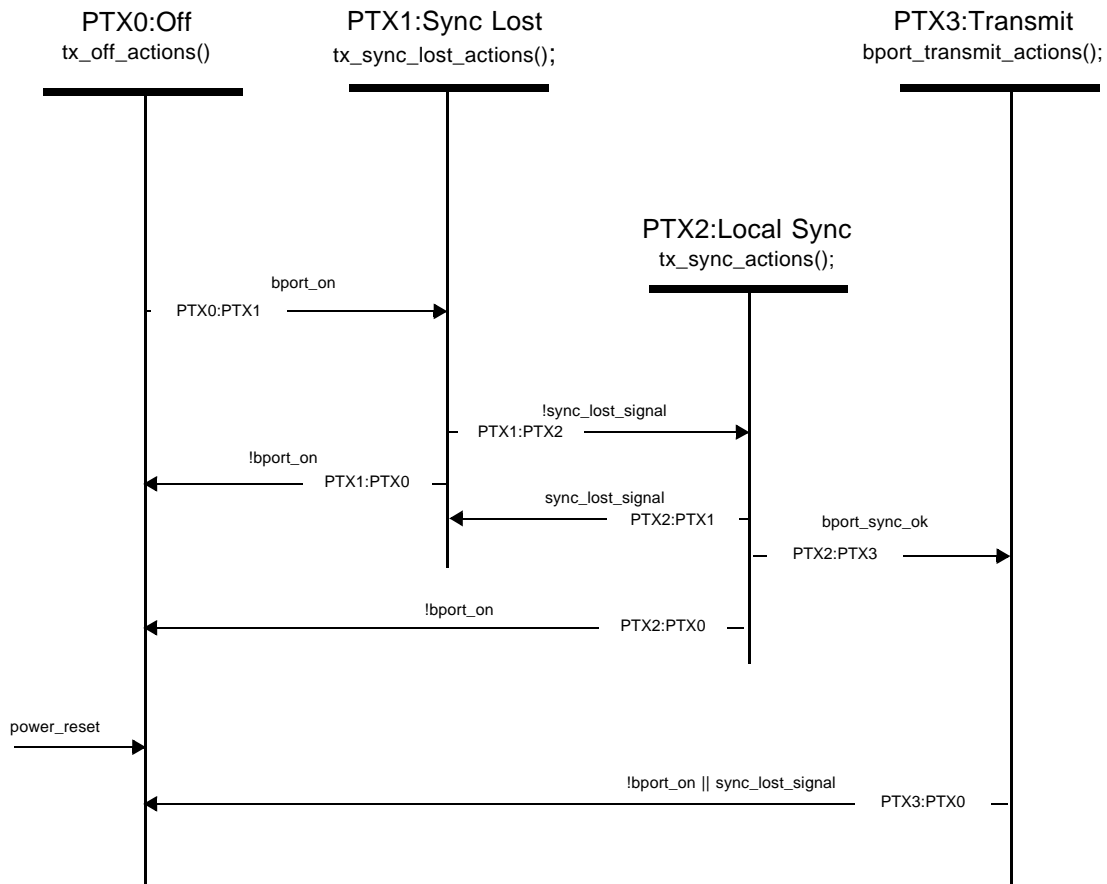


Figure 10-8—Port transmit state machine

NOTE—all C-code function names listed here are hypertext links in electronic versions of this specification

10.4.1.1 Port transmit state machine notes

State PTX0: Off. The port is not transmitting.

Transition PTX0:PTX1. The Beta mode port is activated by the connection management function setting `bport_on` to be true. The first action after being activated is for the port to attempt to synchronize with the connected port.

State PTX1: Sync lost. While in this state the port transmits a training request signal to the connected port.

Transition PTX1:PTX2. This transition is made when the receiver signals that it has acquired synchronization with the connected port.

Transition PTX1:PTX0. If the connection management function sets `bport_on` false, then the port returns to the Off state. This may happen if the connection management function decides that training has failed by timing out.

State PTX2: Local Sync. The port receiver is synchronized with the connected port, and the port transmits an operation request signal to indicate that it wishes to commence normal operation.

Transition PTX2:PTX0. The connection management function may still cause the port to transition to the Off state from the Local Sync state by setting `bport_on` false.

Transition PTX2:PTX1. If the port receiver signals that it has lost synchronization with the connected port, the transmitter returns to the Sync Lost state.

Transition PTX2:PTX3. However, if the port receiver determines that the connected port has also acquired synchronization, then the transmitter transition to the Transmit state.

State PTX3: Transmit. This is the normal operating state for the transmitter.

Transition PTX3:PTX0. The port returns to the Off state if synchronization is lost or if the connection management function sets `bport_on` false.

10.4.2 Port receive state machine

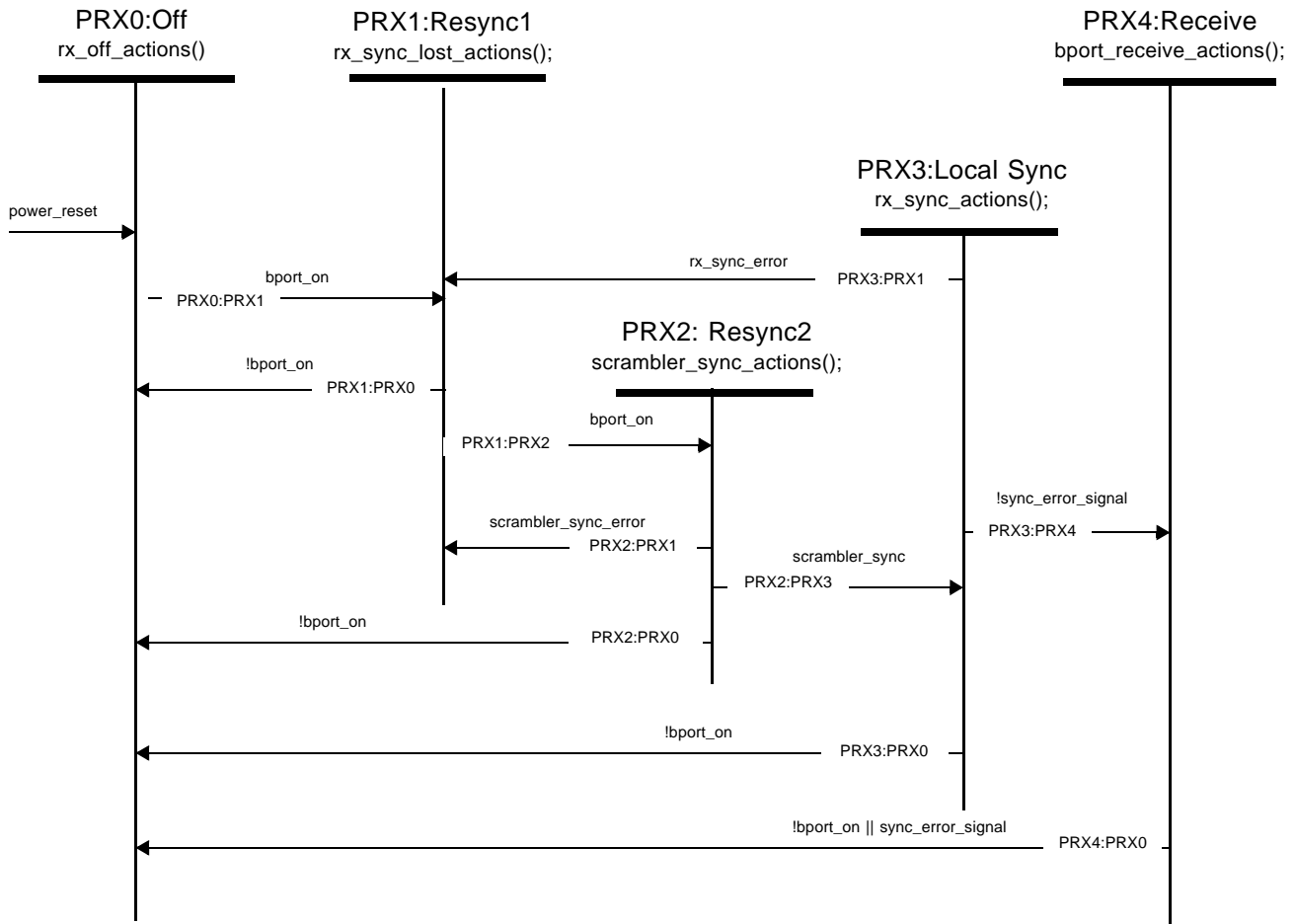


Figure 10-9—Port receive state machine

NOTE—all C-code function names listed here are hypertext links in electronic versions of this specification

10.4.2.1 Port receive state machine notes

State PRX0: Off. The port is not required to receive or decode any signals. The `sync_lost_signal` is set in this state to force the transmit port into PTX0.

Transition PRX0:PRX1. When the connection management function sets `bport_on` true, the port shall enter the Resync1 state and attempt to acquire bit and character synchronization.

State PRX1: Resync1. While in this state the receiver is attempting to acquire bit and character synchronization. The receiver also requests that the transmitter sends a TRAINING request signal.

Transition PRX1:PRX0. If the connection management function sets `bport_on` false, then the port returns to the Off state.

Transition PRX1:PRX2. Character synchronization is considered complete when a comma character (K28.5) has been received, immediately preceded by at least two consecutive valid request type characters (Dx.0 or Dx.4).

State PRX2: Resync2. In this state the receiver trains its descrambler using the scrambler samples contained in the incoming character stream.

Transition PRX2:PRX0. If the connection management function sets `bport_on` false, then the port returns to the Off state.

Transition PRX2:PRX1. If any invalid character is received, the receiver returns to the start of the synchronization procedure.

Transition PRX2:PRX3. After the descrambler is trained and least SYNC_CHECK consecutive training or operation requests have been received, the receiver is synchronized.

State PRX3: Local Sync. Once it is synchronized, the receiver requests that the transmitter sends a OPERATION request signal and waits for the attached port to indicate that it also is synchronized.

Transition PRX3:PRX0. If the connection management function sets `bport_on` false, then the port returns to the Off state.

Transition PRX3:PRX1. If any invalid character, or any unexpected signal is received then the receiver returns to the start of the synchronization procedure.

Transition PRX3:PRX4. Once the receiver has received an operation request from the attached transmitter, it begins normal operation.

State PRX4: Receiver. This is the normal operating state.

Transition PRX4:PRX0. If the connection management function sets `bport_on` false, or if the receiver loses synchronization, then the port returns to the Off state.

