

23.8 Message Acceptance Filters and Masks

The message acceptance filters and masks are used to determine if a message in the Message Assembly Buffer should be loaded into any of the receive buffers. Once a valid message has been received into the MAB, the identifier fields of the message are compared to the filter values. If there is a match, that message will be loaded into the appropriate receive buffer. The filter masks are used to determine which bits in the identifier are examined with the filters. A truth table is shown below in Table 23-2 that indicates how each bit in the identifier is compared to the masks and filters to determine if a message should be loaded into a receive buffer. The mask essentially determines which bits to apply the acceptance filters to. If any mask bit is set to a zero, then that bit will automatically be accepted regardless of the filter bit.

TABLE 23-2: FILTER/MASK TRUTH TABLE

| Mask bit n | Filter bit n | Message Identifier bit n001 | Accept or Reject bit n |
|------------|--------------|-----------------------------|------------------------|
| 0 | x | x | Accept |
| 1 | 0 | 0 | Accept |
| 1 | 0 | 1 | Reject |
| 1 | 1 | 0 | Reject |
| 1 | 1 | 1 | Accept |

Legend: x = don't care

In Mode 0, acceptance filters RXF0 and RXF1 and filter mask RXM0 are associated with RXB0. Filters RXF2, RXF3, RXF4 and RXF5 and mask RXM1 are associated with RXB1.